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MEASURING THE IMPORTANCE LEVEL OF BUILDING DEFECTS IN THE HERITAGE MUSEUM

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Abstract: *This study is conducted to measure the importance level of building defects in the heritage museum. A survey was conducted to the occupiers in three country of museum areas. The museum area has been identified through the Department of Museum Malaysia and because of the big number of museum, all staff in the museum areas were required to participate in the study to enable the researcher to collect the data concerning defects. Questionnaire has been employed as the data collection instrument and was distributed to the respondents to this study. The result has shown that the important level of defects in the museum areas is high, as the rate of defects for all elements are severe. Such high important level of defects has apparently only affected the aesthetic value of the museum.*

Keywords*: Measuring, Building Defects, Museum Area*

Introduction

In the broadest sense, acceptable buildings are where they are being required, in accordance with its environment, and provides adequate space and facilities, protected from bad weather and unwanted external conditions. Given this protection cannot be achieved with short-term structures, building naturally far outweighs many other modern products, and, if built so that they can be adapted to the changing needs and only repaired, can providing adequate service for a long time. There is much to learn from the situation the stock of existing buildings on what is mostly caused discontent after completion.

Defects are non-compliance with sections or components with standards or special features. Disability is sometimes used as a synonym for 'failure', but the meaning of the option is to show only the deviations of some possible standards, but not necessarily, resulting in failure (Kasim, 2009).

Strictness of building defects and associated damage levels, deterioration or damage or is expected to affect its buildings and buildings Occupancy is also associated with perceptions and expectations of owners and occupants. Defects or actions required to reduce or eliminate the effects the building will usually be arranged on a pre-determined priority for repairs.

Build defects occur either new or old buildings. Disability in new building may not comply with Building Code and issue acceptable tolerances and standards. Meanwhile the old building, or building from the warranty period, may not comply this standard but should be judged by the standard at the time of construction or modifications (David, 1988).

Defects and deterioration are common problems in any structure constructed. However, various more common defects in old structures (Ransom, 1981). As in BS 3811 (Practice Code, British Standard 1984) defects are defined as the deterioration of building features and services quality level that users are not satisfied with.

According to California Civil Code 896, types of common building defects include: structural defects resulting in cracking or collapse; damaged or damaged electrical wiring or lighting, damaged or damaged pipes, inadequate drainage systems, faulty ventilation, cooling or heating systems, insufficient insulation or noise checks, as well as insufficient fire protection system suppression. Plus, dry rot, rotten wood, mildew, fungus, or termite or lice attacks may also be the result of building defects.

Literature Review

Evaluating The Defects

According to Djebarni et al. (1998), there are quite a few methods in evaluating the defects such as the Defects Index Method, Northern Ireland House Condition Method, Priority Ranking Method, Housing and Environmental Defects Index, Listing Defects Method and Standardize Subjective Rating Method (Pedro, 2008; Che Ani, 2009; Rindfuss et al., 2007; Liu, 2003). Considering the importance of the severity of the defects' measurement in Georgiou et al. (1999) study, this study has been determined to utilize the Defects Index Method as proposed by (Pedro, 2008). The method is deemed appropriate to be used in this study as it is considered appropriate cases of defects' severity, which is important in measuring the level of these defects (Georgiou et al., 1999). It is also more accurate and gives detailed explanation in measuring defects. Moreover, it was developed with consideration given to the occupiers as the respondents. The method works by using score points based on the defects 'severity. Pedro (2008) recommends a five-point scale each labeled as minor (5 points), slight (4 points), medium (3 points), severe (2 points) and critical (1 point) to rate the defects' level to each selected building element. The explanation for each defect scale is stated in table I.

Table 1: Explanation for each defects scale

Scale	Symbol	Description
Minor Defects	MI	No defects or defects without noteworthy
Slight Defects	SL	Defects that affect the aesthetic value
Medium Defects	ME	Defects that affect the aesthetic value and use or comfort
Severe Defects	SE	Defects that affect the use or comfort and endanger health or safety and may cause minor accidents
Critical Defects	CR	Defects that endanger health or safety and may cause major accidents

According to Pedro (2008) the defects index method suggests 37 elements to be assessed, where some elements might be entirely cultural based. The element which is used in Portugal, as an example, might be inapplicable to be implemented in Malaysia. Thus, for this study, the building element review has been done to select the important building element that will be utilized in this study. In total, 23 building elements have been identified from the previous studies. All 23 buildings element was divide in to 3 group such as building fabric, building structure and building service. The building element namely the ceiling; floors; roof; windows; doors; internal and external walls; the arch; ornament, apron, foundation, column, beam, truss, staircase, electricity system; air condition and mechanical ventilation system (ACMV), fire protection, plumbing facilities; lift; gas system; sewerage and drainage. Apart from building elements identified by

Pedro (2008), 13 building elements have been added in this study. These elements are important in the context of museum building.

Research Methodology

This study has employed the survey research method. The quantitative data collection technique that consists of closed ended and open-ended questions was used to gather the data concerning the defects.

The descriptions of museum areas that have been found from the Department of Museum Malaysia are as below:

a) Museum area at Melaka
   Melaka is a state known for its history. Melaka is located on the west coast of Peninsular Malaysia and is bordered by the State of Johor and Negeri Sembilan. Melaka also listed in UNESCO World Heritage attractions on July 7, 2008. There are about 36 museums for exhibitions unique materials under the supervision of Melaka Museum Corporation.
b) Museum area at Kelantan
   Kelantan is known as the 'cradle of Malay culture' for having an overwhelming population of Malays (93%) and the rest made up of Chinese, Indians and Thai. The Kelantanese have preserved their customs, traditions and cultures well over the years. There are about 10 museums for exhibitions unique materials under the supervision of Kelantan Museum Corporation.
c) Museum area at Pahang
   Pahang is the third largest state in Malaysia. Located in the vast basin of Pahang River, it is bordered by Kelantan in the north, Perak, Selangor and Negeri Sembilan on the west, Johor and Terengganu in the south and the South China Sea in the east. There are about 5 museums for exhibitions unique materials under the supervision of Pahang Museum Corporation.

Respondents And Sampling Technique

The respondents for this study are the staff in area museum. The reason for selecting staff as respondents is because they are the end user of the 'product', in this case the museum. According Fernandes (2007), they have more experience about the museum condition which lies at the post-occupancy stage. Professionals will focus more on the technical aspects whereas the user would have their own personal perceptions towards the quality of their museum.

In most studies, typically the entire population of the target respondents is wide. It is impossible to approach them all as it will take time and it will be costly. In the case, therefore, it is necessary that the sampling is done. In this study however, the staff at the museum cannot be determined because the Department of Museum Malaysian also does not have a list of the names of staff working in the museum. With the circumstances, researcher decides to approach the whole staff to gather the defect data. Islam (2008), Neuman (2000) and Babbie (1998) refer to this as a census.

Data Collection

The questionnaires were employed to gain generalization about the severity of defects occurring in museum building. In all museum areas, questionnaires were administered directly to the staff during the door-to-door visits requesting if the questionnaire can be completed on the spot (Neuman, 2000). Otherwise, the respondents would be told that the questionnaires would be left

for a while as suggested by Islam (2008) and Babbie (2002) to give room to the respondents to answer the questionnaire and it will be collected later.

Hence, after the respondents had completed the questionnaires, taking advantage from the face-to-face survey where the researcher has asked an open-ended question to the respondents. It was done as an expansion to the questionnaire. The questionnaire was first evaluated to know the elements that were rated as severe or critical by the respondents.

Method Of Analysis

Since there are one types of data collected, the method used to analyze them is different. The quantitative data from the questionnaires were analyzed using descriptive statistics namely the frequency test, while the qualitative data from the close-ended question was analyzed manually. To suit with the Malaysian situation, slight amendment was done to Pedro's method. Thus, the present study will use the mean score to rate the defects. Because of that, defects score in Pedro's study also changes from minor to critical at the score range of one (1) to five (5) that are; 1 = minor, 2 = slight, 3 = medium, 4 = severe and 5 = critical. Twenty-three (23) important building elements that have previously been decided were computed using the mean score. The mean score was then interpreted according to Alston and Miller (2001) and Boone et al. (2007) study. The close-ended responses about the causes of defects' occurrences were analyzed manually. Table 2 below shows description the extent to which this study rates the defects based on the mean score.

Table 2: Rate of defects (ROD) based on the mean score (MD)

If the defects mean score is between 1 and 1.49, then the defects are considered minor
If the defects mean score is between 1.50 and 2.49, then the defects are considered slight
If the defects mean score is between 2.50 and 3.49, then the defects are considered medium
If the defects mean score is between 3.50 and 4.49, then the defects are considered severe
If the defects mean score is between 4.50 and 5.00, then the defects are considered critical

Result And Discussion

Response Rate

The total numbers of museum in the three country areas are 45 building units. Nevertheless, one museum must be excluded from this study because the museum was either under renovation or still unoccupied. This left the population for the study to be only 44 museums. The 44 responses received from the staff have constituted the response rate, which is read as 100%.

Evaluation Of Defects In Each Of Museum Areas

The results reveal that in museum Melaka the defects are slight with the overall mean of 2.3. one elements were rated as minor and 13 elements were rated as slight. Nine other elements were rated as medium. There were one respondents in museum Melaka, who rated the apron as not critical. Three elements that were good in performance are foundation, column and beams. All three elements, there was only one case of minor defects (which affect the aesthetic value) making the mean of the elements 1.40. The result obtained is shown in table 3.

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Table 3: Frequency of defects severity for Museum at Melaka

Criteria	Attribute	Defects Severity (Frequency)					MD	ROD
		MI	SL	ME	SE	CR		
Building Fabric	Ceiling	-	4	4	7	3	2.5	ME
	Floor	-	1	5	6	6	2.1	SL
	Roof	-	1	4	5	8	1.9	SL
	Window	-	2	5	5	6	2.2	SL
	Door	-	4	4	7	3	2.5	ME
	Internal wall	-	3	4	6	5	2.3	SL
	External wall	-	2	5	6	5	2.2	SL
	Arch	1	3	5	7	2	2.7	ME
	Ornament	1	4	5	6	2	2.8	ME
	Apron	3	4	6	5	-	3.3	ME
Building Structure	Foundation	-	-	2	5	11	1.5	SL
	Column	-	-	1	6	11	1.4	MI
	Beam	-	-	2	5	11	1.5	SL
	Truss	-	1	5	5	7	2.0	SL
	Staircase	-	2	4	7	5	2.2	SL
Building Service	Electricity system	-	2	4	7	5	2.2	SL
	ACMV system	-	2	4	7	5	2.2	SL
	Fire protection	-	2	4	7	5	2.2	SL
	Plumbing facilities	-	2	4	7	5	2.2	SL
	Lift	1	3	6	6	2	2.7	ME
	Gas system	3	6	5	3	1	3.4	ME
	Sewerage	2	3	5	5	3	2.8	ME
	Drainage	2	3	5	6	2	2.8	ME
	Overall Mean						2.3	SL

In museum Kelantan, defects data as presented in table 4 exhibits that there are reported two elements that have one critical defects namely the apron, and gas system. Only one critical case is reported to be the foundation, simultaneously being rated the worst condition in museum area Kelantan. The mean for this element however is still slight that affects only the aesthetic view. All respondents from this museum agreed that their internal wall did not have any defect. The highest mean score is shown to be at the gas system with the important defects' mean score of 3.4. This score however is still in the range of medium defects. In this museum vicinity, most of the elements however were rated as slight. Only eight elements were rated as medium. Table 4 presents the results obtained for museum area Kelantan.

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Table 4: Frequency of defects severity for Museum at Kelantan

Criteria	Attribute	Defects Severity (Frequency)					MD	ROD
		MI	SL	ME	SE	CR		
Building Fabric	Ceiling	-	3	4	6	3	2.4	SL
	Floor	-	1	4	6	5	2.1	SL
	Roof	-	1	3	5	7	1.9	SL
	Window	-	1	6	4	5	2.2	SL
	Door	-	2	4	7	3	2.3	SL
	Internal wall	-	1	4	6	5	2.1	SL
	External wall	-	1	4	6	5	2.1	SL
	Arch	-	3	4	6	3	2.4	SL
	Ornament	1	3	5	5	2	2.8	ME
	Apron	3	3	5	4	1	3.2	ME
Building Structure	Foundation	-	-	2	4	10	1.5	SL
	Column	-	1	2	4	9	1.7	SL
	Beam	-	1	2	4	9	1.7	SL
	Truss	-	1	3	5	7	1.9	SL
	Staircase	-	2	4	6	4	2.3	SL
Building Service	Electricity system	-	2	4	6	4	2.3	SL
	ACMV system	2	2	4	7	1	2.8	ME
	Fire protection	-	3	4	7	2	2.5	ME
	Plumbing facilities	-	2	4	7	3	2.3	SL
	Lift	2	3	5	4	2	2.9	ME
	Gas system	3	5	4	3	1	3.4	ME
	Sewerage	2	3	5	4	2	2.9	ME
	Drainage	2	3	4	5	2	2.9	ME
	Overall Mean						2.4	SL

In museum area Pahang, the highest mean score lies on the foundation with the mean score read 3.5. The rate of defects however is severe. The mean for each building element is in the range of slight defects except for the foundation, column and beam which defects are labeled minor. There are three elements that are in the worse condition in museum area Pahang. From 10 respondents who gave their feedback in museum area Pahang, 3 of them rated both elements as minor. Most of the respondents agreed that they did not have any problem with the gas system in their museum. Overall, the rate of defects for all elements in museum area Pahang is slight with the mean score of 2.2. The results for the frequency of defects' severity in museum area Pahang are presented in table 5.

Table 5: Frequency of defects severity for Museum at Pahang

Criteria	Attribute	Defects Severity (Frequency)					MD	ROD
		MI	SL	ME	SE	CR		
Building Fabric	Ceiling	-	1	2	5	2	2.2	SL
	Floor	-	1	2	3	4	2.0	SL
	Roof	-	-	2	4	4	1.8	SL
	Window	-	-	4	3	3	2.1	SL
	Door	-	1	2	5	2	2.2	SL
	Internal wall	-	-	2	4	4	1.8	SL
	External wall	-	1	2	4	3	2.1	SL
	Arch	-	1	2	5	2	2.2	SL
	Ornament	1	1	3	3	2	2.6	ME
	Apron	1	2	3	3	1	2.9	ME
	Foundation	-	-	-	2	8	1.2	MI

Building Structure	Column	-	-	1	2	7	1.4	MI
	Beam	-	-	1	2	7	1.4	MI
	Truss	-	-	3	3	4	1.9	SL
	Staircase	-	1	2	4	3	2.1	SL
Building Service	Electricity system	-	1	2	5	2	2.2	SL
	ACMV system	-	2	2	5	1	2.5	ME
	Fire protection	-	2	2	5	1	2.5	ME
	Plumbing facilities	-	1	2	5	2	2.2	SL
	Lift	1	3	2	2	2	2.9	ME
	Gas system	2	3	3	2	-	3.5	SE
	Sewerage	1	3	3	3	-	3.2	ME
	Drainage	-	1	3	4	2	2.3	SL
	Overall Mean						2.2	SL

The results for all three museum areas show that in each museum area surveyed, the most defective element is the not same from one area to another. Museum area Melaka has a problem with the column whereby in museum area Kelantan, the most problematic element is the foundation. The defect of gas system is so severe at museum area Pahang, in comparison with that element in other areas. Overall, the mean score for the most defective element in each museum area is slight. In these two museum areas, the open-ended response inhibits that the high level of defects is foundation function failure.

Evaluation Of Defects In All Museum

Table 6 presents the overall result from all museum areas. The highest defects' mean score is the foundation with the mean score 1.4 with 29 of 44 respondents rating the defects as critical which suggests that there is have defect. The lowest mean score is the gas system with 3.4 with most of critical cases occurring on the gas system with 2 cases. Overall results suggest that the mean for all elements in all three museum areas surveyed was rated as slight (2.3) which fell in the range of 1.50 and 2.49. It can be concluded that the level of defects in the museum area is slight. This further makes an indication that the defect only affects the aesthetic value of the museum (overall).

Table 6: Frequency of defects severity for all Museum

Criteria	Attribute	Defects Severity (Frequency)					MD	ROD	Ranking
		MI	SL	ME	SE	CR			
Building Fabric	Ceiling	-	8	10	18	8	2.4	SL	15
	Floor	-	3	11	15	15	2.0	SL	6
	Roof	-	2	9	14	19	1.9	SL	4
	Window	-	3	11	16	14	2.1	SL	7
	Door	-	7	10	19	8	2.4	SL	13
	Internal wall	-	4	10	16	14	2.1	SL	8
	External wall	-	4	11	16	13	2.1	SL	9
	Arch	1	7	11	18	7	2.5	ME	16
	Ornament	3	8	13	14	6	2.7	ME	18
	Apron	7	9	14	12	2	3.2	ME	22
Building Structure	Foundation	-	0	4	11	29	1.4	MI	1
	Column	-	1	4	12	27	1.5	SL	2
	Beam	-	1	5	11	27	1.5	SL	3
	Truss	-	2	11	13	18	1.9	SL	5
	Staircase	-	5	10	17	12	2.2	SL	10
Building Service	Electricity system	-	5	10	18	11	2.2	SL	11
	ACMV system	2	6	10	19	7	2.5	ME	17

	Fire protection	-	7	10	19	8	2.4	SL	14
	Plumbing facilities	-	5	10	19	10	2.2	SL	12
	Lift	4	9	13	12	6	2.8	ME	20
	Gas system	8	14	12	8	2	3.4	ME	23
	Sewerage	5	9	13	12	5	2.9	ME	21
	Drainage	4	7	12	15	6	2.7	ME	19
	Overall Mean						2.3	SL	

Conclusion

The results in the present study have revealed that the level of defects in the museum is low as the rate of defects for all elements are slight. Based on the scale in Pedro's (2008) study, it can be concluded that most of the defects in museums have defects that only leave an impact on the aesthetic value of the museum. The results for this study have confirmed the studies by Yusof and Shafiei (2011) and Sufian and Rahman (2008) who note that the practice of build first and maintains later may provide less defective museums. In other words, the practice of the museum has been proven to be successful in providing museum with low defects. As for the causes of defects' occurrences, most of respondents agreed that the defects happen because maintenance not follow the work schedule assigned.

Hence, the findings have justified the reason why maintenance for the museum building should be implemented in Malaysia. Although the museum defects are slight, the results from the close-ended responses imply that there are cases where the workmanship and the material used by certain owner museum are unsatisfactory. The result shows that museum areas Melaka, Kelantan and Pahang have relatively higher level of defects in terms of the technical aspects of defects (defects that occur when the efficiency of an element is reduced, reasoned by the poor workmanship and materials of inferior quality). It seems to suggest at this point, that there is a problem with the maintenance practice and as for the users, when they inspect the museum before making the decision to repair, the surface knowledge that they have is proven to be insufficient for them to be able to detect such defects. In this case, the government should be stricter in implementing the law and acts in such a way to continuously monitor the maintenance phase for the maintain museum. Alternatively, it may be better if owner museum appoints building surveyors for expert advice before they make the decision to repair.

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DOMAIN ILMU PENDAKWAH MASYARAKAT ORANG ASLI

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Abstrak: *Dakwah diertikan menyampaikan kepada manusia iaitu keseluruhan manusia ke arah kebaikan, mengajak kepada ma'aruf serta mencegah kemungkaran. Tugas dakwah kepada masyarakat Orang Asli ditumpukan oleh pendakwah yang ditugaskan khas seperti Penggerak Masyarakat Orang Asli (PMOA) dan Panel Dakwah Muallaf (PDM). Antara masalah utama yang dihadapi dalam pendakwahan kepada masyarakat Orang Asli di Malaysia semenjak dahulu hingga kini ialah kekurangan pendakwah yang mampu dan berkebolehan dari sudut penyampaian ajaran Islam yang lebih berkesan. Ini menimbulkan persoalan dari satu sudut bagaimanakah tugas seorang pendakwah yang terlibat dengan dakwah masyarakat Orang Asli menyampaikan dakwahnya. Oleh itu, kajian ini bertujuan menganalisis domain pendakwah iaitu ilmu sebagai faktor pembinaan pendakwah Orang Asli. Kajian kualitatif ini menggunakan reka bentuk kajian kes. Lapan belas orang terdiri daripada pendakwah masyarakat serta warga Orang Asli dipilih untuk ditemubual. Data disusun dan dikodkan mengikut tema dan kategori hasil dari transkripsi, Kemudian, data dianalisis secara deskriptif. Kajian mendapati bentuk-bentuk ilmu yang perlu ada bagi seorang pendakwah Orang Asli ini adalah ilmu Fardhu 'Ain, Ilmu Fardhu Kifayah dan Ilmu Sosiobudaya Orang Asli. Oleh yang demikian, kajian ini memberi implikasi kepada agensi kerajaan seperti Jabatan Kemajuan Islam Malaysia (JAKIM), Majlis Agama Islam Negeri-Negeri dan badan bukan kerajaan bagi membangunkan usaha dakwah kepada masyarakat Orang Asli sekaligus meningkatkan kualiti dalam penyampaian agama Islam dengan lebih baik. (TNR, 12, italic, single spacing).*

Kata Kunci: Pendakwah Masyarakat Orang Asli, Domain Ilmu. Ilmu Fardhu 'Ain, Ilmu fardhu Kifayah,Ilmu Sosiobudaya Masyarakat Orang

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Pengenalan

Allah S.W.T telah berfirman dalam al-Quran

ٱدْعُ إِلَىٰ سَبِيلِ رَبِّكَ بِٱلْحِكْمَةِ وَٱلْمَوْعِظَةِ ٱلْحَسَنَةِ ۖ وَجَـٰدِلْهُم بِٱلَّتِى هِىَ أَحْسَنُ ۚ إِنَّ رَبَّكَ هُوَ أَعْلَمُ بِمَن ضَلَّ عَن سَبِيلِهِۦ ۖ وَهُوَ أَعْلَمُ بِٱلْمُهْتَدِينَ

Maksudnya:

Serulah ke jalan Tuhanmu (wahai Muhammad) dengan hikmah kebijaksanaan dan nasihat pengajaran yang baik, dan berbahaslah dengan mereka (yang engkau serukan itu) dengan cara yang lebih baik. sesungguhnya Tuhanmu Dia lah jua yang lebih

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> mengetahui akan orang yang sesat dari jalannya, dan Dia lah jua yang lebih mengetahui akan orang-orang yang mendapat hidayah petunjuk
>
> (al-Quran, al-Nahl 16:125)

Mengimbas kembali sejarah mengenai bagaimana dakwah Islam mula tersebar, berkembang dan disampaikan kepada umat manusia di zaman Nabi Musa a.s. Kita dapati bahawa baginda menggunakan cara dan pendekatan dakwah yang bersesuaian dengan cabaran dan situasi yang berlaku pada zaman tersebut. Namun, beralih pada masa kini, dakwah islamiah sedang memasuki era baru peralihan zaman. Umat Islam sedang berada di dalam era yang dikenali sebagai "masyarakat terbuka".

Selaku pendakwah yang memikul amanah dalam menyebarkan dakwah dan seorang muslim yang perlu berpandangan positif, era peralihan zaman ini harus dijadikan peluang untuk kita meningkatkan usaha untuk menyampaikan ajaran agama Islam kepada seluruh masyarakat termasuk masyarakat Orang Asli.

Tinjauan Literatur

Persediaan Seorang Pendakwah

Pendakwah merupakan salah satu dari rukun dakwah (al-Bāyanūnī 2009). Abdul Karim Zaidan (1993) mendefiniskan pendakwah sebagai orang yang menyeru kepada Allah S.W.T pada jalan yang benar dengan cara menyembah Allah S.W.T dan tidak mensyirikkan Allah S.W.T. Perkara ini turut sama diperkatakan oleh al-Bāyanūnī (2009) yang menyatakan pendakwah itu tugasnya menyampaikan, mengajar, dan melaksanakan apa yang dikehendaki oleh agama Islam.

Abdul Karim Zaidan (1993) menyatakan bahawa tugas pendakwah ini adalah tugas utama para rasul. Para rasul ditugaskan untuk berdakwah kepada kaumnya agar mereka beriman serta tunduk dan patuh pada perintah Allah S.W.T seperti mana firman Allah S.W.T tentang Nabi Nuh a.s:

لَقَدْ أَرْسَلْنَا نُوحًا إِلَىٰ قَوْمِهِۦ فَقَالَ يَـٰقَوْمِ ٱعْبُدُوا۟ ٱللَّهَ مَا لَكُم مِّنْ إِلَـٰهٍ غَيْرُهُۥٓ

Maksudnya:

> Sesungguhnya Kami telah mengutuskan Nabi Nuh kepada kaumnya, lalu berkatalah dia: "wahai kaumku! sembahlah kamu akan Allah, (sebenarnya) tidak ada Tuhan bagi kamu selain daripadanya.
>
> (Al-Quran, al-Acarāf 7:59)

Selain itu juga, Rusli (2007) menyatakan persediaan pendakwah adalah antara nadi penting bagi kejayaan tugas dakwah yang mereka lakukan. Para pendakwah diberi tanggungjawab oleh Allah S.W.T dan organisasi yang mereka wakili untuk menunaikan tugas menyampaikan ajaran agama Islam. Tugas utama mereka adalah menganjurkan umat Islam untuk melaksanakan suruhan Allah S.W.T. dan menjauhi segala laranganNya. Para pendakwah dalam melaksanakan tugas mereka perlulah memiliki sifat-sifat atau ciri-ciri tertentu agar tugas mendakwah itu dapat dijalankan dengan berkesan. Perkara ini sejajar dengan firman Allah S.W.T di dalam al-Quran:

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يَـٰٓأَيُّهَا ٱلنَّبِىُّ إِنَّآ أَرۡسَلۡنَـٰكَ شَـٰهِدًا وَمُبَشِّرًا وَنَذِيرًا ﴿٤٥﴾ وَدَاعِيًا إِلَى ٱللَّهِ بِإِذۡنِهِۦ وَسِرَاجًا مُّنِيرًا

Maksudnya:

> Wahai Nabi, sesungguhnya Kami mengutusmu sebagai saksi (terhadap umatmu), dan pembawa berita gembira (kepada orang-orang yang beriman) serta pemberi amaran (kepada orang-orang yang ingkar). Dan juga sebagai penyeru (umat manusia seluruhnya) kepada agama Allah dengan taufiq yang diberi Nya; dan sebagai lampu yang menerangi.

(Al-Quran, al-Aḥzāb 33:45-46).

Sehubungan dengan itu, al-Bāyanūnī (2009), telah mengemukakan dua belas perkara dalam persediaan bagi seorang pendakwah. Dua belas perkara tersebut ialah mempercayai dengan kepercayaan yang mendalam terhadap topik dakwah yang disampaikan (iaitu Islam), mempunyai hubungan yang erat dengan Allah SWT, mempunyai ilmu pengetahuan tentang topik dakwah yang hendak disampaikan kepada *mad`u*, beramal dengan ilmu yang dianugerahkan serta istiqamah dengannya dari sudut tingkah laku, kesedaran yang menyeluruh, mempunyai *al-hikmah* atau kebijaksanaan dari sudut uslub, berakhlak dengan akhlak yang baik, bersangka baik terhadap orang Islam, menyembunyikan kelemahan *mad`ū*, bergaul dengan manusia dalam keadaan bergaul itu adalah yang baik untuk dakwah dan mengasingkan diri dari mereka dalam keadaan itu adalah yang baik untuk dakwah, mendekati manusia mengikut kedudukan mereka dan mengenal orang berdasarkan kelebihan mereka, dan bertolong-tolongan dengan pendakwah-pendakwah lain, bermesyuarat dan saling nasihat menasihati antara satu sama lain.

Selain itu juga, menurut Abdul Karim Zaidan (1993) bahawa terdapat empat perkara penting berkaitan dengan persediaan pendakwah. Persediaan tersebut merangkumi penguasaan ilmu pengetahuan, iman yang kuat serta hubungan manusia dengan Allah S.W.T dan juga manusia, serta berakhlak mulia seperti benar, sabar, berkasih sayang, rendah diri, bergaul dengan masyarakat serta mengasingkan diri jika perlu. Ia berbeza dengan dengan apa yang diperkatakan al-Qaradawi (2009) yang menyatakan bahawa persiapan seorang pendakwah hanya merangkumi dari segi aspek ilmu dan juga akhlak.

Ahmad Ghalwusyh (1978) ketika membincangkan tentang persediaan pendakwah ini, beliau mengemukakan beberapa perkara. Antaranya ialah pendakwah itu mempunyai hubungan dengan Allah S.W.T. Pendakwah juga haruslah memiliki sifat kemanusiaan, kasih sayang, lemah lembut, pemaaf serta rendah diri. Selain itu juga, pendakwah haruslah memiliki sifat yang boleh mempengaruhi orang lain. Sehubungan dengan itu, untuk menyediakan pendakwah yang memiliki perkara yang dinyatakan sebelum ini, Ahmad Ghalwusyh (1978) menyatakan bahawa proses persediaan ini adalah proses yang mempunyai jangka masa lama dan ia bukanlah satu tugas yang tergesa-gesa. Ini memerlukan kepada pendidikan yang berterusan dengan melihat kepada pelbagai sudut seperti persekitaran dan sebagainya.

Dalam usaha dakwah ini pendakwah akan berhadapan dengan pelbagai sasaran dari pelbagai sudut bermula dari sudut pegangan dan kepercayaan, adat resam dan tradisi, cara hidup, taraf pemikiran, pendidikan dan lain-lain. Selain dari itu pendakwah akan berhadapan dengan pertembungan bukan sahaja perkara-perkara tersebut tetapi juga dalam bentuk halangan dan rintangan dari yang kecil hinggalah kepada pembunuhan. Semua ini menuntut pendakwah

mempunyai persediaan yang mantap dari keilmuan, fizikal dan kerohanian (Syed Abdur Rahman 2010).

Walau bagaimanapun, Berhanudin Abdullah et.all (1997) menyatakan bahawa pendakwah yang berjaya adalah mereka yang mampu untuk menarik orang ramai yang terdiri daripada pelbagai bentuk mentaliti, status dan ilmu pengetahuan supaya mengikuti dan menghayati ajaran Islam sebagai satu cara hidup. Kejayaan usaha dakwahnya bergantung kepada penguasaannya dalam aspek-aspek seperti memahami agama Allah S.W.T, bersabar, berlemah lembut, memudahkan bukan menyusahkan, memiliki sifat tawadhu' dan manis tutur kata.

Al-Qarni (2008) turut sama membincangkan persediaan bagi seorang pendakwah. Persediaan tersebut adalah pendakwah harus ramah dan bersahabat dengan manusia dengan cara memberi manfaat dan kebaikan kepada mereka. Tugas pendakwah tidak hanya menasihati mereka dengan perkataan, atau menyampaikan pidato serta peringatan, tetapi tugas mereka adalah sebagaimana yang dilakukan oleh Rasulullah s.a.w yang begitu ramah, mesra bersahabat, dan kadang-kadang memberikan hadiah kepada mereka atau menziarahi mereka dan sentiasa tidak pernah keberatan untuk menjemput mereka.

Perkara ini turut sama dinyatakan oleh Abdul Majid (2007) yang menjelaskan bahawa pendakwah perlu berdakwah melalui perbuatannya, bukan dengan kata-katanya sahaja. Bagi menjayakan usaha dakwahnya, pendakwah perlu mempunyai beberapa sifat dan ciri-ciri yang mulia supaya ia dapat menjadi seorang pendakwah yang baik dan sabar dalam melaksanakan tugas dakwahnya. Perkara ini juga dilihat pendakwah haruslah memiliki ilmu, akhlak dan juga kemahiran bagi melaksanakan proses dakwah.

Manakala Faizaz et.all (2011) menyatakan perlaksanaan kerja-kerja dakwah memerlukan persediaan yang lengkap sama ada fizikal dan mental untuk memastikan keberkesanannya dalam kalangan sasaran. Namun bagi Nazuha et.all (2011), untuk menyiapkan seorang pendakwah yang baik haruslah melihat gaya berdakwah yang ditunjukkan oleh Rasul *Ulu al-^{c}Azmi*. Rasul-rasul yang diberi gelaran *Ulu al-^{c}Azmi* ialah Nabi Ibrahim a.s, Nabi Nuh a.s, Nabi Musa a.s, Nabi Isa, a.s, dan juga Nabi Muhammad s.a.w. Cara mereka berdakwah adalah terbentuk dari tiga aspek iaitu *al-hikmah*, *al-mawi^{c}zah al-ḥasanah*, serta *al- mujādalah*. Ketiga-tiga aspek tersebut tidak terbatas kepada pendakwah lelaki, tetapi meliputi pendakwah wanita (Haslina Ibrahim 2012).

Namun begitu, A'toa et.all (2011) turut menyenaraikan tentang persediaan seorang pendakwah menurut Syaikh Muhammad al-Ghazali. Tiga elemen dalam proses persediaan pendakwah ialah akhlak yang berteraskan dari akhlak Rasulullah s.a.w, memiliki kemahiran asas dan kelayakan dalam dakwah, serta cemerlang dari segi fikiran.

Secara rumusannya, pembentukan dan pembinaan tersebut terfokus kepada tiga perkara, iaitu ilmu pengetahuan, akhlak dan kemahiran.

Domain Pendakwah

Menurut Bloom (1956) domain bermaksud kategori. Dalam konteks pengajaran dan pembelajaran, beliau telah memperkenalkan tiga domain iaitu kognitif yang dimaksudkan kemahiran mental (Pengetahuan), afektif iaitu perkembangan perasaan atau emosi (Sikap) dan psikomotor ialah kemahiran fizikal (Kemahiran). Domain kognitif melibatkan pengetahuan dan pembangunan kemahiran intelek. Ini termasuk mengingati atau mengenali fakta tertentu, corak prosedur, dan konsep yang terkandung dalam perkembangan kebolehan intelek dan kemahiran. Domain psikomotor termasuk pergerakan fizikal, koordinasi, dan penggunaan kemahiran motor. Pembangunan kemahiran ini memerlukan amalan dan diukur dari segi kelajuan, ketepatan, jarak, prosedur, atau teknik-teknik dalam pelaksanaan. Manakala domain afektif

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adalah termasuk cara seseorang berurusan dengan perkara-perkara emosi, seperti perasaan, nilai, penghargaan, motivasi, dan sikap.

Blomm (1956) memperkenalkan domain ini adalah kerana beliau ingin melihat bagaimanakah tahap proses pengajaran dan pembelajaran dalam aktiviti pendidikan ini berlaku dari perkara mudah iaitu menghafal sehinggalah perkara yang agak sukar iaitu menganalisis serta menilai sesuatu perkara.

Apabila berdakwah, proses pengajaran dan pembelajaran berlaku dengan cara pendakwah menyampaikan topik yang sesuai kepada *mad'u*. Bloom telah memperkenalkan tiga domain dalam aktiviti pengajaran atau pembelajaran iaitu kognitif bermaksud kemahiran mental (pengetahuan), afektif beerti perkembangnan perasaan atau emosi (Sikap), dan yang terakhir psikomotor didefiniskan sebagai kemahiran fizikal (Kemahiran). Namun, bagi kertas kerja ini perkara yang dibincangkan hanyalah tertumpu kepada domain Ilmu sahaja.

Al-Ghazali (1939), menjelaskan perkara domain bagi seorang pendakwah. Menurut beliau, pendakwah mempunyai rasa simpati kepada *mad^{c}u* dan menganggap serta melayani mereka sebagaimana anaknya sendiri. Pendakwah juga sentiasa mengamalkan akhlak dan sunnah Nabi Muhammad s.a.w selain ikhlas dalam pengajaran dan pembelajaran dengan tidak meminta imbuhan kerana perkhidmatannya yang diberikan. Selain itu, pendakwah ialah pendakwah yang cekap dan terlatih dan sangat berpengetahuan tentang sesuatu perkara yang hendak diajarkan atau diberikan nasihat kepada para *mad^{c}u*.

Jika diteliti perkara yang dibincangkan oleh Bloom (1956) dan al-Ghazali (1939) dapat disi mpulkan disini bahawa tiga domain ini iaitu ilmu, akhlak yang baik dan kemahiran iaitu persediaan bagi seorang pendakwah. Ketiga-tiga domain ini juga terbentuk dari asasnya yang terdapat di dalam al-Quran surah al-Naḥl ayat 125. (al-Bayānūnī 2009).

Domain pertama iaitu ilmu. Al-Bayānūnī (2009) telah menyatakan perkara tersebut pada persiapan bagi seorang pendakwah. Menurut beliau ilmu itu adalah maksud daripada kalimah *al-hikmah* iaitu ilmu-ilmu yang terdapat dalam al-Quran dan juga apa yang terdapat dalam al-Sunnah. Manakala Abdul Karim Zaidan (1993) pula menyatakan bahawa ilmu penting bagi mempersiapkan seorang pendakwah. Ini seperti mana firman Allah S.W.T

فَٱعۡلَمۡ أَنَّهُۥ لَآ إِلَٰهَ إِلَّا ٱللَّهُ وَٱسۡتَغۡفِرۡ لِذَنۢبِكَ

Maksudnya:

> Oleh itu, maka metapkanlah pengetahuanmu dan keyakinanmu (wahai Muhammad) bahawa sesungguhnya tiada Tuhan yang berhak disembah melainkan Allah, dan mintalah ampun kepadanya.

(Al-Quran, Muḥammad 47:19)

Dalam ayat al-Quran di atas menerangkan bahawa ilmu pengetahuan sangat diperlukan sebelum bertindak (Muhammad Syakir dalam terjemahan Misbah, Ahsan et.al, 2007). Seorang pendakwah haruslah mempunyai pandangan yang luas, mengetahui apa yang disampaikannya, baik dari segi perkataan dan perbuatan dan dengan apa yang harus ditinggalkan. Jika pendakwah tidak mempunyai ilmu pengetahuan, pendakwah tersebut dikategorikan sebagai pendakwah yang jahil (al-Bayānūnī 2009)

Konsep Ilmu Pengetahuan Dalam Islam

Ilmu sebenarnya perlu mendahului amal. Amalan dakwah hanya boleh dilakukan dengan ilmu. Buktinya wahyu pertama bermula dengan lafaz 'iqra' (bacalah) (surah al- ^{c}Alaq:1-5). Pendakwah yang berjaya mestilah mempunyai ilmu mencukupi sebagai asas untuk bekalan

diri dan ilmu yang mendalam untuk menarik sasaran. Namun tidak semestinya semua pendakwah menjadi faqih seperti para ulama' (Wan Mohd Noor 1991).

Perkataan ilmu yang berasal dari bahasa Arab bermakna "pengetahuan, kepandaian (dalam perkara dunia, akhirat, zahir, batin, dan lain-lain). Dengan itu, orang yang berilmu ialah orang yang berpengetahuan. Sebaliknya orang yang tidak berilmu disebut sebagai jahil. Ibn Manẓur (t.th) menerangkan perkataan ilmu berasal dari kata kerja *ᶜa- li- ma* yang beerti tahu, maklum dan juga faham. Perbuatan orang yang memberi tahu atau mengajarkan pengetahuan itu dikatakan *ᶜal- la- ma* yang bermaksud memberi tahu, orang yang tahu disebut *mutᶜallimun*. Manakala orang yang mengajar dipanggil *muᶜallim.*

Menurut al-Ghazali (1939), perkataan ilmu dipakai pada zaman generasi Islam yang pertama atau pada zaman sahabat dan Tabiin untuk pengetahuan tentang Allah S.W.T, tanda-tanda dan perbuatan Allah S.W.T, terhadap hamba dan makhluknya. Perkataan ilmu itu telah dipertegaskan dengan awalan *al* dan menjadi *al-ᶜilm* yang bermakna pengetahuan tentang Allah S.W.T. Namun, kemudiannya perkataan ilmu itu telah dikhususkan pengertiannya, sehingga yang dikatakan orang berilmu itu ialah mereka yang suka berdebat dengan lawan tentang masalah fiqh dan sebagaianya.

Al-Attas (2007) pula mentakrifkan ilmu dengan merujuk kepada Allah S.W.T sebagai asal segala ilmu dan ia merupakan ketibaan makna sesuatu ke dalam diri seseorang. Apabila merujuk kepada diri sebagai penafsir, ilmu adalah ketibaan diri seseorang kepada makna tentang sesuatu. Melalui penakrifan ini dapat disimpulkan bahawa Allah S.W.T ialah sebenar sumber ilmu melalui wahyu yang diturunkan kepada Baginda s.a.w iaitu al-Quran.

Menerusi pandangan Awang Yahya (2004) pula, ilmu itu merangkumi erti apa sahaja ilmu yang diketahui di dalam dunia ini yang dipelajari oleh manusia. Semua jenis ilmu itu dalam bahasa Arab yang dinamakan sebagai ilmu. Manakala Wan Mohd Noor (1991), menyatakan bahawa ilmu atau sains dikatakan sebagai pengetahuan yang bersifat abstrak dan konseptual yang menjelaskan (*Explain*) sesuatu gejala menurut hukum sebab dan akibat

Bahagian-bahagian Ilmu Pengetahuan Dalam Islam

Al-Ghazali (1939) telah mengkelaskan ilmu kepada dua bahagian utama iaitu Ilmu *Mu'amalah* an juga ilmu *Mukasyafah*. Ilmu *mu'amalah* bermaksud suatu ilmu yang diperolehi manusia sama ada melalui utusan Allah S.W.T, pembelajaran, pengalaman dan pendengaran. Pada asasnya ilmu *mu'amalah* tiada sebarang perbezaan melainkan menerusi nama-nama khas yang dberikan kepadanya seperti ilmu fardhu 'ain dan ilmu fardhu kifayah oleh para ilmuan Islam. Ilmu *mu'amalah* menurut beliau terbahagi kepada dua bahagian iaitu Ilmu fardhu 'ain dan Ilmu fardhu kifayah.

Ilmu fardhu 'ain secara ringkas dimaksudkan sebagai ilmu tentang asas-asas agama Islam seperti mengucap syahadah, menunaikan sembahyang, mengeluarkan zakat, berpuasa dan menunaikan fardhu haji bagi yang berkemampuan. Ia merupakan suatu ilmu yang wajib dituntut oleh setiap individu Islam kerana menerusi ilmu pengetahuan tersebut individu Islam dapat melaksanakan segala tuntutan yang ditaklifkan sama ada berbentuk iktikad iaitu kepercayaan, melaksanakan perintah dan menjauhi laranganNya. Ilmu fardhu 'ain hanya diperolehi menerusi utusan Allah S.W.T iaitu para rasulNya. Seperti mana Hadis Nabi Muhammad s.a.w:

عن عمر رضي الله تعالى عنه أيضا قال : بينما نحن جلوس عند رسول الله صلى الله عليه وآله وسلم ذات يوم إذ طلع علينا رجل شديد بياض الثياب شديد سواد الشعر لا يرى عليه أثر السفر ولا يعرفه

منا أحد حتى جلس إلى النبي صلى الله عليه وآله وسلم فأسند ركبتيه إلى ركبتيه ووضع كفيه على فخذيه وقال : يا محمد أخبرني عن الإسلام فقال رسول الله صلى الله عليه وآله وسلم : الإسلام أن تشهد أن لا إله إلا الله وأن محمدا رسول الله وتقيم الصلاة وتؤتي الزكاة وتصوم رمضان وتحج البيت إن استطعت إليه سبيلا قال : صدقت فعجبنا له يسأله ويصدقه قال : فأخبرني عن الإيمان قال أن تؤمن بالله وملائكته وكتبه ورسله واليوم الآخر وتؤمن بالقدر خيره وشره قال : صدقت قال : فأخبرني عن الإحسان قال أن تعبد الله كأنك تراه فإن لم تكن تراه فإنه يراك

Maksudnya:

Daripada Saidina Umar r.a beliau berkata: "ketika kami sedang duduk di sisi Rasulullah s.a.w pada suatu hari, tiba-tiba muncul di hadapan kami seorang lelaki yang sangat putih bajunya, sangat hitam rambutnya, tidak kelihatan padanya tanda-tanda perjalanan jauh dan tiada seorang pun di antara kami yang mengenalinya sehingga dia duduk di hadapan Rasulullah s.a.w. Lalu dia merapatkan lututnya ke lutut Rasulullah s.a.w dan meletakkan dua tapak tangannya di atas dua pehanya, lantas dia berkata: "Wahai Muhammad! Ceritakan kepadaku tentang Islam". Lalu Rasulullah s.a.w menjawab: "Islam itu ialah kamu menyaksikan bahawa tiada Tuhan yang disembah melainkan Allah dan Muhammad adalah pesuruh Allah, kamu mendirikan sembahyang, mengeluarkan zakat dan menunaikan haji jika kamu mampu mengerjakannya". Lelaki itu berkata: "Benarlah kamu!" Kami merasa hairan terhadapnya, dia bertanya dan dia juga membenarkannya. Lelaki itu berkata lagi. "Ceritakan kepadaku tentang iman". Baginda s.a.w bersabda: "bahawa kamu beriman dengan Allah, para malaikatNya, kitab-kitabNya, rasul-rasulNya, hari kiamat dan kamu beriman dengan kadar baik dan burukNya". Lelaki itu berkata: Benarlah kamu!" Dia berkata lagi: "Ceritakan kepadaku tentang ihsan". Baginda s.a.w menjawab: "Bahawa kamu beribadat kepada Allah seolah-olah kamu melihatNya, jika kamu tidak melihatNya, sesungguhnya Allah melihat kamu. [1] "

Ilmu fardhu kifayah menurut ajaran Islam merupakan suatu ilmu yang perlu dikuasai oleh sebahagian manusia yang mendiami sesebuah kawasan, daerah atau negeri. Hukum mempelajari ilmu fardhu kifayah berubah menjadi fardhu 'ain apabila tiada seseorang pun di sesebuah kawasan, daerah atau negeri mengetahui tentang sesuatu ilmu seperti ilmu perubatan, pertanian, pembinaan, pengiraan dan sebagainya. Ilmu fardhu kifayah juga dimaksudkan sebagai ilmu yang berhubung kait dengan kehidupan sosial.

Ilmu *mukasyafah* merupakan suatu ilmu yang hanya diperolehi oleh manusia menerusi ilham yang diberikan oleh Allah kepadanya setelah melalui peringkat-peringkat tertentu dalam amalannya. Ilmu ini lebih dikenali dalam kalangan ahli-ahli tasawuf sebagai ilmu ladunni. Berdasarkan kepada klasifikasi ilmu yang diberikan oleh Imam al-Ghazali ilmu fardhu 'ain merupakan ilmu yang wajib dipelajari oleh setiap individu Islam. Manakala ilmu-ilmu lain adalah berdasarkan kepada sejauh manakah ilmu-ilmu tersebut bermanfaat kepada kehidupan individu ataupun masyarakat di dunia dan di akhirat.

Ibn Khaldun (2006) dan Haron Din, (1985) pula membahagikan ilmu kepada dua bahagian iaitu ilmu Naqliah (al-Quran dan as-Sunnah) dan ilmu cAqliah. Ilmu Naqliah terbahagi kepada dua kategori iaitu ilmu bersumberkan syariat (wahyu) seperti al-Quran dan al-Sunnah. Manakala Ilmu bukan bersumberkan wahyu seperti Ilmu Hadis, Ilmu Usul Fiqh,

[1] (Al-Muslim, Sahih Muslim, bab bayanu al-Iman wa al-Islam wa al-Ihsan, hadis nombor 10, 1:87)

Ilmu Fiqh, Ilmu Kalam dan Ilmu Tasawuf. Ilmu cAqliah pula adalah hasil daripada akal dan pemikiran manusia yang berhubung rapat dengan kemajuan dan peradaban manusia. Ilmu Aqliah terbahagi kepada empat kategori iaitu Ilmu Logik (Mantiq), Ilmu Fizik , Ilmu Metafizik dan Ilmu Pembelajaran.

Wan Mohd Nor (1991) membahagikan ilmu ini kepada dua iaitu pertama ilmu asas atau dikenali sebagai ilmu fardhu yakni ilmu yang wajib diketahui oleh semua orang, sesuai dengan tugas dan peranan hidupnya sebagai insan individu dan sebagai ahli masyarakat. dan yang kedua ilmu khusus atau dikenali sebagai fardhu kifayah yang diminati pun harus sentiasa dihubungkaitkan dengan ilmu lain. Pengkelasan hierarki ilmu kepada fardhu ain dan fardhu kifayah tidak boleh disifatkan sebagai satu manisfetasi dualisme atau penduaan. Malah kedua-duanya memang tidak boleh dipisahkan. Jika seseorang mempunyai dan mengamalkan ilmu fardhu ain dalam pengertian sebenar dia pasti mempunyai ilmu fardhu kifayah. Oleh itu kedua-dua ilmu ini tidak boleh dipisahkan

Menurut Sidek Baba (2006), terdapat dua bentuk ilmu yang sangat diberi keutamaan dan terbukti mampu menghasilkan kecemerlangan dan tamadun. Ilmu tersebut adalah ilmu mengurus diri dan ilmu mengurus sistem. Ilmu mengurus diri pada dasarnya merujuk kepada ilmu-ilmu asas yang wajib dipelajari oleh semua orang. Hukum mempelajari sesuatu ilmu asas itu menjadi fardu ain dan ia merupakan tanggungjawab yang wajib dipikul oleh setiap individu. Ia bermula dengan menghayati al-Quran dan ibadat dasar seperti syahadah, solat, puasa, zakat dan lain-lain. Di dalamnya terkandung ilmu untuk mengetahui cara mengamalkan perkara yang wajib. Ilmu mengurus sistem merujuk kepada ilmu Fardu Kifayah yang merupakan perintah Tuhan dan bersifat mengikat masyarakat Muslim sebagai satu kesatuan untuk mempelajarinya (bukan diwajibkan kepada setiap anggota masyarakat mempelajarinya). Dalam erti kata lain, ilmu mengurus sistem merujuk kepada bidang-bidang ilmu yang diperlukan oleh masyarakat dan wajib dituntut oleh sebahagian mereka untuk mencukupkan keperluan masyarakat.

Mustafa Kamil Ayub (1991) turut membahagikan kepada dua bentuk ilmu dalam Islam. Ilmu tersebut adalah dikenali sebagai ilmu abadi dan juga ilmu yang dicari. Ilmu abadi adalah ilmu al-Quran dan al-Sunnah. Ilmu yang dicari adalah ilmu-ilmu baharu yang perlu dicari yang tidak terdapat di dalam al-Quran seperti ilmu sains.

Persediaan Keilmuan Pendakwah

Menurut al-Qaradawi (2009) seseorang pendakwah perlu memiliki ilmu pengetahuan tertentu iaitu Ilmu pengetahuan Islam, pengetahuan sejarah, pengetahuan bahasa dan kesusateraan, pengetahuan ilmu kemanusiaan, pengetahuan ilmiah dan pengetahuan tentang realiti. Ilmu pengetahuan Islam dibahagikan kepada ilmu al-Quran, ilmu mengenai al-Sunnah, ilmu Fiqah, ilmu usul fiqah, ilmu akidah dan tasawwuf. Dalam konteks dakwah, ilmu ini merupakan asas dalam persediaan keilmuan pendakwah.

Seseorang yang ingin menjadi pendakwah yang baik harus memliki pengetahuan sejarah. Ini kerana sejarah adalah catatan tentang manusia dan bukti peristiwa yang berlaku dalam kehidupan manusia. Pengetahuan sejarah perlu bagi pendakwah kerana sejarah akan meluaskan ufuk pengetahuan dan pemikirannya tentang seusatu umat dan tokoh-tokoh pembaharuan. Di samping itu, sejarah dapat membantu para pendakwah memahami peristiwa yang kini berteraskan pengalaman sejarah yang lalu kerana dalam sejarah terdapat persamaan situasi dan motif. Pendakwah tidak perlu perincian sejarah tersebut. Walau bagaimanapun, cukup sekadar intisari dan peristiwa besar yang tercatat dalam sejarah (al-Qaradawi 2009).

Pendakwah juga memerlukan kepada pengetahuan bahasa dan kesusasteraan agar dapat mengungkapkan mesej dakwah dalam kata-kata yang dapat difahami oleh sasaran. Begitu juga penguasaan terhadap bahasa-bahasa lain seperti Bahasa Arab dan Bahasa Inggeris (al-Qaradawi 2009). Dalam konteks persedian keilmuan pendakwah bagi masyarakat Orang Asli ini adalah penguasaan bahasa Orang Asli.

Pendakwah perlu mempelajari dan menguasai ilu yang berkaitan dengan interaksi sesama manusia dalam konteks kemasyarakatan dan kemanusaiaan. Ilmu-ilmu tersebut kepada psikologi, sosiologi, ekonomi, falsafah. Seorang pendakwah belum cukup hanya mengetahui ilmu-ilmu agama, ilmu akhlak dan ilmu kemanusiaan tanpa dilengkapi deangan pengetahuan mengenai tentang realiti dalam erti yang luas seperti kedudukan dunia Islam, idealisme Barat, aliran-aliran politik dunia moden, dialog ketamadunan, perbandingan agama dan tradisi tempatan (al-Qaradawi 2009). Ilmu-ilmu yang dihuraikan tadi merupakan ilmu-ilmu asas yang perlu difahami oleh pendakwah agar seruan berkesan kepada orang ramai. .

Dalam konteks persediaan ilmu pendakwah terhadap ilmu, Pendakwah haruslah menguasai ilmu sosio budaya Orang Asli ini supaya Orang Asli mudah menerima kehadiran pendakwah tersebut. Selain itu juga, dengan penguasaan ilmu ini pendakwah dapat membezakan mana yang boleh atau tidak ketika berhadapan dengan Orang Asli. Hal ini kerana, masayarakat Orang Asli ini masih lagi mempercayai dengan ajaran Animisme yang unik ini seperti yang dikatakan oleh Mizan (nd) bahawa Adat resam dan budaya Orang Asli yang unik, adalah yang berkait rapat dengan makhluk-makhluk alam.

Menurut Mustaffa Omar (2009), sosiobudaya tersebut termasuklah berkenaan dengan adat resam dan ritual, pantang larang, makanan, hubungan sosial dan identiti dan simbol. Edward B. Tylor (1971) menyebut bahawa, sosiobudaya adalah bermaksud keseluruhan cara hidup dalam sesebuah masyarakat. Ia merangkumi ilmu pengetahuan, kepercayaan, nilai, moral, kesenian, undang-undang, adat resam dan kemahiran lain yang dipelajari oleh individu sebagai anggota dalam masyarakatnya.

Bagi komuniti Orang Asli pula, Sosio budayanya adalah merangkumi cara perlantikan penghulu, sistem kekeluargaan seperti merisik, perkahwinan, pertunangan, kelahiran anak, kematian dan perkebumian, cara berubat seperti berjampi/tangkal, pantang larang pada hari perayaan, pantang selepas bersalin, alat muzik tradisional yang digunakan dalam majlis sewang dan untuk tujuan hiburan seperti seruling buluh dan gendang, pemakanan, amalan kesihatan dan bahan perubatan tradisional dengan menggunakan akar dan tumbuh-tumbuhan seperti akar tongkat ali dan kacip fatimah, amalan sosial seperti hubungandalam keluarga dan hubungan dengan jiran (Pusat Perkembangan Kurikulum Kementerian Pendidikan Malaysia, 1998)

Juli Edo (2010) menyatakan masyarakat Orang Asli mengandungi tiga buah rumpun bangsa yang terbentuk daripada 19 buah suku kaum. Setiap suku kaum adalah sebuah entiti etnik yang tersendiri dan kaya dengan budaya masing-masing. Mereka wujud sebagai sebuah masyarakat yang dibendung teguh oleh adat dan nilai yang diwarisi. Umumnya masyarakat Orang Asli memiliki dan mengamalkan pelbagai jenis adat budaya, pantang larang, kepercayaan, amalan kesihatan dan nilai hidup mereka yang unik dan tersendiri. Mereka mempunyai satu nilai hidup yang harmoni antara sesama insan dan alam persekitaran semula jadi mereka (Mee, S. & Ibrahim, Y., 2008).

Secara lahiriahnya banyak aspek kehidupan Orang Asli mempunyai persamaan dengan masyarakat Melayu namun terdapat banyak aspek-aspek lain yang masih kekal disebabkan kepercayaan animisme yang diamalkan (Ali@Zainal Abidin, 2006).

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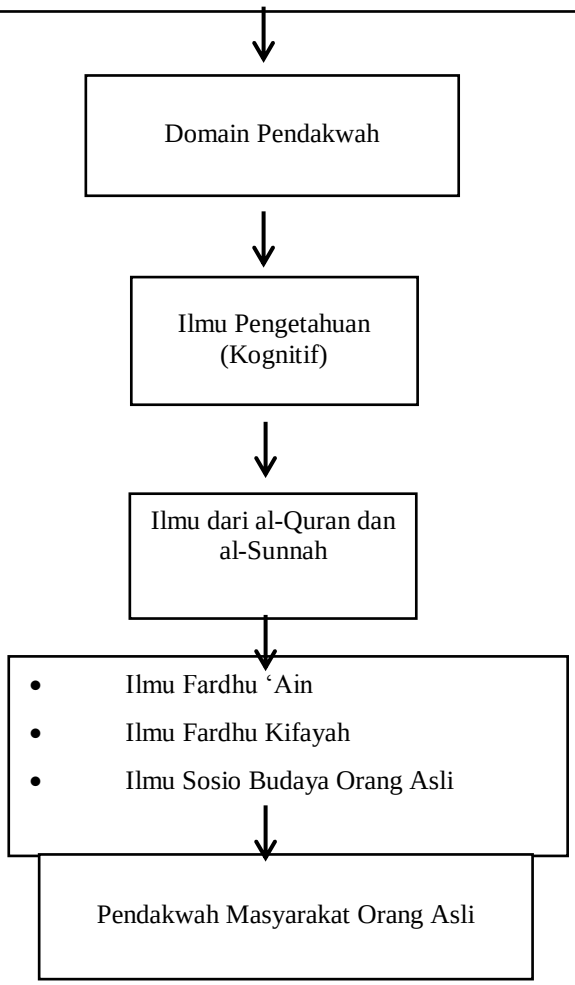
ٱدۡعُ إِلَىٰ سَبِيلِ رَبِّكَ بِٱلۡحِكۡمَةِ وَٱلۡمَوۡعِظَةِ ٱلۡحَسَنَةِۖ وَجَٰدِلۡهُم بِٱلَّتِي هِيَ أَحۡسَنُۚ إِنَّ رَبَّكَ هُوَ أَعۡلَمُ بِمَن ضَلَّ عَن سَبِيلِهِۦۖ وَهُوَ أَعۡلَمُ بِٱلۡمُهۡتَدِينَ ١٢٥ (al-Quran, an-Nahl 16:125)



RAJAH 1: Kerangka Konsep Bagi Domain Ilmu Pendakwah Orang Asli Sumber: Diubah suai dari model al-Ghazali (1939), Bloom (1956), Kamarul Azmi (2010), Abdul Karim Zaidan (1987), al-Qaradawi (1996)

Metodologi Kajian

Kajian ini merupakan kajian kualitatif yang menggunakan reka bentuk kajian kes. Jenis kajian ini digunakan kerana tajuk kajian ini masih baharu dan belum mendapat perhatian ramai pengkaji (Ahmad Munawar Ismail & Mohd Nor Shahizan Ali. 2015, Creswell & John W. 2007, Othman Lebar. 2014). Justeru itu, skop bidang kajian ini memerlukan kepada penerokaan kepada fenomena berkaitan dan *understanding issue*. Metodologi kajian ini memerlukan pengkaji mengumpulkan data-data yang relevan daripada peserta kajian yang dibahagikan kepada dua kumpulan iaitu pertama, golongan mad'u iaitu Orang Asli sama ada yang beragama Islam atau tidak. Kedua, Penggerak Masyarakat Orang Asli (PMOA) bagi menjawab kepada persoalan dan objektif kajian. Data-data yang diperolehi daripada temubual mendalam dianalisis oleh pengkaji bagi mendapatkan kefahaman yang jelas serta mencapai objektif kajian

yang berkaitan dengan domain pendakwah cemerlang dalam kalangan Orang Asli. Pengumpulan data diperolehi daripada kaedah temubual terhadap peserta kajian dan informan kajian. Data-data tersebut akan dikumpulkan serta dianalisis menggunakan kaedah deskriptif bagi menjawab persoalan kajian ini. (Ahmad Munawar Ismail & Mohd Nor Shahizan Ali. 2015, Creswell & John W. 2007, Othman Lebar. 2014).

Dapatan Kajian

Pendakwah Yang Berilmu

Di bahagian ini, perbincangan dianalisis dari sudut pendakwah yang berilmu. Konsep pendakwah yang berilmu ini diambil dari beberapa pandangan sarjana seperti al-Attas (2007), Awang Yahya (2004), Wan Mohd Noor (1991), Al-Bāyanūnī (2010) yang menyatakan bahawa pendakwah yang berjaya mestilah mempunyai ilmu mencukupi sebagai asas untuk bekalan diri dan ilmu yang mendalam untuk menarik sasaran. Daripada maksud ini, dapat disimpulkan bahawa orang yang berilmu mestilah memiliki, menguasai dan memahami ilmu yang ingin disampaikan.

Seorang pendakwah itu harus menguasai sesuatu ilmu jika ingin berdakwah kepada *madu'*nya. Ilmu yang perlu mereka kuasai ialah ilmu Fardhu 'Ain dan Fardhu Kifayah. Perkara ini dilihat melalui kenyataan PK1 seperti:

> "Ha apa haa macam kita kena ada yelah ha macam ilmu tu semua penting la semua tu ilmu akhlak apa semua kan kena ada lah"
>
> (Temu bual PK1, 21 september 2016)

Selain itu, yang terdiri dalam golongan mad'u iaitu Orang Asli turut menyatakan bahawa mereka inginkan pendakwah yang berilmu.

> "Dia ajar anak saya pasal agama lepas tu dia selalu bagi sumbangan. Dia kemas dan baik. Dia baik. Selalu datang rumah bagi barang. Dia suka bergaul. Orang islam dengan bukan islam dia layan sama sahaja. Dia tak pernah cakap besar. Dia baik. Tak pernah buat janji. "
>
> (Temu bual PK6, 21 September 2016)

Daripada kenyataan PK-PK di atas, bentuk ilmu yang perlu dikuasai oleh pendakwah ialah ilmu tentang agama iaitu ilmu Fardhu 'Ain dan juga ilmu Fardhu Kifayah seperti yang dinyatakan oleh PK2. Selain itu juga, PK6 menyatakan pendakwah itu mengajar agama, manakala PK yang lain menyatakan pendakwah yang hadir kepada mereka mengajar solat. Ini menunjukkan solat itu adalah sebahagian daripada ilmu Fardhu 'Ain. Begitu juga dengan PK juga menyatakan bahawa pendakwah ini adalah orang mengajar tentang agama Islam.

Pendakwah yang berilmu juga harus mengetahui bagaimanakah menyampaikan ilmu tersebut. Kenyataan ini dapat dilihat melalui PK 8 dan PK10 seperti berikut:

> "Dia ajar macam mana mahu ambik air sembahyang, ajar cara-cara nak sembahyang. Semua la dia ajar pasal sembahyang."
>
> (Temu bual PK8, 21 September 2016)

> "Ada juga ustaz itu mengajar kami tentang perkara-perkara itu. Ustaz itu mengajar kami bagaimana nak solat, puasa sebulan pada bulan puasa dan puasa-puasa sunat. Solat sunat terawih ada tapi bila ustaz ada sahaja. Bila ustaz tidak ada, solat sunat

> terawih tidak dilakukan, Tentang syahadah pun ada die terangkan kepada kami semasa mula-mula kami masuk islam dahulu."

(Temu bual PK10, 21 September 2016)

Daripada jawapan temu bual PK8 dan PK10 menunjukkan bahawa pendakwah harus juga tahu cara menyampaikan sesuatu ilmu itu dengan jelas sama ada bersifat teoritikal atau pun praktikal supaya proses pembelajaran itu berjalan dengan lancar. Kaedah tunjuk cara ini adalah memenuhi pendekatan yang digunqakan oleh Nabi Muhammad s.a.w sebagai mana hadis Baginda s.a.w berikut:

صَلُّوا كَمَا رَأَيْتُمُونِي أُصَلِّي

Maksudnya:

> Solatlah seperti mana kamu melihat aku solat.[2]

Ini bertepatan apa yang telah dinyatakan oleh Abdul Karim Zaidan (1993) bahawa terdapat empat perkara penting berkaitan dengan persediaan pendakwah. Persediaan tersebut merangkumi penguasaan ilmu pengetahuan, iman yang kuat serta hubungan manusia dengan Allah S.W.T dan juga manusia, serta berakhlak mulia seperti benar, sabar, berkasih sayang, rendah diri, bergaul dengan masyarakat serta mengasingkan diri jika perlu.

Perkara ini turut dinyatakan oleh Ahmad Ghalwusyh (1978) ketika membincangkan tentang persediaan dakwah ini menggariskan beberapa perkara. Antaranya ialah pendakwah itu mempunyai hubungan dengan Allah S.W.T. Pendakwah tersebut juga haruslah memiliki sifat kemanusiaan, kasih sayang, lemah lembut, pemaaf serta rendah diri. Selain itu juga, pendakwah tersebut haruslah memliki sifat yang boleh mempengaruhi orang lain yang boleh ditafsirkan sebagai kemahiran. Terakhir, ialah memiliki ilmu pengetahuan yang berkaitan dengan disiplin dakwah itu sendiri. Manakala Faizaz et.all (2011) menyatakan perlaksanaan kerja-kerja dakwah memerlukan persediaan yang lengkap sama ada fizikal dan mental untuk memastikan keberkesanannya di kalangan sasaran. S.W.T.

Domain Ilmu Sebagai Faktor Pembinaan Pendakwah Orang Asli

Dapatan kajian menunjukkan terdapat tiga bentuk ilmu. Bentuk ilmu tersebut adalah ilmu Fardhu 'Ain, ilmu Fardhu Kifayah dan ilmu sosio-budaya orang Asli. Ini dapat dilihat melalui kenyataan PK 1, PK2, PK4 dan juga PK5 sebagai mana berikut:

> "pendakwah itu harus tahu basic agama yang kukuh iaitu rukun Islam dan juga rukun Iman. tetapi yang membezakan kita pendakwah untuk Orang Asli kena tahu adat budaya mereka"

(Temu Bual PK1, 21 September 2016)

Berdasarkan maklum balas daripada PK, kajian mendapati mereka menyatakan bahawa pendakwah perlu memiliki dan menguasai ilmu yang menjadi asas kepada kefahaman dalam Islam iaitu ilmu Fardhu 'Ain dan ilmu Fardhu Kifayah. Disamping itu juga pendakwah juga harus menguasai ilmu yang berkaitan dengan Orang Asli yang dikenali sebagai ilmu sosio budaya Orang Asli. Perkara ini selari dengan pandangan al-Qaradawi (2009) yang menyatakan ilmu dalam Islam itu apa yang terdapat di dalam al-Quran. Namun begitu al-Qaradawi menyatakan bahawa untuk menjadi seorang pendakwah, maka ilmu-ilmu berkaitan dengan

[2] Ibnu Hibban. Sahih ibnu hibban, bab al-azan, juzuk 4:51

psikologi, sosiologi, ekonomi, falsafah, sains dan akhlak amat diperlukan bagi memantapkan keperibadian pendakwah (2009).

Ilmu Fardhu Ain

Dalam bahagian ilmu fardhu ain, dapatan kajian menunjukkan bahawa terdapat dua bentuk ilmu yang perlu ada dalam diri seorang pendakwah iaitu perkara-perkara dalam rukun Islam dan juga rukun Iman. Dalam konteks masyarakat Orang Asli, dua perkara ini iaitu rukun Islam dan juga rukun Iman harus diberi keutamaan yang lebih. Ini kerana Ramlee (2012) menyatakan bahawa tahap kefahaman ilmu Fardhu ‘Ain iaitu dari segi rukun Islam dan juga rukun Iman sangat lemah

Al-Ghazali (t.th) menyatakan Ilmu fardhu ‘ain secara ringkas dimaksudkan sebagai ilmu tentang asas-asas agama Islam seperti mengucap syahadah, menunaikan sembahyang, mengeluarkan zakat, berpuasa dan menunaikan fardhu haji bagi yang berkemampuan. Ia merupakan suatu ilmu yang wajib dituntut oleh setiap individu Islam kerana menerusi ilmu pengetahuan tersebut individu Islam dapat melaksanakan segala tuntutan yang ditaklifkan sama ada berbentuk iktikad iaitu kepercayaan, melaksanakan perintah dan menjauhi larangannya.

Perkara ini telah dinyatakan oleh PK2 yang mengatakan ilmu Fardhu ‘Ain itu ialah solat, puasa, zakat. Ini dapat dilihat melalui kenyataan di bawah ini.

> “Dengan ilmu-ilmu seperti ilmu agamanye, daripada ilmu kemasyarakatan die, maksudnye budaye die, adat resam die, pantang larang die, die mesti tahu jugak supaye kite boleh relate dengan agama Islam itu dengan pantang larang dia. Kite tanamkan apekah kewajipan kite sebagai Islam, solat, puase, zakat, ibadah-ibadah lain yang agak sukar untuk diorang buat sebab tak pernah buat selame ni”
>
> (Temu Bual PK2, 22 September 2016)

PK3 menyatakan bahawa Fardhu ‘Ain itu adalah rukun Iman dan rukun Islam. Ini dapat dilihat daripada hasil temubual seperti berikut..

> “Sehinggakan rukun Islam rukun iman pun kita sentiasa mengajar”.
>
> (Temu Bual PK3, 23 September 2016)

Disamping itu, PK4 memberi kenyataan bahawa ilmu Fardhu ‘Ain itu ialah syahadah, solat dan berkaitan dengan konsep ketuhanan yang terdapat di dalam Rukun Iman. Kenyataan ini dapat dilihat dari maklumbalas oleh PK4.

> “bab tauhid, tu yang pertama, syahadah, berkaitan dengan tuhan, nak terapkan pada diorang, Kedua, yang paling saya tekankan bab tahara, Solat, bab-bab tadilah, tauhid, sebelum solat tu bersihkan diri, taharah, lepas tu solat. Sampingan tu, barulah Iqra”.
>
> (Temu Bual PK4, 25 September 2016)

Ini jelas menunjukkan datapan kajian yang menyatakan bahawa dua bentuk ilmu yang perlu ada bagi seorang pendakwah masyarakat Orang Asli ialah Fardhu ‘Ain iaitu rukun Iman dan juga rukun Islam. Wan Mohd Nor (1991) menyatakan Ilmu asas bermaksud ilmu fardhu ain yakni ilmu yang wajib diketahui oleh semua orang, sesuai dengan tugas dan peranan hidupnya sebagai insan individu dan sebagai ahli masyarakat.

Dua bentuk ini sesuai dengan masyarakat Orang Asli. Ini kerana Ramlee (2012) menyatakan bahawa tahap kefahaman ilmu Fardhu ‘Ain iaitu dari segi rukun Islam dan juga

rukun Iman sangat lemah Bagi pandangan Sidek Baba (2006) pula, Fardhu 'Ain ini dikenali sebagai ilmu mengurus diri yang pada dasarnya merujuk kepada ilmu-ilmu asas yang wajib dipelajari oleh semua orang. Rukun Iman dan juga rukun Islam adalah asas kepada pembentukan Muslim yang baik. Dalam konteks masyarakat Orang Asli, rukun Iman dan juga rukun Islam adalah perkara yang paling asas yang perlu diterapkan untuk menjadi Muslim yang baik.

Ilmu Fardhu Kifayah

Bentuk yang kedua ialah Fardhu Kifayah. Kajian mendapati bahawa fardhu kifayah adalah perkara yang berkaitan dengan kehidupan seharian Orang Asli. Dalam konteks kefahaman yang dikemukan oleh Sidek Baba (2006) fardhu Kifayah disebut sebagai ilmu mengurus sistem. Dalam konteks masyarakat Orang Asli, sistem mereka adalah sistem kehidupan berkampung yang menerapkan nilai kemasyarakatan (Pusat Perkembangan Kurikulum Kementerian Pendidikan Malaysia, 1998).

Perkara ini boleh dilihat melalui keterangan yang telah diberikan oleh PK2 sehingga PK4. PK2 menyatakan:

> "kalau saya ajar saya tekankan bab bersuci, solat, itu yang wajib-wajiblah, yang mesti ditunaikan oleh seorang muslim. Satu hari tu memang kita mengajar bab kebersihan dalam Islam, itu sahaja, yang mudah-mudah. Islam memang menitik beratkan tentang kebersihan".
>
> (Temu Bual PK2, 22 September 2016)

PK4 menjelaskan:

> "Kedua, yang paling saye tekankan bab taharah".
>
> (Temu Bual PK4, 25 September 2016)

PK 2 Menyatakan bahawa ketika ingin mengajar tentang Islam, beliau akan lebih menekankan bab bersuci. Ini kerana pada pandangan PK 2 ialah Islam itu menitik beratkan tentang kebersihan dan kebersihan itu adalah salah satu nilai kemasyarakatan yang erdapat di dalam sistem kehidupan berkampung yang diamalkan oleh Orang Asli. Begitu juga dengan PK 4 yang menyatakan bahwa beliau juga menekankan bab bersuci.

Secara kesimpulannya, di dalam bahagain Fardhu Kifayah ini, seorang pendakwah mestilah menerapkan tentang ilmu-ilmu yang mengurus diri iaitu bab taharah, jual beli. Selari dengan apa yang dinyatakan oleh Sidek Baba (2006) yang mendefinisikan ilmu Fardu Kifayah yang merupakan perintah Tuhan dan bersifat mengikat masyarakat Muslim sebagai satu kesatuan untuk mempelajarinya (bukan diwajibkan kepada setiap anggota masyarakat mempelajarinya).

Dalam erti kata lain, ilmu mengurus sistem merujuk kepada bidang-bidang ilmu yang diperlukan oleh masyarakat dan wajib dituntut oleh sebahagian mereka untuk mencukupkan keperluan masyarakat. Dalam konteks masyarakat Orang Asli sistem yang mereka gunakan adalah sistem kehidupan berkampung yang memupunyai nilai kemasyarakatan.

Ilmu Sosiobudaya Orang Asli

Dapatan kajian ini tentang ilmu Sosiobudaya Orang Asli adalah seperti berikut. Ini dapat dilihat melalui kenyataan PK2:

> "pasal agama yang asas kena tau...dalam masa sama kena tau pasal Orang Asli"
> (Temu Bual PK2, 22 September 2016)

Melalui kenyataan pada PK2, beliau menyatakan untuk memudahkan penyampaian ilmu itu seorang pendakwah harus mengetahui keadaan Orang Asli. Maksud keadaan Orang Asli yang dinyatakan oleh PK2 itu adalah seperti yang dinyatakan oleh PK4 serta PK5 iaitu adat budaya, pantang larang, kepercayaan, amalan kesihatan dan nilai hidup mereka. Elemen tersebut merupakan ciri-ciri sosiobudaya sebagai mana yang dinyatakan oleh Julie Edo (2010) dan Mustafa Omar (2009).Ini menunjukkan bahawa, untuk menjadi pendakwah Orang Asli ini perlulah memahami serta mempelajari ilmu sosiobudaya Orang Asli ini. Tujuan utama ilmu ini adalah untuk memudahkan cara penyampaian ilmu-ilmu fardhu 'Ain dan juga Fardhu Kifayah sesuai dengan keadaan budaya sesuatu kumpulan tersebut. Perkara ini dinyatakan oleh Mahmood Zuhdi (2006) bahawa mengambil kira budaya masyarakat adalah salah satu metode dalam pelaksanaan ajaran Islam secara rasional. Sehubungan itu, hukum Islam menghormati budaya dan kelaziman hidup sesuatu masayarakat. Malah, Islam menerimanya sebagai salah satu sumber hukum dengan syarat ia tidak bertentangan dengan nas syarak.

Al-Qaradawi (2009) menambah sedikit tentang bahawa untuk menjadi seorang pendakwah, maka ilmu-ilmu berkaitan dengan psikologi, sosiologi, ekonomi, falsafah, sains dan akhlak amat diperlukan bagi memantapkan keperibadian pendakwah. Perkara ini juga seiring dengan apa yang dibincangkan oleh Samovar dan Potter (t.th) dalam Tina Kartina (2013) iaitu jika seseorang itu sudah mengettahui tentang sesuatu budaya maka mudahlah untuk kita berkomonikasi dengan baik bagi menyampaikan sesuatu perkara.

Kesimpulan

Dapatan kajian berkaitan dengan ilmu ini adalah menunjukkan bahawa terdapat tiga bentuk ilmu yang perlu ada bagi seorang pendakwah ini. Tiga bentuk tersebut adalah ilmu Fardhu 'Ain, fardhu Kifayah dan juga ilmu Sosio budaya masyarakat Orang Asli. Ketiga bentuk ilmu ini disebut oleh kesemua peserta kajian yang menunjukkan mereka inginkan ilmu-ilmu tersebut dari pendakwah tersebut.

Ilmu Fardhu 'Ain itu adalah berkaitan dengan Rukun Islam iaitu mengucap dua kalimah syahadah, solat lima waktu, berpuasa di bulan Ramadhan, menunaikan zakat serta melakukan haji. Bentuk yang kedua adalah hal-hal berkaitan dengan rukun Iman iaitu percaya kepada Allah, percaya kepada malaikat, percaya kepada rasul, percaya kepada kitab, percaya kepada hari kiamat serta percaya Qada' dan juga Ilmu ini juga dikenali sebagai ilmu mengurus diri seperti yang dinyatakan oleh Sidek Baba (2006) dimana ilmu ini pada dasarnya merujuk kepada ilmu-ilmu asas yang wajib dipelajari oleh semua orang.

Bagi Ilmu fardhu Kifayah pula adalah berkaitan dengan pengajian al-Quran, kebersihan dalam Islam serta pengurusan jenazah. Sidek Baba (2006) menyatakan ilmu Fardhu Kifayah ini juga dikenali sebagai ilmu mengurus sistem. Ilmu mengurus sistem merujuk kepada ilmu Fardu Kifayah yang merupakan perintah Tuhan dan bersifat mengikat masyarakat Muslim sebagai satu kesatuan untuk mempelajarinya.

Manakala ilmu sosiobudaya Orang Asli pula adalah hal-hal berkaitan dengan adat istiadat serta pantang larang Orang Asli, bahasa Orang Asli, lembaga adat dan peralatan adat Orang Asli, adat perkahwinan dan penceraian, adat mengandung dan bersalin, adat kematian dan pengebumian, dan juga adat tanah. Tujuan utama ilmu ini perlu dikuasai oleh pendakwah

adalah untuk memudahkan proses dakwah Islam itu berjalan dengan lancar sesuai dengan keadaan masyarakat Orang Asli ini. Ini seiring dengan apa yang telah dinyatakan oleh al-Qaradawi (2009) yang menyatakan diantara persediaan keilmuan yang perlu ada bagi seorang pendakwah adalah penguasaan ilmu sosibudaya.

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JAPAN'S BIOLOGICAL WEAPON'S LEGACY IN MALAYSIA: IMPLICATIONS FOR ENVIRONMENTAL CONTAMINATION, SUSTAINABLE DEVELOPMENT AND INTERNATIONAL HUMANITARIAN LAW

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Abstract : *An old mental hospital in Tampoi, Johor and a school in Kuala Pilah, Negeri Sembilan (both in Malaysia) were subjected to plague experimentation by the Japanese during World War II. This raises the possibility of environmental contamination learning from examples in other countries that have experimented, tested and used biological weapons. This study's objective is to highlight environmental contamination issues arising from plague that the Japanese once experimented with which violates international humanitarian law with implications for sustainable development. The methodology of this study is qualitative combining socio-legal and doctrinal research which analyses provisions of selected international humanitarian law agreements and secondary resources through a textual and content analysis. The results point to the possibility of environmental contamination from the plague experimentation as some infected corpses of Japanese soldiers were burnt while others were buried. Present-day rats may well be carriers of the particular plague strain with which the Japanese experimented. Only the Hague Conventions of 1899 and 1907, and customary international laws prohibiting biological weapons seem applicable to the Japanese experimentation of plague. In conclusion, this may require Malaysian authorities to delve further into this matter to enable remedial action to be taken.*

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Keywords*: Biological Weapons, Sustainable Development, Kuala Pilah, Tampoi, Soviet Union, Gruinard Island, Panama, China, Tuanku Muhammad School, Bioterrorism, Biosecurity*

Introduction

A biological weapon's facility once located in an old mental hospital at Tampoi, Johor, and a school situated at Kuala Pilah, Negeri Sembilan during the Japanese occupation of then Malaya in World War II had been subjected to plague experimentation which may cause long-term environmental contamination. Biological weapons are "complex systems that disseminate disease – causing organisms or toxins to harm or kill humans, animals or plants" (United Nations Office at Geneva (UNOG), 2009, p. 1). Biological weapons also consist of two elements, namely, a weaponised agent and a delivery mechanism (UNOG, 2009, p. 1). The consequences of using biological weapons include infection in humans, livestock and agricultural produce, causing food shortages, economic loss, environmental catastrophes, and widespread illness, while at the same time instilling fear and distrust among the general public

(UNOG, 2009, p. 1). Environmental contamination refers to the "presence of hazardous substances or constituents that post unacceptable risks to the environment, humans, or ecological receptors" (Mississippi Department, 2007, p. 2).

Indeed, the testing and usage of biological weapons for armed conflict has, in the long term, devastating health effects besides causing environmental contamination against which decontamination efforts can be costly. In one of its reports, the United Nations (UN) Department for Disarmament Affairs indicated that "[t]he financing of armed conflicts can have a direct negative impact on sustainable development" (Department of Disarmament Affairs, 2004, p.18). Even Principle 24 of the Rio Declaration on Environment and Development (Rio Declaration) of 1992 reiterates that "[w]arfare is inherently destructive of sustainable development" (United Nations Environmental Programme (UNEP), 1992, p. 3). Principle 24 of the Rio Declaration elaborates that "[n]ations shall respect international laws protecting the environment in times of armed conflict, and shall cooperate in their further establishment" (UNEP, 1992, p. 3). The term sustainable development is most frequently quoted in the Report of the World Commission on Environment and Development (WCED) of 1987, better known as the Brudtland Report (World Commission on Environment and Development (WCED), 1987). In the Brudtland Report, sustainable development means a form of "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987, p. 87). Sustainable development consists of various components, namely, social, economic, and environmental objectives that are supposed to be complementary and interdependent of one another (Organisation of Economic Cooperation and Development (OECD), 2001, pp. 21-22). It is the environmental component of sustainable development that is emphasised in this study but more specifically in the context of experimenting, testing and use of biological weapons in armed conflict with devastating long-term effects on the environment that thereby require decontamination efforts.

Against this background, this study has the objective of highlighting environmental contamination issues that could have arisen from the Japanese experimentation with plague during World War II at the old Tampoi mental hospital in Johor and at the Tuanku Muhammad School of Kuala Pilah, Negeri Sembilan, which violates international humanitarian law. Also for the purpose of this study, both Malaya and Malaysia will be used interchangeably, with Malaya referring to the political entity that existed before Malaysia's formation in 1963 and the colonial occupation before Malaysia's independence in 1957 (1957: Malaya, 1957). In determining the forms of environmental contamination from the Japanese experimentation of plague, examples from the former Soviet Union, the United Kingdom (UK), the People's Republic of China (China), the United States (US), and Panama are highlighted to draw some useful lessons.

Literature Review

Within East Asia, extensive literature already exists on Japan's testing and usage of biological weapons in China during World War II, as elaborated by scholars such as Fong (2000), Galvin (2003), Gold (1997), Harris (2002, 2003), Li (1999, 2003) and Tschuiya (2005). In terms of other Southeast Asian countries, there have been references among scholars such as Fong (2000), Gold (1997, pp. 50-51), Harris (2003, p. 481-482), Ng (1995), Sidhu (1991, pp. 160-164) and Tschuiya (2005, p. 4) and about a certain Japanese Unit 9420 being formed in Singapore to facilitate experimentation

and the development of plague as a biological weapon during World War II (1941-1945). Only Ng (1995), in scant passing, has mentioned the old mental hospital of Tampoi, Johor, being used as a biological weapons facility but without further elaboration. This being the case, this study intends to fill in the gap left by these scholars, not only in terms of elaborating on the biological weapons facility in Tampoi, Johor, but also the Tuanku Muhammad School in Kuala Pilah which was once used by the Japanese to breed and test animals with plague - all with the underlying concern for the possibility of environmental contamination in the long term.

Although it now seems so long ago that the Japanese experimented with plague at the old Tampoi mental hospital, and bred animals in their experimentation with plague at Kuala Pilah, it should not be discounted that there could be long-term environmental consequences as a result of experimenting with rats that subsequently could have been released. Should skeletons and tissues of Japanese soldiers infected with plague strains ever be found, testing through forensic Deoxyribonucleic Acid (DNA) could also indicate contamination. This study is important in its intention of alerting the Malaysian authorities and scientists of the need to further examine the past history of the Japanese biological weapons development programme in Tampoi, Johor, and Kuala Pilah, Negeri Sembilan so as to determine whether there is a possibility of environmental contamination from the aforesaid plague and whether this can be traced to existing rats (rodents) and skeletons of infected Japanese soldiers if they are ever found at the surroundings of the Tampoi mental hospital. This is crucial because if there is environmental contamination from traces of plague among rats and tissues of Japanese soldiers, decontamination efforts and other remedies have to be taken. Since the literature that elaborated on Malaysia being once a biological weapons facility during the Japanese colonial era is few and far between, this study can thus make timely a contribution in adding Malaysia to the list of countries where the Japanese once formed biological weapons facilities in Southeast Asia during World War II. Furthermore, an investigation into biological weapons facilities in Malaysia in the context of environmental contamination and sustainable development may contribute to existing literature on disarmament and the environment.

Scholarly works regarding environmental contamination from testing and usage of biological weapons have also been emphasised by scholars such as Al-Duaij (2002), Choffnes (2001b, p. 169), Lock, Last and Dunea (2001, p. 111), Sidel (2000, p. 440), and Sidel, Levy and Slutzman (2009, p. 29). These scholarly literatures serve as a point of reference for Malaysia in that biological weapons can cause environmental contamination and for decontamination efforts to be duly emphasised.

Scholarly literatures that highlight provisions concerning the environment among international humanitarian law agreements include Goldblat (1997), Mrema, Bruch and Diamond (2009), Roberts (2000, p. 47-86), and Yuzon (1996). These scholarly literatures provide an overview of relevant international humanitarian law as a point of departure for analysing Japan's experimenting, testing or use of biological weapons during World War II in what was then Malaya, provided of course that Japan was then a party to the relevant international agreements.

Methodology

This study is qualitative which combines a social-legal and doctrinal research approach. The socio-legal approach has been used in this study because of its multidisciplinary nature combining security studies, history and law. Since the social

science methods of analysis such as a textual and content analysis have also been used, this also justifies the socio-legal approach to this study. International humanitarian law agreements provisions prohibiting biological weapons and references to the environment such as the 1899 Convention (II) with Respect to the Laws and Customs of War on Land (1899 Hague Convention), the 1907 Convention (IV) Respecting the Laws and Customs of War on Land (1907 Hague Convention IV), and the 1925 Protocol to The Hague Convention for the Prohibition of the Use of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare (1925 Geneva Protocol) have all been analysed using a textual analysis in the interpretation of their meaning in conformance with interpretivism.

Secondary resources such as books, book chapters, journals, conference papers, working papers, newspapers, magazine articles, and relevant organisational websites that provide an overview of Japan's biological weapons atrocity during World War II, and environmental contamination from the testing and usage of biological weapons were also referred to and analysed through a content analysis.

Biological Weapons Development in Malaya in the Japanese Era

The Japanese invasion of the then Malaya began on 8 December, 1941 in Kota Bharu, Kelantan, while Johor Bahru in Johor came under Japanese occupation on 11 January, 1942 (Boon, 2003, p. 18). Ng (1995) mentions that the Japanese imperial army once used a hospital in Tampoi, Johor as a secret laboratory for biological warfare, being part of Unit 9420 with the headquarters in Singapore. While the Japanese experimented with plague at the old Tampoi mental hospital, Johor, whether any testing of plague was being carried out on animals or humans that might have caused environmental contamination and the circumstance leading to the end of the Japanese germ warfare programme remain evasive. It is also unclear whether the Japanese experimented with other biological agents as in the case of China or merely restricted their experimentation to plague at the Tampoi mental hospital.

A brief historical overview of the Tampoi mental hospital where the Japanese conducted biological warfare is provided. The Tampoi hospital first started out as a lunatic asylum in 1916 in the area of Lido beach, Johor (Mental hospital, 1994). In 1936, the then Sultan of Johor commissioned a mental hospital in Tampoi that was opened in 1937 and known as The New Mental Hospital where eventually the Japanese studied germs and cultured bacteria for purposes of biological warfare (Mental hospital, 1994).

The Tampoi mental hospital was exposed as a biological warfare facility through the revelations of a former Japanese technician who served the facility during World War II (Ahmad, 2009; Kouitsu, 1991). During the development of plague, the old Tampoi mental hospital had a laboratory, special ward, a building for cultivating the bacteria, an autopsy room, and a place for rearing rats (Kouitsu, 1991). The Tampoi mental hospital was also equipped then with a canteen, quarters for lower and higher ranking officers, a hall for gathering, and a place for keeping animals (Kouitsu, 1991). There was also a surrounding fence around the laboratory, special ward and place for cultivating bacteria to keep away prying eyes (Kouitsu, 1991). When the Japanese occupied the Tampoi mental hospital, their research centred on rats that were collected from nearby villages near Tampoi and as far afield as the town of Labis (Visvanathan, 1994).

Besides the Tampoi mental hospital, the Tuanku Muhammad School in Kuala Pilah, Negeri Sembilan, was also used as a breeding ground for rats and rabbits (Huang,

2005). Local Malaysians were employed to feed the rabbits with sweet potato leaves (Huang, 2005). The upper floor of the Tuanku Muhammad School was forbidden to local Malaysians but a local Malaysian once managed to spy on the extraction of rabbit blood stored in bottles in the upper floor of the school (Huang, 2005). These local Malaysians of course had no idea where these bottles of rabbit blood were destined (Huang, 2005). At the school, there were several Japanese doctors and veterinarians as well as local Indian assistants (Huang, 2005). While the school was officially the Kempetei or Japanese secret police base, this was only a camouflage for the more sinister activity of breeding animals for the experimentation of plague as a biological weapon.

A former Japanese army officer, Takayama Yoshiaki, further provided testimony that rats were transported to Kuala Pilah from the Saitama Prefecture, Japan (Huang, 2005). Yoshiaki apparently accompanied some of these rats on a flight from Japan to Singapore whereupon these rats were transported to Johor Bahru and also Kuala Pilah (Huang, 2005). When the Japanese surrendered in 1945, overnight the Japanese ordered the local Indian workers to burn all the rats and rabbits (Huang, 2005). This was to destroy any evidence that the Japanese were indeed developing a biological weapon in the form of plague, being fully aware they were violating international agreements on the conduct of warfare which forbid biological weapons. Whether all the rats and rabbits infected with the plague serum were destroyed remains doubtful while some might have escaped.

It was clearly apparent that during World War II the Japanese were preparing for biological warfare by breeding fleas fed with the blood of over 300,000 plague-infested rats (Leow, 1995). The development of plague was in preparation for an eventual US invasion, but whether the fleas were intended to be sprayed in populated areas to spread the plague and wipe out whole villages in the then Malaya also remains another mystery (Leow, 1995). Nevertheless, the Japanese during World War II had no opportunity to use the plague they had developed at the Tampoi mental hospital as a biological weapon (Plan to increase, 2015). As for the documentation of the Japanese experimentation with plague at the Tampoi hospital, these were brought and destroyed at Thakek, Laos (Plan to increase, 2015).

As a result of Japanese experimentation with plague, Japanese soldiers who were careless and did not take proper precautionary measures died of the plague (Visvanathan, 2000). Some of the bodies of those Japanese soldiers infected with plague were cremated and their ashes buried in a compound surrounding the Tampoi mental hospital (Visvanathan, 1994). The exact locations of where these bodies were buried remain unknown. Furthermore, when the Japanese took over the mental hospital, they let loose the inmates to fend for themselves, some were shot while others wandered around until they died (Cross, 2013). British troops who were treated at this mental hospital which was then used as an army hospital were killed and buried in shallow graves (Cross, 2013). It also remains unclear whether the Japanese had ever used the mental inmates of the hospital for plague experimentation.

Indeed, the Tampoi mental hospital and the Tuanku Muhammad School's unpleasant past is now history. The Tampoi mental hospital changed its name to the Permai Hospital in 1972 (Tampoi's fruity origin, 2010), and together with the Tuanku Muhammad school, both are still operational today.

Environmental Contamination from Testing and Usage of Biological Weapons

The Soviet Union

One famous biological weapons test site of the then Soviet Union, operational from 1936-1992, was Vozrozhdeniye Island in the western part of the Aral Sea, where in 1954 a large complex facility for testing biological weapons and defensive equipment known as Aralsk-7 was built by the Soviets (Atshabar, 2003, p. 79; Tucker & Zilinskas, 2002, p. 8). Among microbial pathogens that were tested on this island were plague, anthrax, Q-fever, small pox, tularemia, Venezuelan Equine Encephalitis (VEE), brucellosis, typhus, and botulinum toxin (Atshabar, 2003; Tucker & Zilinskas, 2002).

With the Soviet Union's dissolution in 1991, its army hastily buried anthrax on Vozrozhdeniye Island. It was not surprising at all to discover that anthrax spores survived the bleach treatment as discovered by US scientists in 1997 (Anthrax "time bomb", 1999, p. 1). It was feared that these anthrax spores could be grown into a culture to form live anthrax bacteria (Anthrax "time bomb", 1999, p. 1). Given that the anthrax spores were still alive and potently deadly, Uzbekistan and Kazakhstan which inherited Vozrozhdeniye Island requested US assistance in assessing and clearing up the former Soviet Unions' deadly legacy (Miller, 1999, p.2). On 22 October, 2001, the US and Uzbekistan signed an agreement as part of the Cooperative Threat Reduction (CTR) initiative with the US pledging US$6 million to destroy the remaining anthrax spores on the island and to totally dismantle the biological weapons laboratory complex that the Soviets failed to dismantle completely (James Martin Centre for Non-Proliferation Studies, 2002, p. 1).

Despite US decontamination efforts on Vozrozhdeniye Island which were purportedly successful in 2002 (Roffey, 2005, p. 11), subsequent environmental monitoring and testing will continuously need to be conducted from time to time in the foreseeable future so as to detect any further presence of anthrax or other pathogens. In 2007, a representative from the Uzbekistan prophylaxis centre indicated that anthrax spores could easily survive a hundred years and would come alive if they come into contact with any live organisms (Kozlova, 2007, p. 2). In view that the said island became connected with Uzbekistan's mainland in 2004-2005 through a natural land bridge, there is the danger that infected animals carrying pathogens on this island can be brought to mainland Uzbekistan (Kozlova, 2007, p. 2). Plague-carrying rodents, including gerbils and mice, freely roam this island while fleas from these rodents could be carriers that infect humans if these creatures ever make it to mainland Uzbekistan (Pala, 2003, p. 2). In 2007, Gappar Asenov, the head of Uzbekistan's zoological and parasitological laboratory at the Karakal-Pakstan Centre for Prophylaxis and Quarantine of Most Hazardous Infections, suggested the building of a 10-kilometre rodent-proof ring around the biological weapons test site on Vozrozhdeniye Island so that these rodents, insects, birds and other animals cannot have access to the infected site and thus prevented from subsequently passing on diseases to those on the main land (Kozlova, 2007, p. 2).

As an example of air pollution caused by the testing of a biological weapon, the accidental release of anthrax at Sverdlovsk in the former Soviet Union back in 1979 that claimed seventy lives was attributed to the failure of a maintenance personnel to replace a critical filter in a vent, resulting in anthrax being released during the production and manufacturing of a biological weapon (Wampler & Blanton, 2001, p. 6). Another form of environmental contamination from air pollution arising from the former Soviet Union's field testing of smallpox on Vozrozhdeniye Island occurred in

July, 1971, when a research ship carrying a female technician charged with taking plankton samples from the Aral Sea came within 15 kilometers too close to the said island and drove into a plume of smallpox being released by the Soviets (Zelicoff, 2002, pp. 12-21). This technician survived the smallpox as she was vaccinated but caused an outbreak at Aralsk, sickening ten people while three people died (Tucker & Zilinskas, 2002, p. 7; Zelicoff, 2002, p. 13).

Gruinard Island, United Kingdom

Anthrax was also tested by the UK on Gruinard Island in the North West Scottish coast in the 1940s, resulting in this island remaining inhabitable for forty-eight years because anthrax spores contaminated the ground and could possibly survive for decades if not centuries (Zelicoff, 2002, p. 61). After a few unsuccessful attempts to decontaminate this island, apparently the effort in 1987 succeeded (McLaughlin, 2009, p. 62). Before decontamination, Gruinard Island was off limits for animal grazing as anthrax could infect animals while all other human habitation, industrial and commercial activities were totally prohibited (McLaughlin, 2009, p. 62). Gruinard Island illustrates an environmental contamination of soil, destruction to the landscape, and harm to flora and fauna (UNEP, 1995, pp. 3-4).

United States

One of the sites where the US conducted field testing for biological agents was at the Dugway Proving Ground (DPG) (US Army Activity, 1977, pp. 2-3). Throughout 1951-1969, the US army conducted open-air test on humans and animals (Piller & Yamamoto, 1988, p. 45). Germ bombs containing brucellosis, psittacosis, tularaemia, plague, Q fever, anthrax, San Joaquin Valley Fever, and VEE were all tested at DPG (McDermott, 1985, p. 172). As a result, some animals around DPG were found to produce antibodies for VEE (Choffnes, 2001a, p. 172).

The open-air field testing of deliberately infecting and subsequently releasing these infected animals to infect native animal population had environmental implications. In the 1950s and 1960s, the wildlife population at DPG were found to have been infected by rabies, encephalomyelitis, Rocky Mountain spotted fever, psittacosis, Q fever, anthrax, brucellosis, plague, tularaemia, and hydatid disease (Pinkham et al., 1982, p. 173). Additionally, *rickettsia ricketsei* was also discovered among the wildlife population (Choffnes, 2001,p. 173). Besides this, birds were detected with psittacosis while the desert wood rat became the reservoir for Brucellosis (Choffnes, 2001). Plague (*Yersinia pestis*) had also been detected among carnivores and rodents within the vicinity of DPG (Pinkham et al., 1982, p. 173).

Based on these indications, it is quite clear that biological agents and biological bomb testing on animals affects the wildlife, causing environmental contamination. More worrying is that these infected animals can subsequently pass on these diseases to humans known as zoonoses.

People's Republic of China (China)

Another similar example of environmental contamination as an outcome of biological weapons testing and disarmament is that of Japan by its famous Unit 731 and Unit 1644 from 1940-1942 in spreading the epidemic of plague and cholera in the cities of Quzhou, Ningbo, Changde, Jiangshan, Yiwu, Dongyang, and Chongsan Village or

Taxiazhou, as filed by a group of plaintiffs on 30 August, 2002 at the Tokyo District Court (Tokyo District Court, 2002b, p. 2).

Unfortunately for the Chinese who filed this lawsuit, the Tokyo District Court, the Tokyo High Court, and Supreme Court all rejected the claims for compensation whereby it was cited that international law prohibited foreign citizens from seeking compensation directly from the Japanese government (Japan rejects appeal, 2005, p. 1). The Tokyo District Court had, however, finally admitted that Japan played a role in the atrocities in Zhejiang and Hunan provinces in China, stating "it is appropriate to conclude that the defendant [Japan] has sovereign responsibility for this case of germ warfare according to international customary law as established in Article 3 of the Hague Convention for War on Land" even though it denied compensation to the Chinese (Tokyo District Court, 2002a, p. 5). Another reason for rejecting the Chinese plaintiffs' claim had been attributed to a joint communiqué signed between China and Japan on 12 August 1978 called the China-Japan Treaty of Peace and Friendship whereby Japan alleged that China had agreed to waive any claims to war reparations by Japan (Tokyo District Court, 2002a, p. 5).

These towns and provinces in China now bear the brunt of environmental contamination. Qiu Mingxuan, a Chinese epidemiologist from Quzhou in Zhejiang province, reiterated the need to conduct medical examinations on rats infected with plague germs for the next fifty years from 2001 because the tests then already indicated that the rats were still carriers of bubonic plague (The horrors, 2001, p. 3). Qiu further indicated that the plague legacy left behind by the Japanese could cause another outbreak anytime while houses, hospitals and other buildings contaminated by these germs had to be abandoned for decades (Japan accused, 2001, p. 1). Additionally, Qiu asserted that environmental pollution and damage to the ecosystem were repercussions of Japanese wartime atrocities (Japan accused, 2001, p. 1).

Fort Sherman, Panama

At Fort Sherman, Panama, the US tested biological weapons. In this location, the US National Institutes of Health's Middle America Research Unit (MARU) experimented with VEE that can decapitate humans but does not kill, making it a good candidate for a biological weapon (Choffnes, 2001a, p. 6; Poland, 2003, p. 70). Likewise, the Gorgas Memorial Laboratory conducted experiments among humans at Almirante from 1960-1962, and at Darien and the urban communities of Patoistown and Zegla in 1968 (Poland, 2003, p. 71). In 1981, an outbreak of VEE occurred among military personnel that underwent training at the Jungle Warfare Training Centre in Fort Sherman, Panama, leading to the view that VEE had lingered from the testing of the 1960s till 1970 (Poland, 2003, p. 71). As a result of previous experiments with VEE at Fort Sherman, VEE still remains an endemic threat in selected areas of Central America (Choffnes, 2001a, p. 6).

Besides VEE, the US also tested another biological agent called *Bacillus globiggi* bacteria (BG) related to anthrax through a test called Big Jack, Phase A, near Fort Sherman Military Reservation at the Panama Canal Zone in February-March, 1963 (Kelley, 2002, p.1). At that time also, it was thought that BG was harmless; later it was determined that BG could cause life-threatening infections among people with a weakened immune system (Kelley, 2002, p.1). Thus, BG does have a deleterious effect on human health.

International Law Prohibiting Biological Weapons and Addressing Contamination to the Environment

Mid-19th Century – 1900

The codification concerning the prohibition of biological weapons can trace its history back to the Lieber Code that was signed by President Abraham Lincoln on 24 April, 1863 during the American Civil War (The war of the rebellion, 1899). Article 16 of the Lieber Code states that "it does not admit to the use of poison in any way", showing that biological weapons usage was regarded as a poison (The war of the rebellion, 1899). Furthermore, Article 70 of the Lieber Code mentions that "[t]he use of poison in any manner, be it to poison wells, or food, or arms is wholly excluded from modern warfare. He that uses it put himself beyond the pale of the law and the usage of war" (The war of the rebellion, 1899). The Lieber Code sets the tone concerning conduct in times of martial law, civilian protection and their property, treatment of Prisoners of War (POW), deserters, pillaging, prisoner exchange, and other aspects of warfare. This was then followed by the 1874 Brussels International Declaration concerning the Laws and Customs of War whereby Article 13 (a) forbids the employment of poison or poisoned weapons (Brussels Committee, 1874).

Further developments prohibiting the use of biological weapons resulted in the Hague Convention of 1899. There are three main treaties and three declarations to the Hague Convention of 1899. Of relevance is Convention (II) with Respect to the Laws and Customs of War on Land (1899) whereby Article 23 (a) prohibits the use of poison or poisoned arms (1899 Hague Convention, 1899). Also of relevance is Article 23 (e) of the 1899 Hague Convention (II) that prohibits the employment of "arms, projectiles, or material of a nature to cause superfluous injury" (1899 Hague Convention, 1899). Poison as understood then was meant to cover toxic chemicals and biological agents for diseases.

The Period 1900 – 1945

A second peace conference was subsequently convened in The Hague, Netherlands in 1907 that resulted in thirteen treaties and one declaration. Of the relevant treaties, Article 23 (a) of the 1907 Hague Convention IV (1907) forbids the employment of poison or poisoned weapons, while Article 23 (e) forbids the employment of arms, projectiles, or material that were calculated to cause unnecessary suffering. Article 23 (1) (g) of the Regulation annexed to the 1907 Hague Convention IV (1907) asserts that it is forbidden "to destroy or seize the enemy's property, unless such destruction or seizure be imperatively demanded by the necessities of war". Property in this regard may refer to natural resources, protected areas, and environmental goods that concern the environment. The 1925 Geneva Protocol (1925) also banned the use of asphyxiating, poisonous or other gases, and extended the prohibition to the use of bacteriological methods of warfare. Notably, the 1925 Geneva Protocol did not ban the development, production and stockpiling of biological weapons.

Throughout the 1930s, efforts were made within the ambit of the League of Nations to ban biological weapons without much success (Goldblat, 1997, p. 1). After World War II (1941-1945), the military tribunal for the trial of key German war criminals during the Nuremberg Trials (Judgment of the International Military Tribunal, 1946; International Military Tribunal, 1946) found by 1939 that the rules concerning methods and conduct of warfare from the 1907 Hague Convention were recognised by all civilized nations as declaratory of the laws and customs of war. This meant that

countries did not have to ratify the 1907 Hague Convention to be bound by its provisions concerning the methods and conduct of warfare, as most of these have been regarded as customary international law. This had also been affirmed by the UK in its 1958 military manual "The Law of War on Land", being Part III of the Manual Military Law (UK Military Manual 1958) (The War Office, 1958, p. 41) which stated that "[t]he use of bacteriological methods of warfare is forbidden". A subsequent footnote to this UK Military Manual 1958 further explained that "the prohibition […] in the [1925 Geneva] Gas Protocol was declaratory of the view generally accepted by the civilized world" (The War Office, 1958, p. 41). The UK Military Manual 1958 in Section 111, footnote 1(b), further adds:

> *As Japan was not a party to the [1925 Geneva Protocol], the Russian military tribunal at Khabarovsk […] would therefore seem to have assumed that the prohibition of bacteriological warfare derived from the customary law of war prevailing among civilized nations and it was declaratory of such customary law* (The War Office, 1958).

Even prior to the Hague Conventions of 1899 and 1907, the prohibition of using poison that includes pathogens goes back to ancient times such as those covering the Manu laws of India (prior to 500 BCE) and ancient laws of the Chinese, Greeks and Romans as well as the Koran (Mathews, 2015, p. 2). While there seem to be customary international law prohibiting the use of biological weapons, only Article 23 (1) (g) of the Regulation annexed to the 1907 Hague Convention IV (1907) addressing property would seem to encompass natural resources and environmental goods relating to the environment.

Results and Discussion

Environmental Contamination

Although there are no longer any biological warfare activities at the old Tampoi mental hospital or the Tuanku Muhammad School in Kuala Pilah, there are important issues to be considered. Environmental contamination needs to be considered especially if there are traces of plague bacteria among the skeletons of Japanese soldiers who were buried wholly and not cremated into ashes which can cause ground contamination. Based on Vozrozhdeniye and Gruinard Island past biological warfare activities, anthrax continued to be present even after a considerable number of years. In 2011, scientists from Canada and Germany retrieved *Yersinia pestis* (plague) samples from the teeth and bones of the mid-1300s plague victims of the Black Death in London for gene sequencing (Minard, 2011). Even after 600 years, the plague sample still survived and these scientists were able to perform gene sequencing. Therefore, it begs the question whether plague samples found among the Japanese soldiers' skeletons can still pose serious health or environmental implications. To do this, Malaysian researchers will have to collaborate with relevant scholars from abroad, obtain past documents from archives and research institutions overseas detailing where the Japanese dead soldiers were buried before any samples of plague (if in existence) can be tested. Moreover, another form of environmental contamination to be considered are rats as carriers of plague among the animal population. The fate of rats which the Japanese experimented with at the old Tampoi mental hospital and Tuanku Muhammad School in Kuala Pilah so long ago is unknown. Whether some of these rats could have escaped to spread the plague to other rats or were totally killed and burnt, also remains unknown. Tests will need to be carried out among the rat population near the Tampoi mental hospital and

Tuanku Muhammad School in Kuala Pilah to ascertain whether these rats are carriers of the particular strain of plague that the Japanese experimented with. After all, there was evidence of plague among rats and carnivores collected around DPG in the US in 1972, where biological weapons were tested (Pinkham et al., 1982). Just like the case of Vozrozhdeniye Island where it was feared that rats, being carriers of the plague, could harm mainland Uzbekistan and Kazakhstan (Pala, 2003) and the case of Quzhou in Zhejiang, China (The horrors, 2014), it is also feasible to test the rat population within the vicinity of the Tampoi mental hospital in Johor and Tuanku Muhammad School in Kuala Pilah, Negeri Sembilan to ascertain whether remnants of the plague remain as a legacy of Japanese biological warfare during World War II. Taking the cue from Singapore which had infected rats and monkeys from Japanese experimentation with plague (Phan, 1991), it is time for the Malaysian authorities to test the rats and rabbits (if any) within the said vicinities. This is crucial towards determining whether contagious strains of the plague still remain as well as remedial actions to be taken in order to prevent health problems from infected rats and any environmental decontamination. And if needed be, soil samples should also be tested for contamination. If traces of plague bacteria are ever found, the Malaysian authorities must also be careful not to publicise this in the open as it is feared this could also attract terrorists with evil intentions to obtain the plague for bioterrorism raising a biosecurity concern. Indeed, it is possible for terrorists to try to turn the plague into a biological weapon although this is not easily achieved as it takes a lot of scientific expertise and tacit knowledge. This is because terrorists lack professional expertise in mastering the art of turning plague into an effective biological weapon with a suitable means of delivery.

Therefore, it is up to the Malaysian authorities to acquire the relevant historical documents and to gather more information that will enable remedial actions to be taken for the sake of ensuring that the health and environmental surroundings of Tampoi and Kuala Pilah's population are devoid of any biological agent threat.

Applicable International Agreements and Custom

In examining any Japanese violation of international humanitarian law, the 1899 and 1907 Hague Conventions that Japan had signed and ratified prior to World War II would have applied to Japan regarding its plague experimentation at Tampoi, Johor (International Committee of the Red Cross (ICRC), 1995). Hardly any information exists today to indicate beyond any shadow of doubt whether the Japanese had actually tested plague as a biological weapon on the victims and inmates in the Tampoi mental hospital. Of course, Japan could not be faulted for the development, production, and stockpiling of plague as a biological weapon because the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxins Weapons and on their Destruction (in short Biological Weapons Convention (BWC, 1972) only came into being much later in 1972.

Neither would Japan have violated the 1925 Geneva Protocol (1925) banning the use of biological weapons because Japan did not ratify this international agreement until 1970 (ICRC, 1995). Customary international law prohibiting biological weapons for biological warfare can implicate Japan because the intention of developing plague at the Tampoi mental hospital was intended to be used against the US and its allies if they ever retook Malaya again as Japan's means of defence. In a 2002 court case filed by Chinese nationals in Japan, the Tokyo District Court admitted that Japan had a role

in the biological weapons atrocities in the Zhejiang and Hunan provinces in China, for it stated: "it is appropriate to conclude that the defendant [Japan] has sovereign responsibility for this case of germ warfare according to international customary law as established in Article 3 of the Hague Convention for War on Land [the 1907 Hague Convention IV]" – but denied compensation to the Chinese (Tokyo District Court, 2002a, p. 5). Then again, much more remains to be done in gathering the relevant information from relevant archives and research institutions abroad to determine whether the Japanese ever tested and used biological weapons in Malaya at the time. As for any environmental contamination caused to the old Tampoi mental hospital and Tuanku Muhammad School, Article 23 (1) (g) of the Regulation annexed to the 1907 Hague Convention IV (1907) would have applied to Japan because it had seized the said buildings and their surrounding land then under British ownership while contamination from plague germs destroys the cleanliness of the building.

This being the case, any Japanese experimentation with plague at the Tampoi mental hospital in Johor, and in Kuala Pilah, Negeri Sembilan is not merely about trying to address an unpleasant part of Malaysia's past. As indicated in the discussion section, much remains to be further investigated in order to determine whether there are long-term repercussions health-wise and environmentally from Japanese experimentation with plague during World War II. Just as important is to determine whether it may still have an impact even today.

Conclusion

In conclusion, a lot more efforts remain to be done in gathering more information and evidence of Japan's wartime biological weapons facilities at the old Tampoi mental hospital in Johor and Tuanku Muhammad School in Kuala Pilah, Negeri Sembilan. This is not just a matter of better understanding Malaysia's past history as there could also be long-term environmental repercussions detrimental to the attainment of sustainable development. In this regard, this study can be further extended by collaborating with scholars from abroad, referring to archives and research institutions overseas that keep documented evidence regarding the Japanese Unit 9420's activities in Malaya in order to obtain a more accurate picture of whether the Japanese merely experimented with or used plague. This is crucial to determining whether there are long-term environmental implications from such experimentation and of course any decontamination efforts or other remedial actions that Malaysian authorities ought to take in time to come when more evidence surfaces. For now, the direction of future research remains focused on gathering the relevant historical documents from abroad and making contacts with foreign researchers having expertise on Japanese biological warfare activities in Southeast Asia which may shed light on the biological weapons facilities mentioned.

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A CRITICAL STUDY OF BLOOM'S TAXONOMY IN SELECTED LITERATURE CLASSES IN MALAYSIA AND BEYOND

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Abstract: *This paper aims at addressing contemporary issues and identifying problems faced by selected Malaysian students studying literature in English – both at school and university levels. It also compares the experience of selected countries in an attempt to gauge if the challenges faced are also universal and not specifically Malaysian. What are the problems faced by students whose native tongue is not English? What hampers them from performing in the subject and what are the 21st century approaches needed to ensure that they enjoy learning and in return, this would help them grow as well-informed, sensitive cultural and moral beings. The paper which is qualitative and quantitative in nature will also critically study Bloom's taxonomy on his high order thinking skills (HOTS) and will argue that Bloom's taxonomy is not sufficient and inadequate to measure Malaysian students' performance since they are being measured by criteria which may be western-centric, undermining students' cultural intelligence in addition to their creative, affective and psychomotor domains. The paper will perhaps raise more questions than answers for educators teaching English literature in the 21st century. The paper will be based on class observations, interviews with teachers and students as well as highlighting some case studies of other countries in which English is taught as a second language e.g. Singapore, Brunei and Pakistan.*

Keywords: *Teaching English Literature, Malaysian Schools, Literature At Universities, Bloom's Taxonomy, Critical Thinking Skills*

Introduction

English is an important subject not only in schools but also at the tertiary level. In Malaysia, literature is a component in the English syllabus both at lower and secondary levels. The Ministry of Education made English Literature component as compulsory in PMR and SPM National Examinations after the introduction of the syllabus in 2000 for secondary schools. According to the official letter to school (Surat Pekeliling Ikthisas Bil 4 /2000/February 2000), the purpose of introducing English literature in Form 1 to Form 5 is:

> …. to enhance student's proficiency in the English language through the study of a set of prescribed literary texts, contribute to personal development and character building, and broaden student's outlook through reading about other cultures and world views.

In other words, it can be said that, incorporating the literature component in the English syllabus can increase students' English Language proficiency by reading a set of selected literally texts which contribute to creating morally adept students, broaden students' knowledge and uplift students' perception of life.

However, often this component is ill-received by students whose English is already weak as the subject requires a high level of proficiency in reading, writing, speaking and listening skills. It is reported that students have learning difficulties in this component at the secondary school level (Ashairi & Melor 2014). According to Norhasimah Isa & Che Ton (2012,) students are unfamiliar with language of poetry and literary devices which make the comprehension of literary texts near impossible. At the university level, the situation does not differ much. Students are often not aware of the importance of studying literature and those who do so out of their own passion for reading and writing are also left wondering if teaching is the only option for them upon graduating (Career Guide, 2013).

Literature as a degree is one of the most flexible degrees and this was once highlighted by Michael Eisner, former Walt Disney CEO who said, "Literature is unbelievably helpful, because no matter what business you are in, you are dealing with interpersonal relationships. It gives you an appreciation of what makes people tick" (cited by Ling in Career Guide, 2013). However, as time changes, so should teaching approaches. Since we are now dealing with a generation who are more visual and audial, it is important that teachers of literature know that they need to be sensitive to current learning needs. Vethamani (2003) points out that for literature classes to stay relevant, teachers must be sensitive to students' needs and hence, pedagogical techniques must evolve with time. Text selection is another element which must be seriously considered and not made based on literary merit, language difficulty or complexity of the story – a point which was first mooted by Carlsen (1974). The other pressing issue is on how teachers measure the performance or the understanding of their students of literary texts studied.

This research aims at exploring some of these difficulties but the primary focus is on the use of Bloom's Taxonomy as an assessing tool to measure students' performance in literature classroom. It argues that Bloom's taxonomy is insufficient and culturally irrelevant to gauge Malaysian students' responses to literary texts given. The study will identify values needed to promote creative and critical thinking skills and assert why it is important to incorporate values which are absent in Bloom's taxonomy (possibly meant for middle class, white and male students when it was first developed and debated in decades that followed). Issues close to students who come from indigenous and developing nations such as religiosity, culture and creativity are not made key to ensure the growth of well-balanced and intellectually capable students to assist them in their nation-building.

Bloom's taxonomy has been around since 1956 (later revised in 2001 by Anderson L.W. et al). This study is undertaken to review 60-year old tool which has influenced teaching philosophies around the world especially in promoting rational thinking, often focusing on the higher-order thinking skills. There are numerous criticisms of Bloom's taxonomies (both old and revised) but none had looked beyond evaluating students' thought processes. Furst (1994), for example, pointed out that the taxonomy oversimplified the nature of thought and its relationship to learning. Since Bloom's taxonomy is widely used in Malaysian teaching curricula especially in testing and evaluating students' performances, it is important to critically analyse the loopholes of Bloom's taxonomy and study its relevance in a culture so different than that where it came from. The hypothesis is that there are other criteria which need to be considered and that the whole framework of Bloom's taxonomy may no longer be relevant not only in the Malaysian context but also in the digital age in which pedagogy in teaching literature with digital natives as the targeted group, will need to be reformed. This paper wishes to pose the following questions:

a) Why should Bloom's Taxonomy be revisited and studied critically in the context of teaching English Literature in Malaysia?

b) Why is it important to incorporate certain values lacking in Bloom's Taxonomy e.g. creativity, religiosity, culture.

c) What are the experiences of neighbouring countries in teaching English Literature? (A brief survey of situations in Singapore, Brunei and Pakistan will be shared in order to see if problems faced by Malaysian students are similar with those in other locations.

Literature Review

Bloom's Taxonomy's HOTS (Higher Order of Thinking Skills) are used in assessing students' exam answers in English literature component in the English paper but criticisms of Bloom's Taxonomy are abundance as pointed out by Marzano (2006) among which are those by Furst (1994); Fairbrother (1995); Poole (1972), Stanley & Bolton (1957). One will notice that even these criticisms are dated and came from the West. It is evident that the whole framework is critically assessed and effectiveness within the Malaysian context is examined and findings are updated.

The Introduction of English Literature in Malaysian Education System

Discussions on the need to improve the correct usage of English among Malaysian students via teaching English Literature are not new. The unpreparedness of teachers to carry out this mission is also not new. The introduction of compulsory English Literature component in 2000 is an effort by Malaysian government to create interest and to cultivate reading culture in English among the students. A range of genres such as poems, short stories, dramas and novels written by Malaysian and foreign writers are selected for students to explore and to expose to the world views on cultures, values and traditions which enable them to develop their emotional, spiritual, and personal growth and also character building.

The introduction of literature component in curriculum interested many researches to undertake studies on many aspects in ESL classes. Researchers, Subramaniam, Hamdan & Koo (2003) conducted a study on attitudes on learning literature and the methodology adopted by teachers to conduct the lessons. Their findings revealed that literature classes are practically boring and uninteresting. Another similar research was done by Aziz & Nasharudin (2010) on the approaches selected by teachers to conduct the literature classes. The findings reported that teachers are unfamiliar with appropriate methods to conduct literature classes.

When new English Literature texts were reintroduced into the curriculum in 2012, Ashairi and Melor (2014), conducted a study on the English teachers pedagogical skills. Over 50% of teachers surveyed admitted that they are not trained and not prepared to teach English literature with the introduction of the new texts.

Text Selection: Cultural Unfamiliarity and Cultural Sensitivity Matter

One of the major problems in comprehending literary texts is the selection of texts by the Ministry of Education for the Literature Component. Texts that are culturally unfamiliar to students make difficult to understand them. According to Malachi Edwin Vethamani (2003), as for teaching English Literature in Malaysia for the local students, the selection of literary texts must have cultural sensitivity.

Cater & Long (1991) claimed that unfamiliar cultural content also defeats the outcome or learning objectives. He argues that, literature classes often have teacher-orator and passive students being "too busy writing in translations of unfamiliar words to respond to the text." Cater and Long (1991) further argue that, selected or familiar cultural models are good because they are "encapsulating the accumulated wisdom, the best that has been thought and felt within a culture." The same ideology also supported by Sauvidou (2004) and Lima (2010), According

to them, attention to cultural issues in text selection is critical in ESL classrooms to prevent learners from being in an uncomfortable position or situation that prevent them from successful language learning.

Another researcher, Munazza (2011) claims that, teaching literature in ESL classes become 'the boring teacher-centred lessons' if the texts are full of cultural unfamiliarity and cultural insensitivity. Students highly depend on teachers to explain the texts by imparting the information regarding literary genres and explaining specific socio-cultural context of a select text, teachers are merely doing their responsibilities. In contrary, they are making that students become storehouse of information but not the critical and creative thinkers who can contribute to constructing reality through ideological representation, the ultimate outcome of the 21st century's 'Teaching of Literature.'

Methodology

The research design is a mix-mode approach. Both qualitative and quantitative research methods are employed to collect data and analyse the data. The research design is divided into two parts. Part one will explore the situations at three selected Malaysian schools in Selangor in which teachers and students were interviewed about issues and challenges they encountered in teaching/learning English Literature. Part two will study the situations at selected universities in neighbouring countries.

Research Design

Students and teachers in selected schools in Selangor were given a set of informal interview questions to find out their interest and perception on learning and teaching English literature in ESL classrooms. Three schools in the district of Kuala Langat, Selangor were involved in this study. A total of 60 respondents, 45 students and 15 teachers participated in the research. The random purposive student respondents were from Form 5 and had been studying literature for more than four years and the selected teacher respondents were those with a minimum of two years teaching experience in English literature.

Research Instrument

A set of informal interviews was the major instrument prepared to collect relevant data from teachers and students respectively. The questions in the interviews were built and guided by the research questions of this study.

Findings and Discussion

The data collection and the findings will be analysed and discussed in this section. The data was in twofold: learner-centred and teacher-centred. The few questions posed to the students and teachers were as follows:

Table 1: Interview Questions

Informal interview questions posed to students	Informal interview questions posed to teachers
1. Does learning English literature improve your language proficiency?	Does learning improve your students' language proficiency?
2. Are English Literature activities interesting and enjoyable?	Do you enjoy teaching literature in your class?

3. Does reading literature improve your critical thinking?	Do you create room for your students to think critically during your lessons?
4. Do you like the selected text(s)?	Do you like the selected text(s)?
5. Can you answer all the literature questions in the examination?	Do you know that the exam questions are set according to Taxonomy Bloom?

Table 2: Data Collection

Question 1: Does learning English literature improve language proficiency?	
Response: Students	Teachers
40 students stated that literature helped improve their language proficiency. 5 students stated that their proficiency did not improve because they were uninterested in reading the texts.	10 teachers stated that literature somewhat improved their students' language proficiency and competency. 5 teachers stated it did not improve anything because students never read the texts.
Question 2: Are English Literature activities interesting and enjoyable?	
Response: Students	Teachers
5 students positively responded that the reading and performance activities were interesting. The remaining 40 students stated that the reading activity (reading the text aloud followed by explanation) was boring because it involved constant note-taking.	12 teachers negatively responded to the activities because the students were passive and were unable to understand the texts without the teachers' explanation. 3 teachers positively responded but added that the activities ought to be more learner-centred.
Question 3: Does reading English literature improve/encourage critical thinking?	
Response: Students	Teachers
6 students agreed that the questions encouraged them to think critically. 39 students disagreed and preferred comprehension questions instead.	5 teachers agreed on the critical thinking questions and approved on the aspects of character and thematic analysis. 6 teachers also agreed on the questions but suggested that the texts must be local-based. 4 teachers disagreed with the questions because they were text-based and exam-oriented.
Question 4: Do you like the selected text(s)?	
Response: Students	Teachers
10 students liked the texts because they were easy to understand. 35 students did not like the texts because the poems and novels were too difficult to understand.	5 teachers liked the texts but preferred them to be local-based for students to easily comprehend. 3 teachers did not like the texts because the texts were too unfamiliar. 7 teachers were undecided and preferred to comply with the Ministry's guidelines instead.

Question 5: Can students answer all the literature questions in the examination? (Students) **Do you know that the exam questions are set according to Bloom's Taxonomy? (Teachers)**	
Response: Students	Teachers
40 students positively responded because the questions were simple, repetitive and easily predictable. 5 students positively responded because they were able to memorize the answer scheme from the workbook.	12 teachers positively responded because the questions ranged from easy to difficult. 3 teachers did not answer because they were unaware of Bloom's taxonomy.

Literature Helps To Improve Language Proficiency

This experimental study was conducted to uncover and identify issues pertaining to learning and teaching English literature from both students and teachers in ESL classrooms. Generally, the students and teachers agree that reading literature can help improve English language proficiency. A total of 80% students and 67% of teachers agreed that literature did help to improve English language proficiency. One of the reasons for this could be the exposure to many new lexical items, literary devices and sentence structures given during literature lessons

Literature -Based Activities Are Interesting And Enjoyable

Only 13% of students agreed that literature activities were interesting and enjoyable compared to a total of 87% who disagreed. According to them, the activities conducted were boring, uninteresting and unchallenging. Meanwhile, they were also too pre-occupied with text-reading and note-taking during the lessons. However, 11% of the students positively responded that the activities were interesting if they involved sketches and dramas. 80% of the teachers responded that they neither enjoyed nor felt enthusiastic teaching literature-based activities because students were passive and unable to comprehend the texts. 20% of the teachers positively responded that activities were interesting if they used or conducted a leaner-centred approach.

Room For Creative And Critical Thinking (HOT Questions) In Literature

Creative and critical thinking are two main elements in literature. However, both students and teachers responded negatively for the question, "Does reading English literature encourage critical thinking?" 87% students disagreed and only 13% of the students responded positively that the questions made them think critically. 73% of the teachers agreed that there were plenty of room for critical thinking in English literature and tried to incorporate the elements in classroom activities. Nevertheless, 27% of teachers claimed that students were basically conditioned to answer reading and comprehension-based exercises and questions because they were more exam-oriented and text-based.

The Selection Of Literary Texts

A total of 78% students responded that they did not like the selected texts, specifically the poems and novels. They found these two genres difficult to comprehend because they were culturally and contextually unfamiliar to them. A total of 33% teachers disapproved of the given texts because the texts were far removed from their comfort zone due to differences and lack of exposure to the texts' cultural background. They preferred local-based contents because students could understand the texts quite easily. 20% of teachers completely did not like the

text because they were unfamiliar with the contents. 47% of the teachers were indecisive of their preference. They responded that they merely obeyed the Ministry's instructions to teach the prescribed texts.

Attempting Literature Questions In The Examination

Despite the negative responses on selection of the texts, 89% of the students admitted that they would still be able to answer examinations questions in the SPM examination. They claimed that the questions were simple, repetitive and easily predictable. 11% of the students said that they usually memorised the model answers from textbooks and workbooks as exam preparation.

Hierarchy of Bloom's Taxonomy

A total of 80% teachers were familiar with and implement Bloom's Taxonomy in their teaching, setting of examination questions and preparing students to answer such questions, which follow the hierarchy based on the cognitive ability and of learners. Another 20% of the teachers did not answer the last question because they were not very familiar with Bloom's Taxonomy and its hierarchy.

Based on findings and discussions above, it can be said that both teachers and students face problems in teaching and learning literature in ESL classroom. The selected respondents, generally agree that learning of English literature could improve the English language proficiency. However, the critical and creative thinking skills which are very much related for the teaching and learning English literature of this digital era is not fully addressed. Since the aim of the this study is on issues pertaining to teaching English literature in the 21st century, it is necessary to find out the reasons for students' lack of interest in learning literature. On teacher's part studies should be done to find out why they ignore or fail to in cooperate the critical thinking and creative thinking activities in their teaching process.

Table 3:
Analysis on the Formal SPM (1119) Exam Questions on Literature (Novels) 2011-2015

Year	Question	Taxonomy Bloom's Hierarchy
2011	Which part of the novel do you like most?	Remembering, Recalling and Applying
2012	Write about an event that makes you angry?	Remembering, Recalling and Applying
2013	Write about an important decision made by one of the characters with close reference to the novel.	Recalling, Remembering and Applying
2014	"One has to struggle to improve one's life" How far is this true of the novel you have read.	Recalling Analysing and Evaluating

2015	Suggest one character in the novel you have read who you think is a good role model for teenagers.	Remembering, Recalling and Applying

The Need to Revise the Current Formal Assessment on the Literature Components

Using Taxonomy Bloom's hierarchy to assess student's ability in literature reading indicates that teachers are strictly aligned with the curriculum coverage. It also obstructs students' ability to think critically and creatively beyond the texts but make them merely to illicit memory-recall responses. The negative impact of the current assessments also leads teachers to have a low expectation on students' ability, and at the same time hinder students from being creative explorers.

Leaning literature should nurture the cognitive process of students where they can generate their own meanings and be creative to evaluate a selected text and develop a critical understanding of the world outside their classroom. Creative experimentation enables students to re-examine and re-evaluate the selected text, to connect the elements and happenings to their real life situations and cultural knowledge of their own. They should be able to cross-examine other disciplines and cultures across the border. The analysis of past year exam questions of national examinations, clearly proves that following Bloom's Taxonomy hierarchy in cognitive learning process, fails to withstand the 21st century's challenges in literature learning.

Issues And Challenges In Teaching English Literature In Malaysia, Singapore, Brunei And Pakistan

This section examines issues and challenges faced by English Literature teachers and students in four selected countries namely Malaysia, Singapore, Brunei and Pakistan. These countries are chosen because they are multicultural and multi-religious and despite this, the countries place much emphasis on nation-building based on culture and tradition. The countries except for Singapore, use English as a second language and due to this, may have similar challenges as Malaysia. Once problems in teaching and learning English Literature in these selected locations are identified, the paper will examine the fault lines in Bloom's Taxonomy and recommend how pedagogy and assessment of students' performance can be improved.

The Malaysian Experience

This study is in its infancy but a case study was done at a university in which English Literature was taught for close to thirty years (along with English Language). The English Language and Literature Department at the International Islamic University Malaysia is one of, if not the largest, English Language and Literature Department in a comprehensive university in Malaysia with over 700 students at undergraduate level and 127 at postgraduate level (out of which, only 50 students enrol in the Literary Studies program – about 39%). However, the number of students doing Literature at postgraduate level has shown a further decline in recent years. This study focuses on teaching experience encountered by teachers at the Department of English Language and Literature at the International Islamic University Malaysia. The data was based on interviews with four lecturers with over 5 years teaching experience.

Although Bloom's Taxonomy is used especially as a measuring tool, lecturers are given the freedom to decide on types of assignments for their students. A recent change in policy

asserts the need to incorporate other skills other than language proficiency e.g. the ability to work in a team, the ability to conduct original research and solve problems and even more, the ability to be entrepreneurial. These extra skills are thought to be useful for employment purpose upon their graduation. The number of students enrolled in the literature program is about 39% of the total enrolment in English Studies (there are two programs offered by the Department: English Literary Studies and English Language Studies).Literature has often a lower intake than the Language Studies program and due to the current financial crisis (which include limited number of scholarships and students loans are made available to students), the number has decreased even further at the postgraduate level. Literature is not seen as a money generating degree which, as pointed earlier, is a distorted idea. Lecturers interviewed in general agreed that the most common learning difficulty in their literature class was that students were not reading enough and were not so well-versed in academic writing. They were also seen as not used to voicing out their own ideas and lacking critical and speed reading skills. This was particularly showing in their early years of enrolment. At the undergraduate level, the problems were almost similar. Students surveyed said that they found it difficult to interpret texts they read and admitted that doing texts which were familiar to them was easier as they could relate to the contents. Studying local literature and local writers gave them great comfort in learning. Due to these learning difficulties, lecturers very often had to employ different teaching approaches, knowing too well that gen y audience had a very short concentration span and would not read much. Some of the lecturers would resort to visual and audial materials and teaching would no longer be confined to classrooms but would take place in art galleries, theatres and other workplaces – depending on the assignments given. It is important that teachers are aware that approaches used 20-50 years ago no longer work on gen y and its subsequent gens. Gen y in particular have the following characteristics as outlined by Eckleberry-Hunt & Tucciarone (2011) in their article " The Challenges and Opportunities in Teaching Gen Y:

The early years of Generation Y were marked by uncertainty. Significant events included events of 9/11, 2001, other threats of terrorism, globalization, a severe economic recession, school violence, and an outbreak of severe acute respiratory syndrome. Generation Y has been a highly protected and overscheduled generation. They were raised by parents who told them they were special and winners for no other reason than they are who they are. Core workplace values include online social connectedness, teamwork, free expression, close relationships with authority figures (as they had with parents), creativity, work-life flexibility, and use of technology.

Generation Y prefers to work in groups with hands-on experiences. They enjoy trial and error. Generation Y does not highly value reading and listening to lectures as has been traditional They want learning to be creative, interactive, and fun; and they enjoy thinking outside the box.

Eckleberry-Hunt & Tucciarone conclude that because of their unique characteristics, teachers can no longer use mold of past generations and that differences are not weaknesses. They insist on interactive teaching with technology, a lot of mentoring and open communication and giving consistent feedback.

Singapore Has Changed Too!

Bloom's Taxonomy is not used at the English Department surveyed in Singapore. Students' enrolment in Literature program is stable for the last 10 years despite a decline of students doing literature at the school level. The common learning difficulty of students doing literature at this Singapore university is that they are not used to reading closely and deeply and like Malaysian literature students, most are most comfortable studying local writers in which they could reflect on their society and themselves. Teachers teaching literature in the

21st century have to evolve with time too and teaching and learning no longer confined to classrooms. Students do their attachments and projects outside the university, working with NGOs and archives (email, Sept 19, 2016).

Brunei

A university surveyed in Brunei which offers English Literature in its programme echoes the situation in Singapore, Bloom's Taxonomy is not used and that the enrolment in their literature programme is increasing. However, a respondent says that this could be due to a shortage of teachers in which classes are combined or the limitation of modules offered for that year. Brunei students have problems writing argumentative essays as well as writing cohesive ones. Most of them enjoy drama and short story, making poetry as the least liked the genre. Where novels are concerned, Brunei students find it easier to read contemporary novels. A respondent in her email interview says a lot depends on other factors too e.g. period in which novels were written and published, subject-matter, length and characterization (email, Sept 14, 2016). It is also evident that Brunei keeps abreast with the need for new approaches and effective pedagogies for the 21st century. A respondent of a university in Brunei says that a student-centred approach is used and the teaching pedagogy changes with different groups and team-based learning are emphasized in which preparations by the students are done at home and outside the classrooms – they return to share with their friends their analyses/interpretations via interaction and collaboration with classmates. Critical thinking skill is incorporated in all these exercises. Incorporating culture sensitivity in teaching English Literature is also observed by a respondent teaching Creative Writing in Brunei. To ensure that her students release their creative energy in a natural setting and embracing who they are as not only individuals but members of a community, enhancing their Bruneian identity (Chin 2014)

Pakistan

The Pakistani experience is slightly different from the Southeast Asian situation in which literature is better appreciated. English is one of the official languages of Pakistan (after Urdu) and has a long history dating to the British colonial rule in South Asia.The national dialect spoken in the country is called Pakistani English and it is what shapes modern Pakistani literature today. There is a substantial number of Pakistani writers who write in English but most carve their names abroad. These include Alamgir Hashmi, Zulfikar Ghose, Hanif Kureshi, Bina Shah, Mohsin Hamid, Bapsi Sidhwa, Qaisra Shahraz and Sara Suleri. Perhaps this long tradition of English Literature and its on-going growth of diasporic Pakistani writers has continue to sustain the relevance and importance of literature in English in Pakistan. According to a respondent, the number of student enrolment has increased considerably in the last ten years. Apart from a long tradition of appreciating literature, doing English is also seen as providing an excellent career opportunity. The social and cultural evolution has also empowered Pakistani women to be more career-oriented and they make the bulk of student population where Literary Studies is concerned although like the experience encountered by Malaysia, more students are enrolled in Linguistics or Language Studies than in Literary Studies. Similarly, students are more comfortable studying local writers. They are interested in the art of storytelling, characterisation and the different ways of texts being interpreted. The progression goes from reading texts from humanist perspective to reading them politically or ideologically via literary criticisms. Other common learning difficulties are also similar to those experienced in Malaysia, Singapore and Brunei in which analytical, argumentative, academic writing skills are still not fully mastered. Due to these difficulties, the teacher will have to resort to new ways to connect to the new generation. Discussions of texts must be made relevant to the students' struggles, challenges and interests. Very often, post-colonial reading works better

than the traditional methods. Sensitivities to indigenous traditions and well as global trends are addressed and studied critically.

Revisiting Bloom's Taxonomy: A Critical Assessment

It is obvious that there is a need to revisit Bloom's Taxonomy not only at the school level but also at the university level in which Bloom's Taxonomy is applied. From our early observations, Bloom's Taxonomy it is not fully applied or fully understood by teachers. Many are not aware that the project was intended to be in three parts: cognitive, affective and psychomotor. The psychomotor domain was never written while the other guide *Taxonomy of Educational Objectives, The Classification of Educational Goals, Handbook II: Affective Domain* was published in 1964 (Booker 2008). Handbook II consists of five levels and they focus on how we deal with emotions, values, appreciation, enthusiasms, motivations, and attitudes (http://www.d.umn.edu/~dglisczi/8003web/reading_downloads/BloomAffect.pdf). However, this second part of Bloom's Taxonomy is not institutionalized in our curriculum or made as part of the assessment in our examinations. It is obvious that some awareness and debates of the need of providing space for creativity, cultural and religious sensitivities must take place among educators teaching literature (the affective domain).Since we are dealing with young students in countries which place much emphasis on moral and religious values, a new tool must be devised to capture and record this aspect of human development and growth if Bloom's Taxonomy in its totality is rejected. Promotion of creative and innovative minds must also be considered since this is not really captured or addressed in Bloom's Taxonomy, both in the old or revised ones. The highest order of thinking is "creating" in the revised taxonomy (2001) but the brief notes on this category are that students are to produce new and original work. For what and for whom. And why? Bloom's Taxonomy lacks philosophy and the common complaint is that it relies too much on behaviourism which is not constructivism. Michael Booker in his article "A Roof without Walls: Benjamin Bloom's Taxonomy and the Misdirection of American Education" (2008) cites Hsiao, "Constructivism views that knowledge is not "about" the world, but rather "constitutive" of the world. Knowledge is not a fixed object, it is constructed by an individual through her own experience of that object" (353).If as teachers, we do not provide the space to our students to be in control of what they learn and could learn, when does real learning take place?

Will wisdom arrive at all?

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CHANGES IN GENDER IDEOLOGY IN DOMESTIC CHORES AMONG PROFESSIONAL MALAY MUSLIM MEN IN DUAL-CAREER FAMILIES: A STUDY IN KUALA LUMPUR AND SELANGOR

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Abstract: *This study focuses on professional Malay Muslim men in dual-career families in Kuala Lumpur and Selangor. I conducted semi-structured, in-depth interview with 10 Malay Muslim men in dual-career families were recruited to gather the data. The context in which modern Malay Muslim men and women were operating was a complex one. On one hand, the Islamic religion and the Malay adat (customary law), constructed as central to ethnic identity for Malay Muslims, prescribe specific gendered expectations for both women and men in private and public spheres. On the other hand, the state and the global competition demand women's participation in the economy as well as in the broader societal contexts. This study shows that men have positive views of doing the household chores. All of the respondents agreed that household chores should be carried out together with their wives, but they had different views about the division of household chores in regard to what men and women should do. This study also shows that the gender ideology has slightly changed and negotiated, which supported Malay Muslim men's positive views and attitudes. In practice, however, they stated that their wives still undertook a greater share of the housework than they did. Not surprisingly, this findings show that women still needed to manage and negotiate their position within their identity as Malay Muslim women and the patriarchal system ingrained in their culture. It could be said that there is continuing gender segregation in relation to household duties, but this is set against perceived successful negotiation of these duties between the respondents and their wives. The traditional perspective and understanding of Malay Muslim men in dual-career families in terms of the domestic sphere continue to exist and are well sustained. However, at the same time, this study also reveals the acceptance of changes to the traditional gender role ideology. While Malaysia's drive for modernization has improved women's lives, it has not radically transformed the patriarchal order.*

Key words*: Malay Muslim Men, Dual-Career Families, Domestic Sphere, Gender Role, Gender Ideology, Household Chores*

Introduction

Rapoport and Rapoport (1971, 1976) and Hertz (1986) identified a number of specific characteristics of dual-career families or couples. According to Rapoport and Rapoport3 (1971), the term 'dual-career family' refers to a family that comprises both husband and wife as the heads of household and 'both husband and wife pursue active careers and family lives' (Rapoport and Rapoport, 1971: 7). Furthermore, higher educational qualifications are also vital for defining careers as different from jobs. Hertz (1986: xii) states that 'the growth of career opportunities for female college graduates have combined to make two careers in one family a more likely option'. Hicks et al. (1983) also note that, when many educational and employment opportunities are made available to women, the number of dual-career families is likely to increase. Thus, Hicks et al. (1983) and Hertz (1986) emphasise that dual-career families are those in which both husband and wife are well educated.

Understanding the definitions of family is crucial when seeking to consider how family construct the multiple roles and responsibilities among family members according to gender. Many previous studies, conducted in both the West and in Asian countries, including Malaysia, have found d that more women are juggling roles as employees in the workplace and members of the family at home. However, it is less common for men to be active participants in the management of domestic chores (e.g. Hochschild and Manchung, 1989; Treas and Widmer, 2000; Abdullah, 2000; Ochiai, 2008; Ahmad, 2011; Marican et al., 2011).

In Malay patriarchal society, domestic chores and child-rearing duties continue to be viewed primarily as a woman's responsibility, although there is a growing perception in society that men's attitudes to household duties have begun to change slightly (Zaini and Rahman, 2006; Noor, 2006). It also appears that men and women are unable to emancipate themselves from the Islamic religion and Malay *adat* when discussing these matters. In addition, there is also a lack of awareness among men of the importance of their involvement in helping working women with domestic chores, in addition to the fact that most state policies and programmes continue to be very focused on maintaining the traditional positions of women. Although several studies by anthropologists and historians have pointed to the development of bilateralism in Malay society, emphasising the idea that social relations between men and women are based on values of complementarity and equality in regard to managing the family (Karim, 1992; Rudie, 1995; Ghazali, 2002: 2), women are still frequently seen to do more than men (Osman, 1989; Omar and Hamzah, 2003; Shah, 2010). Consequently, the division of labour at home continues be conducted along gender lines. Many Malay working women are not only became as active members of the paid labour force, but they also have been with domestic chores (e.g. Abdullah, 1994; Kling, 2000; Noor, 1999; Omar and Hamzah, 2003; Hosain et al., 2005; Noor and Mahudin, 2005; Sultana and Noor, 2011; Bakar, 2012).

There has been little research undertaken on the subject of Malay Muslim men's perceptions in helping women with domestic chores and how this impact on the division of labour at home. Thus, it is important to carry out research on the domestic sphere by focusing on the involvement of Malay Muslim men in dual-career families as an individual's family/work experiences can be influenced by differences in religious and cultural values and in economic and political factors across different multi-ethnic groups (Crompton and Lyonette, 2006; Cha and Thebaud, 2009; Bianchie and Milkie, 2010).

The conducting of this study may lead to a better understanding of the similarities and differences of experiences among career Malay Muslim men in terms of their degree of

[3] Rapoport and Rapoport were known as pioneering scholars who first embarked on a study of the dual-career family.

perceptions in the management of the household, which lead to whether the gender ideology is changed or not . Based on the discussion above, this research has the following objectives (a) to examine the views of Malay Muslim men on the division of labour at home, and (b) to explore the types of domestic chores undertaken by Malay Muslim men

Methodolgy

In the context of this study, which was an exploratory study, we used a qualitative semi-structured interview as a tool to collect the primary data. According to Oakley (1980) and Hesse-Biber (2007), a researcher can obtain more personal information from the study respondents, particularly pertinent to their private lives, as well as can understand in-depth about the respondents' experiences by using this method.

Respondents for the study were recruited through friendship networks and the snowballing technique using purposive sampling (Bryman, 2004). The following specific criteria were used for the recruitment of respondents: (a) married Malay Muslim men, (b) both husband and wife had obtained at least a diploma degree and possibly a master's or doctoral degree, (c) aged between 24 and 40 years old, (d) both husband and wife work in professional occupations and (e) both husband and wife work in either the Kuala Lumpur or Selangor areas. We selected only married couples, both of whom held at least a diploma, to meet the definition of dual-career families established by Rapoport and Rapoport (1971) and Hertz (1986). Based on these criteria, ten men were recruited as shown in Table 1.

Table 1: Respondents and Their Wives by Age, Level of Education and Types of Occupation

No	(Respondents)Pseudonym	Age	Education	Occupation	Wife's Occupation	Wife's Age	Wife's Level of Education	Length of Marriage
1	Elias	32	Degree	Engineer	Lecturer	31	PhD	7 years
2	Basir	32	Degree	Teacher	Lecturer	32	Degree	4 years
3	Rahimin	37	Degree	Engineer	Lecturer	37	Degree	12 years
4	Hamdan	38	Master	Lecturer	Lecturer	35	Master	13 years
5	Alias	35	Degree	Government Officer	Lecturer	35	Degree	10 years
6	Mustakim	37	Degree	Business man	Lecturer	37	Degree	7 years
7	Yasir	35	Master	Government Officer	Lecturer	37	Master	10 years
8	Umar	30	Degree	Site supervisor	Lecturer	31	Degree	7 years
9	Junaidi	31	Degree	Business man	Lecturer	27	Degree	6 months

10	Sani	40	Degree	Engineer	Lecturer	40	Degree	15 years

In addition, two urban areas, Kuala Lumpur and Selangor have been chosen because they do not only representing the most modern and metropolitan cities, but also providing many higher educational institutions, job and education opportunities, differences in social stratification, as well as they have Malays as the biggest ethnic group. Respondents in this study are listed according to their location (see Table 2).

Table 2: Name of Respondents According to Location

Name of Location	Name of Respondent
Kuala Lumpur	Elias
	Basir
	Rahimin
	Hamdan
	Alias
Selangor	Mustakim
	Yasir
	Umar
	Junaidi
	Sani

With the explanation above, the results of this study cannot represent all married Malay men in Malaysia because the findings are based on only a small sample of married Malay men in dual-career families. In addition, this research was about Malay Muslims and is therefore not representative of all men in the multiracial population, who have different cultures and religions. The rationale for limiting our study was so that we could obtain a clear understanding of our respondents' stories relating to men's involvement in domestic chores. In fact, small samples are the norm in qualitative research and are necessary in order to achieve an in-depth understanding, as pointed out by Hesse-Biber (2007):

> … the logic of qualitative research is concerned with in-depth understanding and usually involves working with small samples. The goal is to the look at a 'process' or the 'meaning' individuals attribute to their given social situation, not necessarily to make generalizations. (Hesse-Biber, 2007: 119)

Results and Discussions

The Views of Married Malay Muslim Men in Dual-Career Families on the Division of Labour at Home

As the title suggests, the goal of this section is to meet the first objective research: *To examine the views of Malay Mulsim men on the division of labour at home*. We explored how respondents draw upon their understanding of the division of labour at home and how this impacts on and influences their views on the roles and responsiblities of woman and men in

relation to it. In exploring their views in relation to the division of labour at home, this section begins with a discussion of themes in the category of household chores by gender.

Category Of Household Chores By Gender

All of the respondents agreed that household chores should be carried out together with their wives, but they had different views about the division of household chores in regard to what men and women should do. For instance, Elias (age 32) mentioned that grocery shopping, cooking and laundry can be shared responsibilities. He said:

> Man can do the grocery shopping, cooking and laundry and I don't think doing those tasks is difficult. I did these tasks together with my wife and sometimes if she doesn't have time, I can do them alone.

Ehsan's view was also similar to those of Rahimin (age 37) and Alias (age 35) who mentioned that some tasks that are usually carried out by women can also be done by men. In fact, they made a point of stressing how modern technologies can assist men in completing the tasks:

> Basically, cooking is often related to woman, but I think man also can do the cooking at home. Laundry also can be done by man. With the advance technology, I think these tasks can be done by man easily. (Umar, age 30)

> I always see man doing the cooking at home. So cooking is not only woman's responsibility. Man can become a cook at home too. Another chore that I think man can do is laundry. The technologies that we had now can make all these tasks quite easy to be done by man. (Mustakim, age 37)

Two respondents claimed that cooking is a woman's responsibility and they stressed that every woman should know how to cook. Their views are consistent with a proverb that describes the word 'womanhood' from a Malay perspective: '*sebijak mana pun perempuan itu, tempatnya tetap di dapur*' (literally translated as: 'regardless of how smart a woman is, her rightful place remains the kitchen'). Their views also strengthen the idea that a woman should be in the kitchen, as stated in Ibrahim and Hassan (2009). According to Ibrahim and Hassan, this proverb shows 'the importance of domesticity for a woman' (Ibrahim and Hassan, 2009: 398; see also Ghazali, 2002: 105). In general, these statements from both respondents in the study stress that Malay women continue to bear the majority of the responsibility for cooking and that this needs to be done by them regardless of their social and employment status. However, they also mentioned a few outdoor activities they considered to be the man's responsibility at home. Elaborating further on this, they said:

> For me, women should do the cooking and a wife should know how to cook. Normally, man do some activities outside the house such as gardening and heavy house cleaning such as cleaning the windows. (Rahimin, age 37)

> Man's responsibilities in relation to household chores are mowing the lawn, shopping groceries, washing car and all heavy outdoor activities. Women must be a good cook as they have to do the cooking for family. (Hamdan, age 38)

Responsibility For Childcare

When talking about childcare, all respondents agreed that a father needs to be involved in childcare. They also agreed that childcare should be a shared responsibility between husband and wife in the family, although they also stressed that the primary caregiver is still the woman. Their views are based on their understanding of the position and role of the mother according to Islam and as the foundation of the family. They stated that mothers must always be concerned with the betterment of the family and the upbringing of their children. Junaidi, Sani and Basir explained this as shown below:

> As a father, man must help his wife to take care of their children since they are still at a young age, although the primary responsibility is still with the mother. This responsibility is clearly stated in Islam and Malay adat. This is because woman is needed to provide a warm, conducive and loving environment, which acts a concrete foundation for happy family. (Junaidi, age 31)

> Position of the mother in Malay society is follow what has been stated in Islam and been adhered in Malay adat. Islam commands respect, obedience and to do well for both parents. Thus, a father should also be involved in taking care of the children although it gives preference to mother. (Sani, age 40)

> Taking care of children should be a shared responsibility between the father and the mother. The father should be involved in taking care of their children, although normally Malay society will address this responsibility to the mother. This is because they follow the Islamic teachings and Malay adat. (Basir, age 32)

These statements clearly show that respondents understood childcare to be a privilege accorded to the mothers because they hold a high position in the family, as stated in Islam. Supporting these statements, Ibrahim and Hassan (2009) described mothers from the perspective of Malay society using the Malay proverb: *syurga letaknya di bawah tapak kaki ibu* (literally translated as 'heaven lies under a mother's feet'). This proverb has always been related to women's status as mothers in Malay families, and it carries the meaning of 'the high status granted to a mother' (Ibrahim and Hassan, 2009: 398; see also Karim, 1992).

Types of Domestic Chores Carried out by Malay Muslim Men in Dual-Career Families

As the title suggests, the aim of this section is to meet the third research objective: *To explore the types of domestic chores undertaken by Malay Muslim men*. As the respondents are heterosexual men whose partners also have their own careers, we identify what types of domestic chores men do and how they feel about doing them. In general, they have positive

attitudes towards domestic tasks and are not reluctant to get involved in doing the household chores and helping their wives, as discussed below:

Helping Their Wives With Household Chores

An earlier study conducted by Rapoport and Rapoport (1976) explained that the idea of the subdivision of labour at home or of sharing the domestic chores with other people had provided both husbands and wives with the opportunity to become involved in the paid labour force. They added that the tasks often shared by working spouses or other people were childcare, laundry and cleaning. Hochschild's study (1997) found that many working spouses tried to plan better for 'the second shift'[4] in order to more effectively spend time either with their children or in doing the household chores at home. These couples set aside quality time in order to manage all of their home activities and domestic chores. They divided the chores into categories so that they could complete them according to daily, weekly or monthly schedules. The strategies used in the earlier studies of dual-career families by Rapoport and Rapoport (1976), Hochschild (1997) and Abdullah (1985, 1987) still seemed relevant and were also seen as important and the best choice for respondents and their wives. They strongly believed that housework duties should be a shared responsibility between husband and wife. One aspect of housework that almost all respondents mentioned doing was cooking, yet, despite this, it was not something they did often. Basri and Junaidi explained this in more detail:

> Sometimes I do the cooking when my wife cannot do it. I don't mind doing it. Although I don't do it often, if I have time I can do the cooking for my small family. (Basir, age 32)

> I will do the cooking when my wife can't do it but I cook only a simple meal or time permitted. (Junaidi, age 31)

Of the three men who had a maid, the maids did the cooking for their children but the wives cooked for their husbands. These respondents helped their wives with the cooking because they did not want the maids to cook for them. Yasir, Alias and Mustakim explained:

> I don't like my maid cooks for me even though she cooks for my children. I want my wife do the cooking for me and I don't mind if I do the cooking too. (Yasir, age 35)

> I cook when my wife cannot do it for my family, I don't want to eat the food cooked by my maid. My children will eat the food that my maid cooked. (Alias, age 35)

> Although I have a maid who does the cooking for my children if my wife cannot the cooking, I don't eat the food that she cooked. I will cook by my myself or I will ask my wife to cook for me. (Mustakim, age 37)

[4] According to Hochschild (1997), in a study in America, 'the first shift' is 'at the workplace', 'the second shift' is 'at home', and 'the third shift' refers to 'time work'. These shifts have been discussed in the issues of work–family arrangements faced by working couples.

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In this study, all of the respondents made it clear that the responsibility for cooking, which they understood to be a traditional role, still fell with their wives. In accordance with their expectations, all the husbands in this study still assumed food preparation for the family to be a mother's responsibility. According to the statements above, these husbands only helped and shared the responsibility for cooking depending on the situation, although none of them felt reluctant about contributing to meal preparation. However, they made it clear that they limited their involvement to times when their wives were busy.

The other types of housework that most respondents mentioned as something that they needed to help with regularly were cleaning and laundry. Those who had rejected the idea of having a maid because they felt uncomfortable having strangers at home agreed that the ideas of the husband's participation in helping their wives do the housework and of sharing the domestic responsibility were vital in order to ease their wives' heavy burden. To manage these tasks, they created daily, weekly and monthly schedules for cleaning, laundry and other household chores, similar to those created for managing the cooking. In following these schedules, only simple cleaning jobs were carried out on working days, such as washing up the dishes and sweeping the floor. None of them did major laundry or cleaning tasks except at weekends. They claimed that most of the tasks were shared with their wives. For instance, Basir and Hamdan, who work as a teacher and lecturer, respectively, did the laundry and cleaning much more frequently than other respondents as they worked flexible hours, from around 7.30 am to 2.00 pm. Basir said:

> I am the one who is in charge of laundry and outdoor house cleaning, especially on weekdays. I work flexible hours so I always help my wife to do these tasks. I think my assistance has reduced my wife's burden. (Hamdan, age 38)

> As a teacher, I will be at the school from morning until afternoon. So after I got back from school, usually I will do the laundry. I always do the laundry more than my wife as I always prefer to do it after I got back from school. My wife works in fix-time in one of the government sectors. (Basir, age 32)

In Sani's and Elias's cases, as their working hours were from 8.30 am to 6.00 pm, these men helped to clean up the house and do the laundry only when the situation permitted. They elaborated on this by stating:

> I help my wife to do the laundry and cleaning when I have time. I don't do it regularly as I am also a busy person. (Sani, age 40)

> I don't often help my wife doing the laundry or cleaning. I only do a little when I am free to do it. (Elias, age 32)

According to the discussion above, the respondents' willingness indicates men's capabilities in helping women with the household management. Here, it is generally accepted that these couples have at times shifted the household duties from one to the other, or to other

people, for a variety of reasons. In addition, their decision to share the daily routine of household chores with their spouses in particular seemed the best way to manage responsibility for the housework. This is in accordance with several other studies conducted by researchers on career or earner couples. For example, some studies have shown that spouses in dual-career or dual-earner marriages share housework more equally than other couples (see Rapoport and Rapoport, 1971, 1976; Hertz, 1986; Parasuraman et al., 1993; Becker and Moen, 1999; Da, 2004; Bartley et al., 2005; Ezzeden and Ritchey, 2008). Becker and Moen (1999), in their study, found that men who had jobs were also involved in looking after the children and helping their wives with household duties, although they required assistance from outsiders. Da's (2004) study showed that most of Shanghai's men participated in family work and they did more than their working wives as this was normal in Shanghai society. A study conducted by Ezzeden and Ritchey (2008) found that husbands' involvement in doing household chores was rated the second-most-cited category of spousal support by their respondents. All of the studies found that a husband's support reduced his wife's double burden whilst at the same time helping them to enhance their career development.

There were differences in the ways in which those who had maids organised their household routines compared to the other respondents. As the routines of managing household chores were handled by maids, all of the housework duties were completed every day. These three men were less worried about domestic chores because the maids were responsible for them. In fact, they rarely did any domestic chores at home. However, they did mention that their non-involvement was not related to gender ideology concerning the division of labour at home, but rather was due to the presence of maids. They had been involved in helping their wives prior to employing maids. They explained this as follows

I did help my wife doing the housework before we had a maid. But now, I rarely do it anymore because we already had a maid to do so. In fact, my wife also rarely does the housework unless our maid is on leave. (Yasir, age 35)

I don't do the housework because all of it is done by my maid. The maid tidies up our house every day, thus my wife and I won't have to think about doing it after we get back from our office. I remember I did help my wife doing the housework before we hired a maid. (Alias, age 35)

> Because I have a maid, she does all the housework. I do not do it and same as my wife. We don't have to worry about doing the housework as both of us are working. I and my wife did the housework when we didn't have a maid in the last couple of years. (Mustakim, age 37)

Grocery shopping was another aspect of housework mentioned by the respondents. Interestingly, the main grocery shopping was often done at weekends, with most respondents doing it on either a fortnightly or a monthly basis. The respondents with their families always carried out this activity. Interestingly, as it was done with their families, they enjoyed the shopping trips because they considered them to be a kind of family outing. Normally, whilst out doing the grocery shopping, they also seized the opportunity to have a meal, such as lunch or dinner, outside the home with their families. Eating out with families was a popular trend among these men as it also ensured they spent quality time with their wives and children. Two respondents shared their stories about grocery shopping with their wives and children:

> Every month we will go grocery shopping and I think this is also a time for my family outing. Doing this shopping is not as tough as to fulfil other household responsibilities. Yeah! I enjoy it because this is also a way we can spend time together as one family. (Umar, age 30)

Like Umar, another husband explained this by stating:

> We [he and his wife] only do the shopping twice a month. We will bring our children as well. It's like 'two in one' you know, do the shopping and eat out once in a while with my wife and children. (Junaidi, age 31)

Responsibilities of Fathers towards Their Children

When the respondents explained about their involvement in childcare as fathers, they believed themselves to be the foundation of the family and that they should always be concerned about the betterment of the family and the upbringing of the children. They are also obligated to provide a warm, conducive and loving environment which acts as a concrete foundation for happy living. Although the respondents and their wives had several alternatives when it came to childcare, such as sending their children to day-care centres[5] or babysitters, seeking assistance from their extended family or employing a live-in domestic helper when they were at their workplace, they never neglected their responsibility for the children's upbringing. Their degree of involvement in childcare was still dependent on their situations as most of them had children under the age of 12.

Because the father's involvement in the care of his newborn child is seen as important, many countries have recognised and introduced paternity leave. According to Adema and Whiteford, (2008), for example, fathers' levels of involvement in childcare have been successfully increased in many European countries, especially in Iceland, with the introduction of paternity leave. In Finland, 60% of fathers take a short period of paternity leave – between 6 and 18 working days – whilst only a few take long periods of parental leave in excess of 7 months for taking care of their wives and new children (Taskula, 2000). In addition, Shantti (1990, cited in Taskula, 2000: 5) noted that those fathers who do take paternity leave are 'often young and educated, and they work as white-collar employees in the public sector'. In this study, respondents agreed that paternity leave has enabled them to share some time off work during their wives' maternity leave in order to meet the needs of their newborn children. The respondents stated that paternity leave was among the most popular policies for managing issues pertaining to their children. This policy was beneficial not only for the female respondents as mothers but also for them as fathers. All respondents emphasised that the availability of paternity leave helped them to spend time with their new child. During that time, they made it clear that their support was essential as it helped them to meet their wives' emotional needs. Attesting to the preceding claim, two respondents said:

> I never missed helping my wife during the confinement period as I was on paternity leave. (Hamdan, age 38)

> Spending time together with my wife for the first seven days is important because she needs me to be around at that tough time. (Rahimin, age 37)

[5] When discussing this issue, respondents described a day-care centre as a nursery.

Another two respondents shared their thoughts about paternity leave. They mentioned that paternity leave was a medium through which they were able to support their wives after the exhausting process of labour and childbirth. Therefore, spending time together for a few days and taking care of their newborn, made possible by the leave entitlement seems to have enhanced the level of mutual support between husbands and wives:

> I not only helped and supported her [my wife] during my paternity leave but I was involved in the whole process of bringing up our children. However, this policy was important for me because I could give her emotional support during her early days of confinement treatment as she has been through a hard time while delivering our baby. (Elias, age 32)

> I always support her in whatever she [his wife] does. Therefore, paternity leave is also one of the ways I support her as a husband and the support is not only emotional but also physical. (Sani, age 40)

Embong's (2002) study revealed that one of the roles practised by Malay parents is that of an 'informal educator' for their children at home. Embong found that Malay parents living in urban areas were concerned not only about academic education for their children but also about religious education. The majority of these parents who lived in urban areas taught their children the basic tenets of Islam from a young age up to the point at which they reached puberty. It was stated in his study that Malay parents generally are very concerned about the importance of delivering Islamic teaching to their children in order to avoid moral crises, which are very prevalent in modern times. Abdullah (1998) found that fathers had much less frequent involvement in educating their children about the values of Islam and Malay culture than mothers.

In this study, they saw the home as the initial place where children's characters and behavioural patterns are shaped; therefore, both parents are highly responsible for being the first educators of their children. Without denying the importance of the father's responsibility in educating his children, all respondents stated that the majority of the responsibility for educating children at home still rested on the mother's shoulders. Some respondents were involved in teaching their young children at home. Two were involved in their children's education at home once they went to formal educational institutions. They helped their children with their schoolwork and revision, something that did not happen when their children were pre-school age. This finding is in accordance with Da's (2004) study of Shanghai men in Sydney, who found that fathers played a more important role in helping their children with schoolwork than mothers, and this was admitted by the Shanghai women. In my study, this responsibility had shifted to the husbands in only two cases as these respondents believed that they, as husbands, were more capable of teaching their children, especially in relation to their academic education. This finding is expressed by two respondents, who said:

> I help my wife to look after my children's education when our eldest daughter started to go to formal school. I am the one who will sit down with my daughter while she is doing her schoolwork. I think I

> can teach my daughter due to my academic qualifications. My wife focuses only on educating my daughter in terms of religious and cultural values. (Rahimin, age 37)

> When my children went to school, I became involved in helping our children with schoolwork. I did discuss this matter with my wife and we agreed about it. I should look after our children's schoolwork especially in their academic education and my wife focuses on other things. (Hamdan, age 32)

Summary

This study has argued that the division of labour at home has undergone a change due to women's participation in the paid labour force. All respondents have changed their perceptions of the division of labour at home and showed their interest in being involved in chores such as cooking, laundry, cleaning and also grocery shopping, which would not commonly be seen in traditional Malay families. In fact, they are also involved in taking care of their children. The interview data highlighted that these men received assistance from their wives and a live-in maid in doing the housework and childcare. Therefore, in this study, an acceptance of women as career wives and mothers has transformed husband and wife relationships, leading to them becoming more egalitarian, particularly when men devote their time and energy to becoming involved in household tasks. A more egalitarian gender ideology has been accepted by both men and women due to the changing times. Most of the husbands' attitudes to domestic chores changed when they began sharing responsibility for them with their wives, and when they began taking care of their children, as they mentioned that these things were necessary to help their wives, especially when their wives were not able to fully manage them because of their own career commitments. This is evidence that, in this study, the gender ideology that applied to traditional domestic chores for women has also been accepted by men. However, it is also important to note that domestic chores still constitute one of the major areas that are considered women's responsibility, although the men claimed that it is shared equally with their wives.

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3D PRINTING TECHNOLOGY IN INDUSTRIAL DESIGN EDUCATION: LEARNING EFFECTIVENESS TOWARD DIPLOMA INDUSTRIAL DESIGN STUDENTS IN UITM KEDAH

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***Abstract* :** *In the 21st century, there are rapid development in especially in product technology that impact on our life. This can be seen in a rapidly growing for new generation which fast advances in science, technology and engineering systems. Therefore, three dimensional (3D) printing technology is not left behind in the introduction to this new generation. It can be sees the benefits of 3D printing technology to industrial manufacture whereby it has a high potential in changing production method allowing user to use at home. Apart from that, 3D printing technology is increasingly being used as one of teaching method in the university whereby 3D printing machine can be easily owned and operated by user. This is because 3D printing requires multidisciplinary skills such as critical thinking, problem solving, computer software skill and creativity in producing the desired physical product. Hence, students who learn closely to 3D printing will examine their products with more enthusiastically and effectively stimulated their imagination. In this paper, the researcher discusses about learning effectiveness of 3D printing technology in industrial design education. This is because, the researcher want to see, how far the effectiveness of this 3D printing technology in shaping the students' mindset and skill which to keep up with the rapid development of technology. Whether they understand the technology?, How important this skill for them to use?, these are the issues that need to understand which to determine the role of lecturer as an educator to plan an action and guide the students to seek their potential in learning 3D printing technology as one of skill when they graduate. The research was focused on Semester 4 & 5 Diploma Industrial Design student in Faculty of Art & Design, UiTM Kedah, whereby, in this place is equipped with Fused Deposition Modelling (FDM) machine. The students has been given sets of questionnaire to answer. As a result, learning activities that involve 3D printing technology can stimulated their ability to cope with the system and command whereby, it expand student's imagination to produce creative product. It show that, they not only learn about 3D printing but has too familiar with 3D software command. In other word, students also need to learn 3D software command for visualize their product before submit for 3D printing. Further to that, they realize about the important of this technology which to enhance their ability to understand the technical aspect, technology limitations, and imagination.*

Keywords*: 3D printing, Industrial design, Fused Deposition Modelling, Education*

Introduction

When come to technologies nowadays, there are numerous rapid development especially technology that involve 3D technology. This can be seen, the use of 3D printing

technology in industrial application, whereby is a one of production method to build a product. In relation to this, 3D printing technology has high potential in industrial production which change method of producing a product. Briefly, 3D printing is produce by adding layer by layers of material. Moreover, to understand the technology of 3D printing, it require multidisciplinary set of skills such as mathematics (number, operators and relations), geometry (plane and solid), problem solving, imagination, innovation and production knowledge (Huleihil, 2017). This is because, this technology involve computer aided design (CAD) software whereby, user has to recognize software command and technical aspect when modelling a 3D digital product. Furthermore, there are many types of CAD programs which some of programs are commercial (SolidWork, AutoCAD, Rhinoceros and similar program) and there are freeware programs (Sketchup, Blender, and FreeCAD). Therefore, 3D printing technology is widely being used as one of education learning in school, college and university. The reason is, when 3D printing is incorporated into teaching and learning, it can improve student critical thinking skills and student-driven learning. Further to this, students will learn how to design a more orderly manner in accordance with the technical requirements of production and indirectly empowering educational environment (Schelly, Anzalone, Wijnen, Pearce, 2015).

Problem Statement

In this paper, the researchers discusses about 3D printing technology in industrial design education which to understand about learning effectiveness toward students' understanding in this 3D printing technology. Further to that, the researchers want to know how far this technology can help in shaping the students' mindset and skills which to keep up with numerous new technology. It can be seen, whether they understand the 3d printing technology?, How important for student to use this skill?, these are the issues that need to understand which to determine the role of lecturer as an educator to plan an action and guidance to the students which to seek their potential in learning 3D printing technology as one of skills when they graduate.

3D Printing Technology in Industrial Design Education

When discusses about industrial design education, one of courses is related with model making. This is because, model making is very crucial process in producing design idea in 3D form which important in industrial design process. Further to this, model making process can assists designers to evaluate based on form detailing, material and manufacturing process that can be applied before it goes into the mass production. In early education in industrial design, the designer use conventional model making, whereby take a lot of time to finish and sometime making an error. However, nowadays, with rapid development in Rapid prototyping technology, the process become easier and faster than conventional model making. This is because, rapid prototyping can produce complicated details with less error. Apart from that, the existence of 3D printing technology in product design has positively brought a change in product design process especially in industrial design education. The reason is, it is not only facilitate in model making process but give exposure toward students about RP process which have been used in industries. Further to this, 3D printing technology is a new chapter in learning chapter for student whereby this technology can transfer students' idea to reality. In addition, students can examine their physically model more thoroughly and stimulate their imagination effectively (Huleihil, 2017). In relation to this, student can understand their model about the strengths and weaknesses that can be improve (Szulżyk-Cieplak, Duda & Sidor, 2011). Therefore, it can increase student involvement in the class. It can be said that, in early learning process is very important which student present an idea, then using CAD design to create a

model and ending with 3D printed physical models. These process goes both way which during the learning phase, it helps students building creativity and imagination. 3D printing works in other ways, starting with CAD design and ending with physical objects. It can be said that, it may link both processes during the learning phase, which helps in building creativity and imagination. Hence, this can inspire students to gain critical academic experience.

Figure 1: Example of 3D models using FDM printer
Produce by Industrial Design student in UiTM Kedah

Further to that, 3D printing transform theory of design toward something that can be touch by students in order to them to understand further which benefit to them which new approach for learning activities (Kriestel, 2014). In relation to this, this technology itself create variety of learning experience which are student needs to learn how to operate the machine, handle troubleshoot and how to resolve problems. This is because, when student what to create physical object with a 3D printer, they need to make several tries to get right which based on complexity of object (Thornburg, 2015). Thus, it can be said that 3D printers are one of exciting way for problem solving and student can develop their skill of persistence and endurance to overcome them which is a critical stage in building true understanding about their project (Kriestel, 2014; Thornburg, 2015).

When talk about student learning, they need to engage with their subject or project that they been involve. In relation to this, as industrial design student, they usually play with design, modelling and material which is a main element. Therefore, 3D printing can be a key point of deep learning which student can build something through 3D printer based on their final design. Then, we can see the full engagement on how they see the outcome and feel the enjoyment of seeing physical object which they can touch and analyse their design more detail. When students are involved with the project, the things they learn have lasting value (Thornburg, 2015).

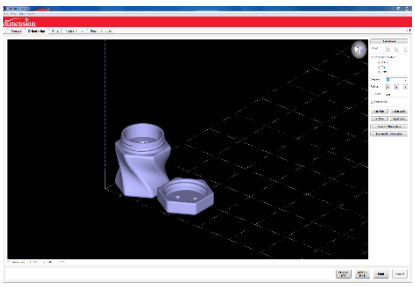
Fused Deposition Modelling (FDM) Technology

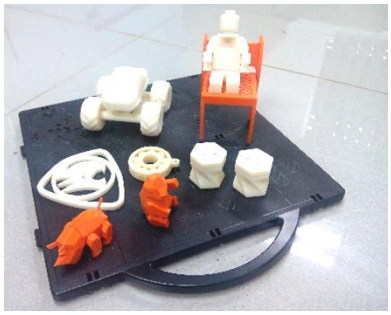
Nowadays, there are several 3D printing technologies method that available and one of the most popular method in 3D printing technology is Fused Deposition Modelling (FDM). FDM technologies is available for almost everyone which is relatively low prices for this 3D printer technology. Moreover, FDM technology was developed and invented by Scott Crumps in 1980s which are co-founder and chariman of Stratasys (Yagnik, 2014). Basically, Fused Deposition Modeling (FDM) printers use a plastic (thermoplastic) filament, which is heated until its melting point and then extruded layer by layer which receive data from 3D software

(stl format), and then create a three dimensional object (Novakova-Marcincinova & Kuric , 2012). The most common material for FDM printers is acrylonitrile butadiene styrene (ABS), which usually used to produce various of consumer products, for instance LEGO bricks. Moreover, ABS plastic is a common end-use engineering material which can be perform functional tests on sample parts (Novakova-Marcincinova & Kuric , 2012).

Normally, FDM process involved by three different steps which are (1) Pre-Processing, (2) Production) and (3) Post-Processing (Yagnik, 2014). These steps can be seen from Table 1:

Table 1: The FDM Step by Step using Dimension sst 1200es in UiTM Kedah





1. Pre-Processing	2. Production	3. Post-Processing
A 3D CAD model has been constructed by CAD programs which then converted to STL format. This STL model is open by CatalystEX 4.4 program for FDM process.	When process of FDM machine, STL file from CatalystEX are sent layer by layer of the model. The model is then lowered by the thickness and the process is repeated until complete.	The finish model and supports are then removed by washing with special liquid.

One of the machine for Fused Deposition Modelling is Dimension sst 1200es which available in Faculty of Art & Design, UiTM Kedah.

Figure 2: One of FDM machine-Dimension sst 1200es

that available in Faculty of Art & Design, UiTM Kedah

3D printers that use FDM technology, consists two types of material which are modelling material acts as a main material and other one is supported material which are usually water-soluble wax or brittle thermoplastics, like polyphenylsulfone (PPSF). During printing process, these materials is produce in form as plastic threads or filaments which result from heating process in a coil and fed through an extrusion nozzle. The nozzle melts the filament and extruded the material onto a base which acts as platform for modelling. Both nozzle are move based on data that have been transfer from 3D printing software which translates the dimension of an object in X,Y and Z coordinates. The nozzles will create a thin layer by layer of plastic which cool and hardens and immediately binding to the layer beneath. After a thin layer is completes, the platform is lowered and make a room for the next layer (Novakova-Marcincinova & Kuric , 2012). In relation to this, after 3D model are completed, the support material can be remove using detergent and water.

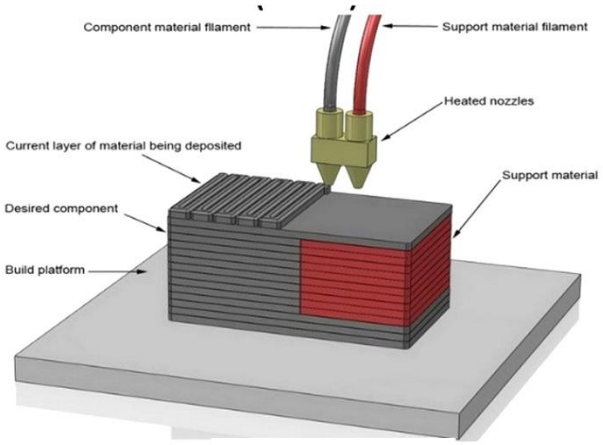


Figure 3: Principle of Fused Deposition Modelling Technology
(Source: Novakova-Marcincinova, 2012)

Usually, FDM has been used for product development, prototyping and manufacturing process because, it is easy to operate and the material that has been used is end-use industry which applicable for end-use product. Further to this, plastic material such as Thermoplastic can withstand heat and chemical which make it an ideal material for printing prototypes and testing (Novakova-Marcincinova & Kuric , 2012). This is because, FDM can produce highly detail object which suitable for testing and fit and form. Apart from that, in term its advantages, FDM is a clean technology which friendly 3D printing process and its easy removal support materials can give possible to produce complex geometries & cavities which in traditional method is difficult to create (Yagnik, 2014).

Research Design

The research design for this paper was using quantitative method which set of questionnaires has been create to distribute to the participants. The questionnaire consist two sections which closed ended question and open ended questions. About 30 participants were from Semester 4 and 5 Industrial Design Diploma students in UiTM Kedah. The reason was,

these student have been introduce about 3D printing in their subject, which they learn theory and practical. Therefore, it is very suitable to be selected in collecting data.

Basically, in their learning subject in FDM 3D printing process, students were require to construct a 3D model using available CAD software, which available in Faculty of Art & Design, UiTM Kedah whether SolidWork or 3D Rhinoceros software. A several series lectures and practical have been given to students which in final semester, they will produce a final 3D model using their final design product.

Result and Discussion

Based on data finding based on questionnaires, there are several points that can be extracted.

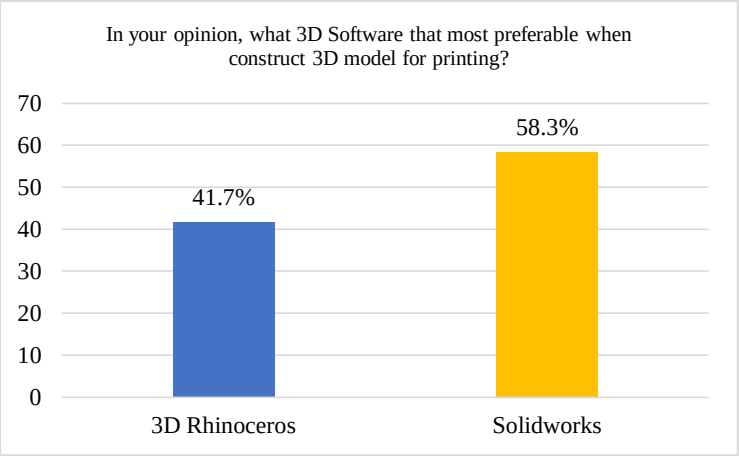


Figure 3: Preferable 3D Software for 3D printing

Based on Figure 3, about 58.3% of participants prefer Solidworks as suitable 3D software when come to construct 3D modelling. This is because, when using Solidworks software, student has to put exact dimension when to build a 3D modelling *("Solidwork is more efficient by the dimension that all ready-made"*). Moreover, it is easy to use it term of software commands (*"The command tool is easier to understand and the help guide is simple for new learner").* However, there were several challenges when they construct 3D modelling and to print their final 3D. It can be seen from Figure 4.

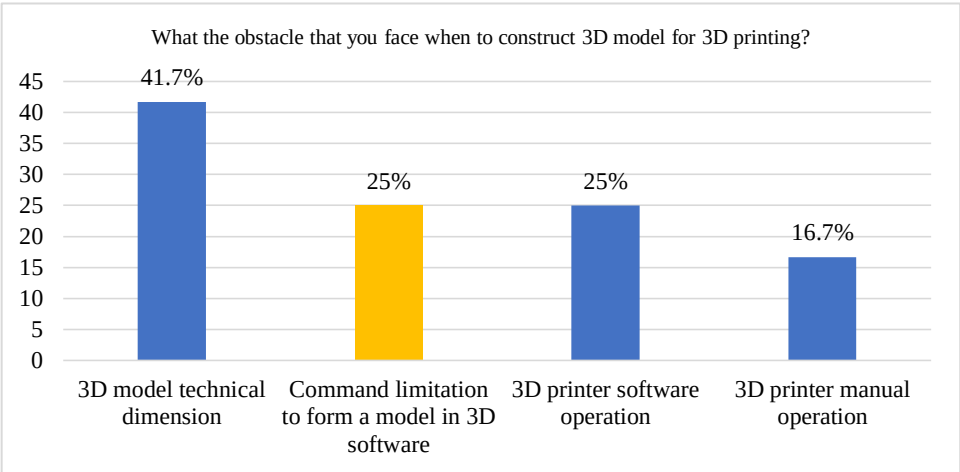


Figure 4: Obstacle In Constructing 3D Modelling For Printing

It can be sees that in Figure 4, about 41.7 % of the participants have challenges in 3D model technical dimension. Moreover, about 25 % of the participant face obstacle in command limitation on modelling 3D model and 25 % in 3D printer software operation. When building 3D model, the most important thing is determine dimension for finish 3D product. This is because, to prevent a product to big or to small when printing. Therefore, students need to input exact dimension when to building 3D model. In relation to this, it encourage students to study further about appropriate product size which suitable relating with their project. Apart from that, when come in software command, there are a lot of function and command, which student require to learn and familiar. This is one of challenge when come to learn a new software. However, when student starts too familiar, it more easily to them to build 3D model. Hence, they can choose commands that can overcome their 3D model problem.

Further to this, when discusses on why some of the students hinder from using 3D printers, there were several reasons. It can be seen in Figure 5.

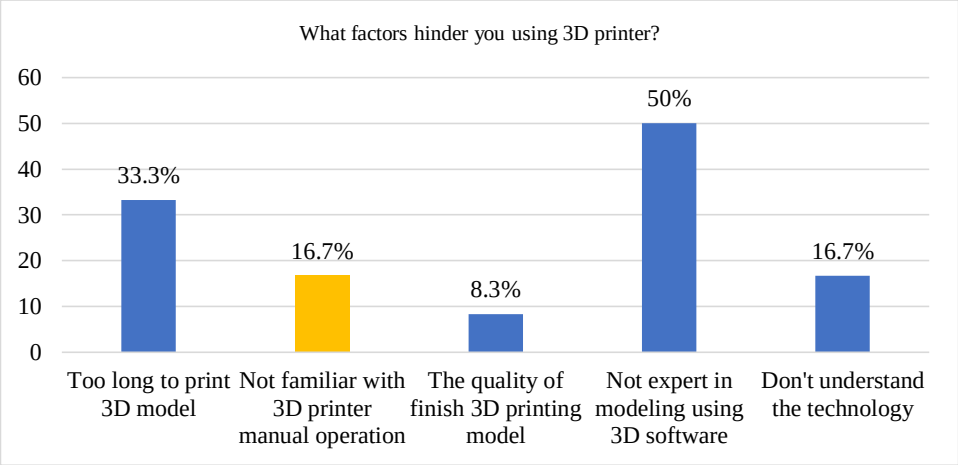


Figure 5: Factors hinder using 3D printer

Based on Figure 5, it seem that the most factor that hinder them using a 3D printer because they did not expert in 3D modelling software which 50% of the participants. Apart from that, about 33.3% of the participants, when using 3D printer, its too long too print 3D models. It can be said that, the most crucial part when using 3D printer is 3D software command operation. The reason is, students need to learn new 3D software especially Solidworks in several week before they can build 3D model and printed. Therefore, it give difficulty to them to understand and familiar in using command (*"it's need more time to learn. Besides that, without doing a lot of exercises student would not able to free design in 3D software successful")*

When talk about the benefits 3D printing through their learning in industrial design course, the researcher found that, most of the participants agree that using 3D printing, it can save time, cost and energy. This is because, student didn't have to buy material to build model. Apart from that, it expands student creativity without concerning complex form which better for them ("*3D printing can create some impossible form fast and accurate")*. Hence, it give opportunity to them in trying a new perspective in building a real product that can test and touch which slightly in real production (*"Motivate spirit to try new perspective in designing new product").*

Further to that, students can learn about technical aspect such as suitable product dimension for prototyping and easy to use than manual model making *("Making the right*

calculation before making the real product as prototype" &"*It's easy and fast if using 3D machine than manual*"). It can be said that, this 3D printing technology give a valuable skill to them because, not only they learn about technology, but also learn about technical aspect in term of construction in building 3D model in software, limitations and also material selection. Hence give benefit for them in industry after they graduate.

Conclusion

In industrial design course, it is important to student in learning new technologies that can give benefit to them which building their skill especially in model making. Therefore, 3D printing technology is a good approach toward students which give a lot of advantages not only in term of knowledge but also in term of creativity on how to overcome the problem that occur when handling 3D model and handle 3D printer. In relation to this, it encourage students to search an idea that can cope with latest technologies without worry on model making process. However, they need to familiar quicker in term of 3D software command which is the most important process before printing. This is because, without understand about 3D software command, they will have difficulty in accomplish their idea onto a real product. Nevertheless, lecturer need to plan on how to give most suitable way in teaching especially on 3D software command. The main points is, they realize about the important of this technology which to enhance their ability to understand the technical aspect, technology limitations, and imagination.

For recommendation, this study is only focusing on learning effectiveness in 3D printing technologies, our further study will focus on implication using different 3D software in 3D printing. Whether there are different output when using different 3D software.

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CHILDREN AND TEACHER'S INTERACTION OF AN AUGMENTED REALITY PRE-LITERACY APP: AR LETTER KIT

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Abstract: *Problems in teaching pre-literacy such as non-native teachers, teachers vary in language acquisition and human factors such as emotional involvement are expected to be reduced by using augmented reality (AR) technology in mobile platforms. However, proper interaction should be provided so that the developed AR based app may bring effective learning. Therefore, the objective of the study is to design and develop mobile applications based on AR for letter recognition with proper interaction called AR letter kit. Two versions of AR Letter Kit were developed and designed where the second version with more multimedia components in order to provide more interaction. The research design is case study in Early Childhood Education for children ages 4 to 6. The results show that the teacher showed positive attitude to the developed apps but preferred the design with more added multimedia components. The children also shows positive attitude towards the app and pointing, responding and inspecting during the AR Letter Kit activity. The children also preferred the second design and give more engagement during the activity. This study supports proper interaction can be provided by adding more multimedia components towards the learning object to get more engagement.*

Keywords*: Mobile Augmented Reality; Pre-Literacy; Letter Recognition;*

Introduction

A new approach for promoting pre-literacy skills for children is needed because most children now are currently in digital native. Promoting pre-literacy at early stage using appropriate technology can allow teachers to optimize their ability to teach children at full concentration and fun. This is because the technology not only can support the learning by acquiring operational skills, but also by extending knowledge (Plowman, Stevenson, Stephen, & McPake, 2012). However, developing a teaching tool using an appropriate technology for early literacy has proven difficult since learning styles for children over age three are diverse and teaching based on traditional teacher-directed and verbal approach may not the optimum way for children in learning (Wardle, 2008).

Because the use of computers can allow children to learn at their own individual pace compared to traditional teaching, this computer technology is not only very effective for early literacy but also for linguistics and emotional skills (Vernadakis, Avgerinos, Tsitskari, &

Zachopoulou, 2005). Mobile applications are an interesting teaching and learning tools because it is not only provides self-paced learning but also considers the movement of the children. An innovative in teaching using mobile technology is enhancing children perception towards learning object by adding digital materials. This approach is known as AR. This approach was utilized in English learning system such as Augmented Reality English Learning System (Hsieh & Lee, 2008), Augmented Reality English Vocabulary Learning System (Hsieh & Koong LIN, 2010) and Handheld English Language Learning Organization (Liu, Tan, & Chu, 2009). Most of the researchers developed their approach using flashcards. Since flash cards for letter recognition can be the learning object in using AR technology, therefore this study been designed to investigate the potential of using mobile AR technology for pre-literacy by combining the flash card with digital materials.

The digital materials which consisted of multimedia components must be properly designed in order to provide a proper interaction. Usually the interaction has been limited to either passive viewing or simple browsing of virtual information (Billinghurst & Lee, 2012). The objective of this study is to compare two designs of AR based app, one with the simple browsing of virtual information, and the other one with added interaction for letter recognition. Letter recognition or letter reading is the first step in reading fluency, followed by word reading and finally the reading of phrases, sentences and passages (McLachlan, Nicholson, Fielding-Barnsley, Mercer, & Ohi, 2012). Since letter recognition will be the main scope for this study, the developed research question is how do children and teachers behave and interact when using mobile app based on AR for letter recognition with different multimedia components?

Method

In this study, case study was used as the research design. The sample consisted of a female teacher and six children aged 4-6, 4 boys and 2 girls in an early childhood class in Malaysia. In this case study, two different designs for letter recognition application were used and the applications were developed. The name of the app is AR letter kit.

The design for AR Letter Kit

AR letter kit was developed with three levels of learning steps in order to promote letter recognition in terms of the name of letters, the sound of letters, the examples of objects associated with letters and the recognition of letters with objects. The core strategy is to use AR for letter recognition to achieve standardization, repetition, sensory based activities and social environment. There are three levels in this design as shown in Figure 1.

Level 1	Name of the Letter - 3D model with sound
Level 2	Sound of the Letter - 3D model with sound
Level 3	Example - 3D model with sound of a word that starts with the selected letter

Figure 1: The Design Of The AR Based Application For Letter Recognition

Firstly, the goal of level 1 is to visually highlight the selected letter with its name. It is to help children to associate the letter of the card with its name by referring the sound that comes along with a 3D model of the letter. The children are encouraged to play the sound more than one time. Secondly, the goal of level 2 is to facilitate the children to recognize the sound of the letter in the flash card. A 3D model of the letter will be overlaid on the screen phone with the sound of the letter. The children are encouraged to play with the sound for more than

one time. Finally, the goal of level 3 is to further children's abilities in recognizing letters. To achieve this goal, two 3D models will be provided for each letter using AR. For example, for letter A, the selected 3D models that start with letter A are Apple and Alligator. The children are encouraged to play the sound of the words than one time. The children in one class can listen to the same standardized sound although with different teachers. The interaction in Figure 1 is followed the usual interaction to either passive viewing or simple browsing of virtual information. In order to add interaction to the app, more multimedia components were added. The design in Figure 1 is added with more multimedia components which are scaling and rotating of 3D models. This second design is shown in Figure 2.

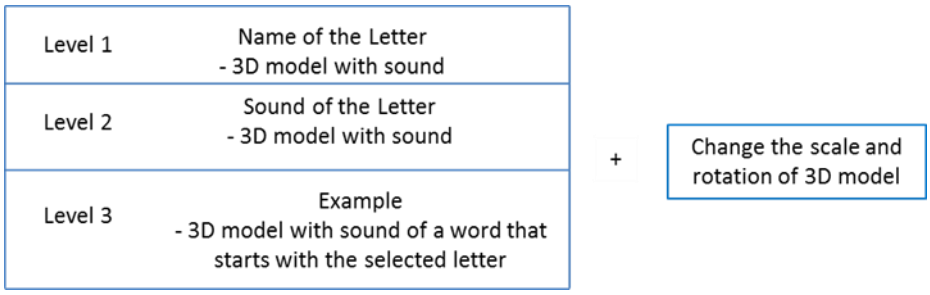

Figure 2: The design of AR based application for letter recognition with extended multimedia components

System Components Of AR Letter Kit

The development of the application for letter recognition based on AR involved a number of components as shown in Figure 3. The app for the AR letter kit was developed in a Unity 3D platform. The markers, letters A to Z, were set as targets for the application using Vuforia Developer Portal. The targets were imported to the 3D Unity where Vuforia SDK was used for capturing, tracking and rendering in an AR environment. Android SDK was used for Android platform. Blender was also used to develop 3D models for the application. When the application has been installed in an android mobile phone, users can direct the open application to scan a printed marker. The capturing component of the application will capture the image of the marker. Next, the tracking component of the application will decode the captured image using the Vuforia engine and compared the image with the targets. If the captured image hit the target, the rendering component of the application will draw an AR output overlay on the mobile screen.

Each marker will have three different AR outputs depending on the selected buttons by a user. Figure 4 shows the design of a marker. After testing the marker, we identified that markers with laminate have some difficulties for tracking because of light reflection. To solve this problem, the script for camera focus has been added to the Unity. Because of the quality of the markers that was quite low, the name of the app and additional symbols like stars were added to the marker. The marker will be printed and virtual objects related to the marker will be identified accordingly, for example, B for butterfly and ball (Figure 5).

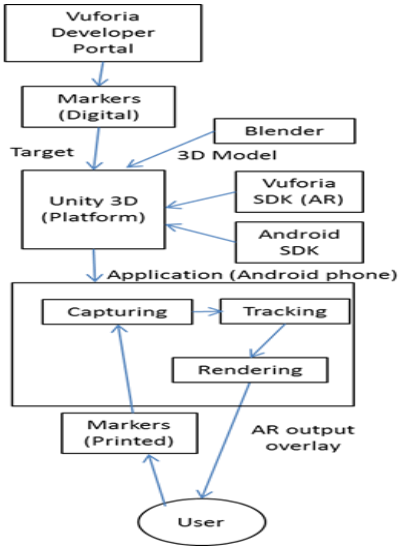

Figure 3: System components in AR letter kit

Figure 4: Design for markers

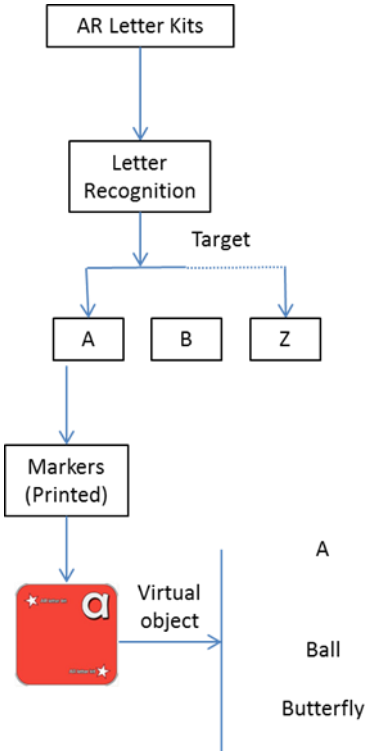

Figure 5: Each marker is associated with a number of virtual objects

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The first design in Figure 1 was developed and the prototype is shown in Figure 6. Eight buttons were added on the main screen of the mobile app. The first button was for the name of the letter. The second button was for the sound of the letter. The following third to eight buttons were for example of 3D models associated with the letter. In order to add more multimedia components, the interface has been modified and the result for the second design is shown in Figure 7. Figure 7(a) shows that the virtual object such as a cat is scaling up with audio which is the name of the letter when button Name is clicked. In Figure 7(b), the cat is scaling down with audio which is the sound of the letter when button Sound is clicked. Figure 7(c) shows that the cat is rotating with audio which is the sound of word cat when button Object is clicked.

Figure 6: The user interface for the first design

Figure 7: The user interface for the second design where three interactions were added to the app which are: (a) scaling up, (b) scaling down and (c) rotation.

Research Process

The teacher was firstly explained by the researcher on how to use the AR letter kit. The teacher was then used it to teach the children as shown in Figure 8 for example. Then each child used the app freely.

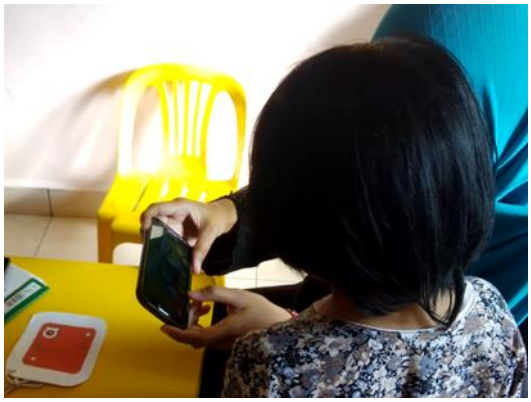

Figure 8: Teacher uses the app to teach a child

Results and Discussion

It was observed that the children liked to inspect the 3D model and try to touch the model. They also liked to point to the marker. When the teacher asked some questions, the children gave appropriate responds and most of the answers were correct. The children liked both designs but the second design (design B) gets more engagement since the interaction in the first design was limited to passive viewing of the virtual information. When the children have to touch some buttons to scale up, to scale down or to rotate the 3D model in the design B, it gives more control to the children in manipulating the 3D model. This control power contributes to longer attention towards the app and eventually will promote more learning since every action of touching the buttons comes with related audio. The main findings are given in Table 1.

Table 1: Interaction of teacher and children in using AR Letter Kit

Interaction Behaviour	Design A	Design B
Viewing virtual information	Yes but with less time than design B	Yes but with longer time than design A
Inspecting markers	Yes	Yes
Pointing to the 3D models	Yes	Yes
Scaling the 3D models	Not applicable	Yes

The results show that the children and teacher involved with interaction-oriented behaviour towards the AR letter kit. They were inspecting the markers, pointing to the 3D model and responding to the questions given by the teacher. Their interaction shows that they have positive attitude towards the app. Since AR applications perceived as magical tool by children (Bujak et al., 2013; Yilmaz & M., 2016), the AR letter kit has made the learning of letter recognition in more interactive way. However, it was also observed that children aged four had difficulties in holding the phone especially when interacting with the app.

Conclusions

In this work, the interaction of the teacher and children on using the AR letter kit were observed. The results revealed that the teacher and children show more interaction behaviour towards the second design of the app. This is because the second design has additional functions that make them to give more active feedbacks. Future research might investigate the use of the app on a specific theme with more added interaction such as voice or gesture. For example, exploring objects in a kitchen, classroom, garden or library where the related virtual information can be manipulated using not only using the usual click on the touch screen, but also voice commands and hand gesture.

Acknowledgment

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"DETERMINATION OF GENDER BALANCE INDEX USING PRINCIPAL COMPONENT ANALYSIS: AN ANALYSIS BASED ON HOUSEHOLD SURVEY"

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Abstract: *Gender balanced approach in every sector of economy will not only ensure optimizing potentials but also accelerate further growth. Existing indicators analyze gender inequality on a broader perspective- gaps between both sexes on a macro level. However, how gender inequality is initiated and varied for major components at the very root level would help to analyze the issue better. This paper aims to indentify the components and contract a gender balance index for the household level. In this paper, I have conducted purposive surveys on 20 households in the urban areas of Dhaka city with a semi structured questionnaire and developed the gender balance index by using Principal Component Analysis (PCA). Furthermore, I argued that gender balance varies with income groups among other factors, where higher income groups generate the opportunity and equality among both sexes and lower income groups tend to be a victim of gender imbalance. Acknowledging various limitations and non sampling errors, this paper argues for the gender equality in household level is related with the income of it and a gender balanced household is now preferred.*

Keywords: *Gender, Gender Inequity, Gender Balance, Female Empowerment*

Chapter 1: Introduction

Gender inclusive growth policy is now a widespread notion and various government and nongovernment entities are collaborating to achieve it in all sector. In the developing countries like: Bangladesh, where gender discrimination is a crucial and prominent factor, which is constantly hindering potential human development and missing out on optimizing potentials. Women in Bangladesh are considered to be dominated by a patriarchal and patriarchal kinship system, which enforces the social and economic dependence of women on men and thus prescribes lower status for women. Although, there has been steady progress in reducing gender inequality in different sectors (education, health, employment etc.) but there exists a huge inequality in these sectors along with other major sectors in Bangladesh. Gender inequality is appeared as the major stumbling barrier in achieving the development targets. Although various incentives and initiation occurred over time, but for the complexity and interrelated nature of economy, the problem is yet to be resolved. To address this issue, various policies with different approaches have been taken, from reserving seats in the parliament to banning child marriage. For determining potential gender inequality, a variety of indicators are used for analyzing and implementing policy. However, all these

indicators are devised to determine inequality in a macro level. But existing literature did not include how the problem was initiated and developed in the root level (household) and later on, infiltrating and sometimes, multiplied in other sectors. This paper attempts to create an indicator to determine how gender balanced is a household and how this balance differs for different level of income. Gender equality represents a conceptualization which is accepted, but not always fully understood. For some, the stumbling block is the word "gender", a concept in social science and used as a replacement of the word "sex". "Gender" does not refer to the biological identification, to be male or female, but to masculine and feminine - that is, to qualities or characteristics that society ascribes to each sex. People are born female or male, but they learn to be women and men. Perceptions of gender are deeply rooted, vary widely both within and between cultures and change over time. But in all cultures, gender determines potential power and access to resources 7 and institution for both females and males. Based on their sexes, the provided facility differs on a larger scale, ultimately restricting growth, both physical and psychological, and this constrains them to reach their full potential and subjected to be various forms of violence. Gender roles, gender relations, gender discrimination, gender equality, gender equity, gender analysis, gender balance, gender mainstreaming – all of these terms have been debated and accepted into declarations, plans of action, policies, programs and projects over the past decade for an inclusive and sustainable growth and development. The term gender discrimination is often used for the workplace or educational institution. However, if the problems are analyzed, it would trace back to the root level, which is the household. The presence of discriminatory approach toward any sex would increase their vulnerability and increases the chances to face and endure physical and mental violence. If the household adopt a balanced approach for both sexes, such unfortunate scenario could be avoided. This is what Frances Stewart (2002) calls „vertical inequalities‟. Vertical inequalities refers to the rank of individuals/households by their place in the income/wealth hierarchy, in contrast to „horizontal inequalities‟, which is the inequalities between socially defined groups that often cut across income groups.(Kabeer,2015). Numerous studies were conducted to define and evolve the concept of gender and what causes the vertical inequality that could affect economic development in a country. This paper aims to acknowledge and emphasize the gender balance approach in the household level by building a Gender Balance Index to address the issue and further investigating the sector (s) where the inequality prevail the most. Using Principal Component Analysis (PCA) to develop the indictor, from the survey of 20 household in the urban areas in Dhaka, the index is developed. Along with it, I would argue that the presence of gender balance differs for different level of income group. Where higher income group have a more gender balanced household, the lower income groups are subjected to gender inequality in household. The paper is constructed and organized in the following manner: Chapter 2 provides a brief discussion of the concept of gender and how it evolved with time and emphasizing the notion of gender balance. Chapter 3 describes various indicators such as: Gender Related Development Index (GDI), Gender Empowerment Measure (GEM), Gender Inequality Index (GII) and Global Gender Gap Index (GGGI), their components and their limitation which provided the scope to 8 further develop the Gender Balance Index for households. Chapter 4 reflects the gender scenario in Bangladesh and the recent scores of different gender related indicators and their implication. Chapter 5 covers the dataset and methodology section, where an elaborated discussion of the process and application is described. Chapter 6 reveals the findings of this paper by analyzing the Gender Balance Index in terms of income groups

and further analyzes and indentifies the components where the possibility of gender inequality is significant. Chapter 7 is the conclusion, where the paper is summarized in a succinct manner.

Chapter 2: Concept Of Gender

The term “gender" and "sex" are often used as a synonyms, but both have an entirely different meaning. "Sex" indicates the biological difference between a male and female based on physical attributes. On the other hand, "gender" represents the complex and interrelation between male and female, their pattern of behavior, sex based social structure, presentation, perspective etc. (WHO, 2015). Gender is considered as one of the fundamentals that shapes one's identity and over time. It has influenced every aspect of one's life. However, depending on the socioeconomic, political and religious structure of a country, the interrelation varies. Some countries may appear more rigid and orthodox than others, which ultimately act as a constraint to development.

The term "gender" was coined by the sexologist John Money in 1955 to differentiate between biological sex and gender as a role. Later in the 70s, the feminist theory welcomed and forwarded it, along with their theories. In the paper of Wieringa (1998), numerous feminist theories in different time frame were discussed, along with their limitation and proposed changes. The French feminist Simone De Beauvoir is considered as the precursor of gender theorists of the West. She criticized the presence of biological determination for assigning roles and image, with her famous quote “woman is not born but made”. Although, she did not use the concept of gender, but she did identify the difference between “natural sex” and “cultural sex” role. Later on, this acted as a foundation of various gender theories.

Gayle Rubin (1975) amalgamated the school of thought- French structuralist anthropology, mainly from Lévi-Strauss, Freud and Marxism and came up with the concept of “sex/ gender system”. She combine the idea of Levi-Straus’ss “exchange of women” with Mar’s view on sex /gender system to the political economy, as the basis of kinship system thus, origination of society. This lead Rubin to define the “sex/gender system” as the “set of arrangements upon which a society transforms biological sexuality into the product of human activities and in which these transformed sexual needs are satisfied”, and also postulated that circulation of women marriage in the system is on the basis of a homo social contract. Her view point indicated women 10 as a merchandise in the male-dominated society, which Adrienne Rich in 1980 worked on the “compulsory heterosexuality”[6] as the basis of the present day gender system.

The unresolved problems in the conceptualizing gender by Rubin and Rich were later on dealt by Scott in 1989. As a major theorist of “social constructivism”[7], she emphasized on the concept of gender and illustrated that gender theories must have two central elements: a historical perspective and a deconstruction of the terms of sexual difference. According to her, gender is a functioning in a dual way, “as a constitutive element of social relationships and as a primary way of signifying a relationship of

[6] Compulsory heterosexuality refers to the notion that heterosexuality, especially for women, is both assumed and enforced by a patriarchal society. It is viewed as the natural tendency or commitment by both sexes & anyone who deviates from heterosexuality is deemed deviant or abhorrent (Rich, 1980)

[7] As people live and interact between communities, social constructivism preserves that human development is caused and evolved for being socially situated and knowledge is established by interacting with one other. It is a sociological theory of knowledge which applies the general philosophical constructivism into the social (Mckinley, 2015)

power". In the system of power, she emphasized on the gender relation and as her view on gender encompasses the field between sexuality, languages, economy and politics, her theory was highly comprehensive. In 1995, Nicholson took the postmodernist[8] debate of the concept of gender further by conceptualizing gender as the "social organization of sexual difference" including "the knowledge that establishes meaning for bodily differences". As Rubin and other theorists argued body is a stable and separate category, Nicholson opposed on the notion that "we cannot know our bodies in some pure form, for every form of knowledge is a product of the discourse in which it is constructed. So we can only "see" our bodies through lenses that are always already social". Although her views constraint the potential for political action.

Yet, understanding the differences in gender, the role of body, neither integrated nor disintegrated, but also the cultural variation is a crucial issue. Cross-cultural analysis indentified that sex and gender are cultural divergent variable and their "weight" is subjected to cultural variation. Thus, a theory of gender relation should include both body and cultural variability, and their interaction which shapes and defines each other.

Evolution of Gender Role in Development:

A gender role reflects the pattern of behaviors, which is directed and dictated by social norms and prejudice on the ground of acceptability, appropriateness and desirability of a person for his/her sex. World Health Organization (WHO) defines gender role as "socially constructed roles, behaviors, activities and attributes that a given society considers appropriate for men and women". This term may get confused as "gender identity" which is one's own internal sense of their sex. However, gender identity is internalizing and gender role is externalizing criteria of sex. The notion masculinity and feminine are generally originated for gender role. Despite of the fact that gender role provides a positive effect, but it could be used as the basis of discrimination.

With time, gender role changed and evolved with social, economical and political changes in a country. In the middle age, women were considered "suited" for jobs associated with medicine and healing. Even in the present era, women are discriminated in the field of mathematics and engineering, although they have proved their potential there. The discrimination is not only confined in the field of study. It is observed in every, if not, most sectors of one's life. Kabeer (2015) noted that there is a distinct hierarchy in the intra household allocation based on sex. For the presence of vertical and horizontal inequality in the household, women are situated in a lower where poverty is prominent. In the division of labor, there is a constant argument about the unpaid works and care given works of women. For these reasons, although they are contributing more times and effort, they are more prone to fall the victim of discrimination. Moreover, as parents tend to believe that investing on men will give them a higher return than investing in the women, educational and health benefits are prioritized for men. In addition to this, lack of access to institutions like: hospital, police stations and the like also has an adverse effect on the position of women in the economy. Not only they are deprived of basic rights and facilities, they opinion are not counted in household's or in public decision making.

[8] Postmodernism is a divergence from the modernism. This is noted as both an era and a movement in late 20s to develop philosophy, arts and literature. The postmodernist have a skeptic attitude and believes that knowledge and truth are the product of unique systems of social, historical and political discourse and interpretation and are therefore contextual and constructed.

However, As Kabeer (2015) argued that there is a geographical impact on the status of women in the household and in the society. In the rural areas, prevalence of rigid societal norms and prejudice, women are treated as a lesser counterpart and given lesser facilities than their male counterparts. Such geographic differences contributing to gender role, same approaches towards women in policy making will be deluding and result in inefficiency.

Gender Inequality and Gender Balance:

Although the term gender inequality refers to the either or both sex's deprivation of the access and benefits of basic rights and facilities, whenever gender inequality is used, it is meant inequality toward women. In the male dominant societal view, inequality toward women is a unanimously and widely accepted and the opposite scenario is considered as absurd. For establishing and maintaining "masculinity", people often do not consider or speak out the inequality toward man as well as women in the society.

For creating a gendered association, Chant (2006) has scrutinized the term " feminization of poverty" conceptually and methodologically and later on, directed the data and indicators that may enrich the potential of GDI or GEM or for a new Gendered poverty Index (GPI).The term "feminization of poverty" was first coined in the 1970s and for the multi dimensional impact, it became prominent in mid 1990s. It refers to the concept that women often represent disproportionate percentages of the world's poor .Although it recognized women in development process and sought to divert resources towards them through policy implementation and acknowledging the vulnerability of female headed households, it also procreated a number of weaknesses in the terminology.

As Davis and Van Driel (2005:5) indicated that women's impoverishment has become a "global orthodoxy" that is not questioned anymore. Due to the lack of sex segregated statistics and policy commitment, the term "feminization of poverty" remains problematic. And also, the term represented women as a homogenous mass or differentiated based on whether they live with their male counterparts or not. Omitting or not including the possible diversification of household structure could lead to misinterpretation of crucial factors. Moreover, monetary poverty is used as the main criteria for the assessment of poverty, whereas other dimensions of poverty such as: restriction in access to private and public goods, intangible assets, subjective dimensions, social exclusion etc were not included, which weakens the whole framework. Again for the gap in monetary poverty could prevail and widened for increasing gaps in women and men's capability and opportunities (educational, employment, political participation).

In the case of problems of empirical substantiation, scarcity of sex segregation data, conceptual problems of assigning household income to individual of different age group and gender, proxy 13 of women, differentiating women by age group arises. Women headed households showed as the poorer but they might be actually better off in terms of per capita income. (Kabeer, 2003, pp .79- 81; also Bongaarts, 2001; Chant, 1997 b). Another issue of disproportionate poverty among women is increasing due to demographic ageing as women's generally greater life expectancy, there is an increasing tendency for more women to feature in populations as a whole, and among senior age groups in particular is more prone to fall under poverty. Furthermore, with the increase number of education and vocational training focused on women, gendered

poverty gap tended to reduce for younger generation. However, recognizing the capability might not match with opportunity and thus increasing the gap as a result of it.

For the issue of conceptual problems, over emphasis on income, female headed household, neglect the intra household dynamics ,neglect the relation between both sexes and unable to distinct the main causality of feminization of poverty are analyzed by the author. Although generating and interpreting data on income is easier, it failed to incorporate the crucial reason of women in poverty: lack of access, control and allocate resources, participation in institutions, and lack of decision making power. Moreover, they frequently face the tradeoff between the different dimensions of poverty in the interests of household and/or personal well-being. For the last analytical problem, author draw observation from his own field work, the burden of household survival falls unevenly between both genders and women's contribution went by unacknowledged, both in monetary and non- monetary terms. Women's obligation and responsibility had a tendency of is diversifying and intensifying, where as men's had restricted and/or even diminishing. In addition to this, persistent and/or growing disparities in women's and men's capacities to negotiate their obligations and entitlements in households. As Kabeer (2005:14) has argued: „Gender often operates through the unquestioned acceptance of power. Thus women who, for example, internalize their lesser claim on household resources, or accept violence at the hands of their husbands, do so because to behave otherwise is considered outside the realm of possibility. Since neither these factors are not included in analysis and policy, the aggregate gender studies cannot comprehend the entire scenario.

O'Laughlin (2007) concerned with the making of a myth about the relation between gender inequality and poverty in Africa. Myth claims that if the allocation of productive resource were not skewed against women, rural African households would be able to work more efficiently and thus to produce more. Overall poverty could be reduced if factor of production is controlled more 14 efficiently by women. Now if gender inequality comprises economic growth, there is a reason for bureaucrats and development donors to put gender concerns higher up on their agendas. In the telling of this myth, two narratives, both based in research done in 1980s, the first is Christine Jones's account of households in an irrigated rice scheme in northern Cameroon failed to optimize their production when men didn't give women fair compensation for their work. Second is Christopher Urdy's (1995, 1996) demonstration that the unequal distribution of inputs across women's and men's plots in Burkina Faso did not maximize yields. These two studies are analytically framed in such a way that tearing gender inequality out of its specific historical context of capitalist development in colonial and post colonial Africa, leads to misrecognition of the cause of poverty.

According to the author, both paper provided a link between gender justice and poverty reduction in rural Africa. But both of the papers looked at agricultural production not the division of labor, which are hierarchical and complex but co-operative. (Sen,1990). They also treated productive resources controlled by male household heads as men's individual property, although women have rights, might be unequal. Jone identified widows, women with in firm husbands and senior wives in polygamous households as vulnerable to impoverishment and finds that they put more labor into cash-crops than do other women. But she could not pinpoint the factors behind this. Udry (1995, 1996) observes that yields achieved by different households vary more widely than yields within households, but does not explore how gendered patterns of migration and labor might lead to differences between households in

agricultural practices and the distribution of productive resources. Finally, neither author has anything to say about how gendered poverty relates to broad structural and contested processes of individualization and commoditization of productive resources in rural Africa.

For such issues, where the inequality between sex and gender are in question, the notion gender balance is necessary to address it. Lack of data and proper statistical analysis has led to a vague perception about gender role and with the help of the concept gender balance, we can further argue the specification and validity of gender inequality- to whom the discrimination is actually occurring, in which sector and why? In this paper, I would like to argue the gender balance in a household is essential not only for the optimal level of intra household efficiency and for different level of income, gender inequality varies.

Chapter 3: Gender Related Indicators And Their Limitation

Gender related indicators and their limitation Indicators are the statistical instrument to measure and predict economic activities. These indicators help to promote appropriate policy that will increase the welfare of the society. For measuring gender equality or status, there are over 300 indicators proposed and implemented over the time. Among those, the significant ones are: Gender Related Development Index (GDI), Gender Empowerment Measure (GEM), Gender Inequality Index (GII) and Global Gender Gap Index (GGGI).This section briefly discusses these indicators and their limitations, which indicate a need for a indicator at the micro level.

Gender Related Development Index (GDI):

In order to measure gender equality and affix gender sensitivity to Human Development Index (HDI), GDI was introduced by United Nations Development Program (UNDP) in 1995. GDI is more like a gender adjusted- HDI measured in the equally weighted and similar components like HDI. It takes into account the gaps between men and women for those three components, which are: life expectancy, education and income per capita. For each of these components of GDI, there is an equally distributed equivalent achievement which is denoted as the level of achievement if gender equality prevails. When the achievement of both sexes differs, the difference becomes higher for a given mean and lowers the value of achievement. In other words, if the difference between GDI and HDI increases, inequality will increase. However, GDI is not calculated independently; it is compared and calculated with HDI.

The three components of GDI are measured with certain indicators. Long and healthy life is measured with the help of life expectancy at birth, obtained from UNDESA and calculated biennially. Knowledge is measured with two indicators-adult literacy rate and combined gross enrollment rate in education. UNESCO Institute for Statistics (UIS) is the source of both indicators and they are measured annually. Finally, standard of living is indicated through estimated earned income ($PPP) from the World Bank and International Labour Organization 16 (ILO) and calculated on a yearly basis. Although GDI along with GEM, is the first initiation to introduce and promote concept of women empowerment in economic growth, for several limitation the impact and utilization of GDI remain restricted.

Firstly, many critics have called GDI a "false start" as it leads to misinterpretation of GDI as an independent indicator. Secondly, GDI has a very strong correlation with GDP. For that, even if a low income country achieves improved gender

equality than a high income country, it will still score low and interpret as an economy suffering with gender inequality. Whereas, high income country will obtain the top score for their high level of GDP, regardless of the presence of severe inequality. Another major debate against GDI revolved around the component life expectancy. In that particular component, GDI assumed and was adjusted according to the notion that women will live five years longer than men. Lastly, Dijkstra and Hanmer (2000) argued that GDI fails to make a cross-country comparison because the absolute level of human development is conflated with gender equality. They furthermore criticized the component of income to be urban biased and did not take control over family income into consideration.

However, a conundrum arises where GDI is used to promote gender equality with a discriminatory assumption for weighting more for women's life expectancy than males. Finally, GDI does not take into consideration the societal and cultural prejudice such as: sex-selective abortion, dowry, domestic violence etc, which makes the indicator inefficient and weaker to portray the actual scenario of gender inequality in a country.

Gender Empowerment Index (GEM):

GEM is initiated with GDI, in 1995 by UNDP. Where GDI focused on the gender inequality, GEM focused on the women relative empowerment in the country. It also contains three components to measure, which are: political representation, representation in senior positions in the economy, and power over economic resources (proxies by earned income). They used the same assumption of aversion to inequality process which penalizes the components such as: the political and economic representation and earned incomes .The economic participation and decision making power is measured using the number of female legislators, senior officials and 17 manager and female professional and technical worker in a country. Political participation is calculated through women's shares of parliamentary seats and power over economic resources are measured by the ratio of female to male estimated earned income ($PPP). ILO and the World Bank act as the source of these indicators and all of these are calculated annually. However, for the difficulty and debate associated with measuring empowerment and lack of theoretical rigidity, GEM is highly criticized by various authors like: Klasen & Schüler(2009) and Dijkstra Hanmer (2000).

As GDI and GEM both have a strong correlation with GDP, the same argument can be used against GEM that it overestimates the situation for high income country and underestimate the situation for low income country. The indicator measures empowerment in the sense of relative higher income and societal status. But if a woman willingly chooses to be a home maker rather than an official, we cannot state or conclude that this woman is not empowered. Moreover, even if a woman is earning a lot of money and in a high ranked position that does not mean she is empowered. She may suffer from domestically violence or lack of contribution in household dynamics. In addition to this, intra-household inequalities are difficult to measure; intra-family inequalities are often reflected in increases in the share of households with children maintained by mothers on their own. No matter how high ranked official a woman is, she is expected to look after the family and her children first and women sometimes willingly devote themselves for the purpose. This arises the notion of unpaid worker in the house hold and popularized the trends toward the feminization of poverty and the pauperization of motherhood across country and generation (Folbre, 2006).

Gender Inequality Index (GII):

In order to overcome the limitation of GDI and GEM, a new indicator GII was introduced in the Human Development Report (2010) by UNDP. GII synchronize three dimensions, which are: reproductive health, empowerment and labor market participation to measure the empowerment and inequality based on gender prevails in a country. According to UNDP, these dimensions are connected and to some extend complementary. So, inequality in one dimension is likely to affect other dimensions, which make the indicator “association-sensitive".

Reproductive health is measured using two instruments: Maternal mortality ratio and adolescent birth rate biennially. Empowerment is also calculated biennially using male and female shares of parliamentary seats in the country. In GEM only female parliamentary seats were considered, so the holistic approach for empowerment was missing and GII attempt to overcome that. Finally, a female and male share of population with at least secondary education and female and male labor participation rate is used to analyze the final component, labor market participation. Also, unlike GDI, GII is an independent indication with own rank and separated values from HDI. It is interpreted as a percentage, not a loss to HDI, rather than it indicated the percentage of potential human development loss due to gender inequality.

Unfortunately, several criticisms rose questioning its adequacy in measuring inequality without including significant factors and including unnecessary complexity. Many critics scrutinized the methodology and stated that for the difficulty to understand and interpret; policy makers and analysts may not fully comprehend it and in extreme cases, promote anti- growth or anti equality policies. Furthermore, as GII indicates the percentage of potential human development loss for gender inequality, it fails to indicate what is precisely causing the loss as it cannot be determined by it. In addition to this, GII does not include the socio economic dynamic, norms and practices, public policy and the cultural difference of different country which significantly cause gender inequality to rise. Lastly, GII fails to incorporate informal work and unpaid domestic work or care work, where the portion of women is prominent.

Global Gender Gap Index (GGGI):

The Global Gender Gap Index was introduced in the Global Gap Report in 2006 by the World Economic Forum, where it covered 144 countries. GGGI illustrate a comparative comparison of gender gap across different countries and years, and countries scores can be interpreted as the percentage of the inequality between women and men that has been closed. Unlike other indicators, GGGI has four criteria to measure gender inequality. They are: economic participation and opportunity, educational attainment, political empowerment and health and survival. The indicator's score is in percentage which indicates of the equality between man and woman that has been closed and it ranks countries according to their gender gap. Introducing the 19 concept of gender balance, the indicator is able to generate a meaningful result as it "assesses countries on how well they are dividing their resources and opportunities among their male and female populations, regardless of the overall levels of these resources and opportunities," the report says. (Global Gender Gap Report, 2008, p. 24)

The ratio of female labor force participation over male value, wage equality between women and men for similar work (female-over-male ratio), ratio of female estimated earned income over male value, ratio of female legislators, senior officials and managers over male value and ratio of female professional and technical workers

over man value helps to calculate the economic participation and opportunity. Educational attainment is demonstrated by the ratio of female literacy rate over male value, ratio of female net primary enrolment rate over male value, Ratio of female net secondary enrolment rate over male value and Ratio of female gross tertiary enrolment rate over male value. Health and survival is analyzed with sex ratio at birth (female over-male ratio) and ratio of female healthy life expectancy over male value. Finally, the last criteria, political empowerment is measured by ratio of female with seats in the parliament over the male value, ratio of females at the ministerial level over the male value and the ratio of the number of years a female head of state (last 50 years) over male value. All indicators are expressed as female to male ratios and are truncated at 1 as equity benchmark.

GGGI is published annually in the Global Gender Gap Report from 2006 to 2015. GGGI is contributing not only to gender inequality but also, enabling cross county comparison. As this indicator included a wide variety of aspect and detailed categories, it was very useful to portray the gender balance in an economy. However, it is criticized for being too broad.

Chapter 4: Bangladesh's scenario

Bangladesh's scenario once considered as the "bottomless basket", now Bangladesh not only has achieved a high and sustainable GDP growth over the year, it has also demonstrated tremendous progress in human development comparing to other countries in South-Asia. However, in an aggregated level, Bangladesh still has a lot to improve. According to Human Development Report (2014), Bangladesh was ranked 142 out of 187 on Human Development Index (HDI). Moreover, the government has acknowledged and emphasized on women empowerment by initiating and implementing several policies. Girl's enrollment rate in primary and secondary level, female literacy rate, maternal mortality rate have significantly improved over time. In this section, a brief discussion of the Bangladesh's gender related indicators and an overall discussion of the position of both sexes will be conducted.

Bangladesh: At A Glance:

Bangladesh has recently achieved the status of a lower middle income country while sustaining and increasing growth rate. Along with the growing economy, it has concentrated and accomplished human development through various policies and strengthening the regional linkages. Differences in various sectors on the basis of sex significantly observed. Being a majority of male dominant society, gender discrimination is clearly observed from the root level to the national level. In this section, crucial factors such as: education, health, employment, facilities of financial services and violence against women will be discussed to reflect pervasiveness of gender imbalance in the country.

In the education and health sector, Bangladesh has demonstrated a tremendous progress. The enrollment rate of both primary and secondary level of school increased drastically, and female enrollment and literacy rate are now higher than males (BANBEIS, 2014). Implementing several projects and policies to address the gender imbalance has improved the situation. Lowering the maternal mortality rate is considered as one of the milestone in the country. Along with it, increasing number of health care facilities has contributed. However, the quality of both 21 education and health care has to improve with the increasing number. Another main concern is that

the sex selective health care and infanticide. Sex selective health care and infanticide suggest a correlation between the numbers of females to males in Bangladesh. In Europe where men and women are given similar health care and nutrition, women outnumber men 105:100. In Bangladesh, that ratio is 95:100. The health situation for urban women is worse than that for rural women, especially those living in slums. The urban population living in the slum areas does not have adequate sanitation, water and health facilities which results in poor health. In the educational sector, due to financial constraints and the lack of earning opportunities for educated women, the rationale in the Bangladesh family to educate a boy over a girl still persists. Other impediments to educational attainment for women include early marriage, cultural norms, and religious orthodoxy. Participation in technical disciplines (regarded as men's domain) in areas such as engineering and agriculture is unequal as well. For instant, the student population at technical universities is only 9 percent female.

In 1995-1996, labor force participation rate for male was 55.8 percent and or female, it was 35.7 percent. However, in 2010, both rate dropped to 52.5 percent for male and 23.3 percent for female. (Labor Force Survey, 2010, BBS). Although the population has now more access and facilities for education and vocational trainings, the declining trend represents the lack of employment opportunity, unsafe working environment. In addition to this, female's participation rate declined more which suggests the increasing causality due to gender inequality that might discourage them to pursue or survive in the labor force.

Due to the risk adverse nature and high repayment rate, different financial institutes, especially micro credit providers such as: Gramen Bank, BRAC Bank etc, are willing and focusing providing financial services to women. Through this, it is argued that women were able to empower themselves by expressing them as entrepreneur, creating employment opportunity and increasing their standard of living. Moreover, different NGOs are expressing their willingness to provide vocational training to women. However, for both financial services and NGO's training, male counterparts tends to enjoy the benefit women are gaining more and the training or loans are not used properly, putting the failure's burden on the women's shoulder.

Since the 1990s, women have become increasingly influential in the political arena. Despite the barriers that come with patriarchal rules, the system of quotas has ensured women's 22 representation in the national parliament and local governments. Elections in December 2008 resulted in the election of Sheikh Hasina, a female prime minister who's currently serving. Despite these successes, there remain several factors that limit women's political participation. The political culture based on vengeance, distrust and corruption has ideological, political, religious and institutional dimensions that are rooted in the whole of society. The result is an institutionalization of violence as a means of political expression.

Cultural and political factors heavily influence how women are treated and regarded in Bangladesh. This often limits rights to inheritance and opportunities for schooling, thus perpetuating dependence and disempowerment. Domestic violence and discrimination are difficult to measure; acts of violence can only be accounted for through court proceedings and police reports. Violence in Bangladesh ranges from acid throwing, physical and mental torture, sexual harassment, sexual assault, rape, dowry related violence, trafficking, forced prostitution, coerced suicide and murder amongst others. Political turbulence and manipulating in the name of religion and crimes against women have increased dramatically in the country, creating a grim scenario for women.

Gender Development Index (GDI):

In 2014, Bangladesh earned 0.917 in the Gender Development Index. In all the three criteria, males and females scored with little differences. In the life expectancy at birth and expected years of schooling, females scored more than males, but in mean years of schooling, GNI per capita and HDI values, males scored more than females. Considering that the gaps are already small, adequate policies and women empowerment may lead to achieve equality.

Table 4.1: Gender Development Index of Bangladesh for 2014

Country	Life expectancy at birth		Expected years of schooling		Mean years of schooling		GNI per capita		HDI values		GDI values
	Female	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*	
Bangladesh	72.9	70.4	10.3	9.7	4.5	5.5	2278	4083	.541	.590	.917

Source: Human Development Report, UNDP (2014)

Gender Empowerment measure (GEM):

A widely accepted indicator to measure women empowerment, the Gender Empowerment Measure (GEM) reflected the portion of empowered women's percentage of the population. In 2004, Bangladesh ranked 81 with 0.379 out of 93.Percentages in seats in parliament (15.1%), female legislators, senior officials and managers (23%) and female professional and technical worker (12%) have a very low score which implies the lack of women's participation and accessibility to the high ranked positions in Bangladesh, along with financial issues, societal norm, prejudice, political instability, religious framework have constructed an unfavorable environment for women to pursue higher ranks. Nevertheless, women were able to have almost half (46%) for the ratio of estimated female to male earned income, which provides an incentive to motivate women.

Table 4.2: Gender Empowerment Index of Bangladesh (2014)

Country	Gender Empowerment Measure		Seats in parliament held by women (% of total)	Female legislators, senior, officials & managers (% of total)	Female professional & technical workers (% of total)	Ratio of estimated female to male earned income
	Rank	*Value*				
Bangladesh	81	.379	15.1	23	12	.46

Source: Human Development Report, UNDP (2014)

Gender Inequality Index (GII):

In GII the HDI rank of Bangladesh was 142 out of 187 countries. In the year 2005 the value was 0.587. After 5years at 2010 index value falls down to 0.539 and in 2013 this value decreases to 0.529. IN 2014 rank of Bangladesh was 111 and the value was 0.503.Moreover, only 20 percent of the parliamentary seats were held by women and 34.1 percent of adult women had enrolled to secondary level of education, where as the male enrollment is 41.3 percent .170 women dies due to pregnancy related issues and lack of proper knowledge and inaccessibility to health care in every 100,000 live births. Adolescent birth rate is only 80.6 births per 1,000 women between the age of 15-

19, which is indeed a grim scenario. And last but not the least, labor force participation rate has a significant gap between gender, where the male participation rate is 84.1 percent but female participation rate is only 57.4 percent . One of the main causes of such wide gap is that women's contribution as family labor and in unpaid works are not counted here.

Table: Gender Inequality Index of Bangladesh (2014)

Country	G II value	G II Rank	Maternal mortality rate	Adolescent birth rate	Female seats in the parliament (%)	Population with at least some secondary education (%)		Labor force participation rate (%)	
						Female	*Male*	*Female*	*Male*
Bangladesh	.503	111	170	80.6	20	34.1	41.3	57.4	84.1

Source: Human Development Report, UNDP (2014)

The Global Gender Gap Index (GGGI):

The Global Gender Gap Index's countries scores can be interpreted as the percentage of the inequality between women and men that has been closed. The indicator's score is in percentage which indicates of the equality between women and men that has been closed and it ranks countries according to their gender gap. The highest score can be 1 and the lowest score can be 0. Started from the rank of 91 in 2006, Bangladesh has achieved 68th rank among 142 countries in 2014.Although Bangladesh has lowered the ranking for the factors: economic participation, educational attainment and health and survival, it has significantly increased the ranking for political empowerment. In 2006, Bangladesh was in 17th position but in 2014, it attained 10th position, which is considered remarkable.

Table: Global Gender Gap Index of Bangladesh (2014)

Country	Overall		Economic Participation		Educational Attainment		Health & Survival		Political Empowerment	
	Rank	*Score*	*Rank*	*Score*	*Rank*	*Score*	*Rank*	*Score*	*Rank*	*Score*
Bangladesh (2014)	68	.697	127	.477	111	.940	122	.966	10	.406
	91	.627	107	.423	95	.868	113	.950	17	.267

(Source: Global Gender Report, 2014)

Chapter 5: Methodology

Devising The Survey:

For the purpose of this paper, I concentrated on surveying 20 households[9] . I needed households with minimum 1 set of both sexes to find the gender balance in the household. In order to do so, I chose purposive sampling to ensure the presence of both sexes in the household. These households are all male headed household[10] and income is denoted as the key factor to distinguish the households on the basis of income, they were further divided into 4 sub categories- low, middle, upper middle and upper income

[9] Haviland, W.A (2003) defined household unit consists of one or more people who live in the same dwelling and also share at meals or living accommodation, and may consist of a single family or some other grouping of people.

[10] Male members are referred as the authority to make decisions regarding household or any member.

group based on the standard of living in Dhaka city. As the pattern of household's decision, controls, perception and acknowledgement of social norms for male and female varies significantly for different income groups, to analyze them all in one category would generate errors and the gender dimension would not be reflected properly. For such issues, purposive sampling was considered to be convenient and appropriate here, as such, 5 household per income group were surveyed.

As the surveys were filled up by the respondents, I acknowledge the possibility of non sampling errors such as: potential of biasness, wrong reporting and unwilling to answer, especially for the factors such as: entitlement, family planning, violence and decision making. Moreover, the issue of domestic violence often referred to women as the victim in a household, however, men also suffer various form of domestic violence and they do not want to acknowledge that they might suffer or has the potential to suffer from it. For the factor ability of representation and communicate on community level, some households prefer representation over individual participation, which raised issues such as: biasness, asymmetric and variation in availability of information.

Questionnaire Designing:

The questionnaire was designed in a semi structured manner with both subjective and objective questions. The issue of gender balance would not be properly visible with quantitative variables alone, a mix of qualitative and quantitative is necessary. All the surveys were conducted by visiting every household at their convenient hours and for the limited time; households living in urban areas are surveyed only. In order to eliminate the possibility of misinterpretation and offending individuals, the lower income groups and few households with conservative approaches, were interviewed the questionnaire.

A questionnaire was constructed with both close and open ended questions that would help me determine the factors which vary based on the member's sex and which could hinder achieving basic rights. The questionnaire contains questions on several criteria, a list of them are given below:

a) Current age, age when he/she was married, age when he/she had her child, age of the children.
b) Income level and control over income.
c) Educational attainment
d) Working status
e) Health
f) Persona Care
g) Food consumption
h) Entitlement
i) Access to financial services
j) Decision making
k) Family Planning
l) Violence
m) Voice

- Status of their sex in the household
- Perception about the gender balance

Constructing the Gender Balance Index:

For the analysis of quantitative data Principal Component Analysis (PCA), a statistical procedure for the usage of an orthogonal transformation to convert a set of observations which may or may not have correlated variables in a set of values of linearly uncorrelated variable called the principal components, is used. PCA also has equal or less number of variables comparing to the original variables, in this case, the variables used in PCA is equal to the original variables. However, principal component analysis tends to be sensitive regarding the issue of relative scaling of the original variables.

Introduced by Karl Pearson in 1901 and further developed by Harold Hotelling in 1930 independently, PCA reflects the variance among the set of original variables. Each of the components is a linear weighted combination of the initial variables. If the data set is properly standardized, weights are given by the eigenvectors of the correlation matrix or the covariance matrix. The variance for each principal component is represented by the Eigen value of the corresponding eigenvector. The components are ranked in first, second and third component, where the first component is for the largest possible amount of variation in the original variables. The second component is for the maximum variation. This was not included for the first component and the second component is uncorrelated with the first component and so on. To serve the purpose of the paper, second component was used as weights for the variables as it generated a more sensible result. As gender inequality deals with a number of non linear relationships, aggregation and standardization, PCA is opt for the analysis.

Variable Selection:

In order to asses gender balance, a few fixed criteria need to be identified for analysis. These variables should have a strong affect in maintaining household gender balance and these should not differ significantly for various socio-economic, demographic and cultural differences, although the differences may assign different weights, but these variables should reflect a holistic gender status of a household, regardless of the how these households or the society they live in is classified. Among others, the variables used to build up the index are given below:

a) Age when she was married
b) Age when she had her first child
c) Educational level
d) Working Status
e) Income Differential between male and female members
f) Land ownership
g) Control of decision regarding contraception

Formulation Of The Index:

Using the weight derived from PCA, the index is constructed by putting on weights of the corresponding variables and sums them up. The formula is given below:

GBI= (Wage1 X Age1) + (Wage2 X Age2) + (W earning X Earning) + (W Income X Income) + (W Education X Education)+ (W Land X Land) + (W Contraception X Contraception)

Here,

Age1 = Age when the female was married
Age2= Age when she had her first child
Earning=If the female is earning or not
If she is earning, then earning= 1
If she is not earning, then earning= 0
Income= Income differential between two sexes
Education= Level of education
Land= If the female owns land or not
If she owns land, then land=1
If she does not own land, then land=0
Contraception= If her opinion is included in making decision regarding contraception
If she has control, then contraception = 1
If she has no control, then contraception= 0

Chapter 6: Findings

As the paper is based on semi-structured questions with both qualitative and quantitative variables, the finding is also divided into two components: 1. Construction of the gender balance index and the analysis of it. 2. The perspective of individual about the gender balance and the position of their sex in their household. Using the seven components (age when the female was married, age when she had her first child, earning, income differential, educational attainment, land ownership, control over contraception) gender balance index is developed. The income groups are denoted as: low (1), low- middle (2), middle (3) and high (4) for the ease of analysis.

Table 6.1: Total Variance Explained

Component	Initial Eigen values		
	Total	*% of Variance*	*Cumulative %*
1	3.380	48.283	48.283
2	1.630	23.283	71.566
3	1.024	14.634	86.199
4	.412	5.889	92.089
5	.265	3.792	95.881
6	.221	3.154	99.035
7	.068	.965	100.00

Table 6.1 indicates that the first principal component generated through PCA explains 48.283% of variance in the data. Recalling the Filmer and Pritchett (2001) analysis, which had only 26% variance which was accounted for principal component, a variance of 48.283% is acceptable.

Table 6.2: Kmo And Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.594
Barlett's Test of Sphericity Approx. Chi-Square	101.471
Df	28
Sig.	0.0

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of sphericity test indicates how large the partial correlations among the variables are and if there is any probability that the variables are correlated. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy's result varies from 0 to 1. In this case 0.594 is considerably strong variance. This condition for PCA is needed to be appropriate. For the Bartlett's Test of Sphericity test, which is based on Chi-square statistic and the result of p-value also contribute or PCA's appropriateness. For this analysis, the p-value generated 0.000 which means that variables are actually correlated and allowed me to proceed further.

Table 6.3: Component matrix

Component Matrix	Component
	2
Age 1	.669
Age 2	.693
Earning	.095
Income	-.334
Education	.017
Land	.680
Contraception	.344

Table 6.3 demonstrates the component matrix which indicates the correlation coefficient between variables and components. The result of components loading was a bit diverse; where age1, age 2 and land has values very close to 0.7 and others are not. Moreover, a negative value assigned for income represents the inverse relation between the variable and component. Lastly, these component loadings have been linearly transformed to generate component coefficients which in turn are the values used to compute weights for each of the variables to construct the gender balance indicator.

Table 6.4: Component Score Coefficient Matrix

Variable	Component
	2
Age 1	.410
Age 2	.425
Earning	.059
Income	-.205
Education	.011
Land	.418
Contraception	.211

Lastly, table 6.4 shows the component coefficient, which contains linear transformation of the component loading through division by the Eigen values. These values are used as weights to calculate gender balance index and this values ensure that the latter have zero mean and a standard deviation of one. Here, higher weights are assigned to the variables such as: age when 35 the female was married, age when she had her first child and land owner ship. This indicates that if a woman gets married at a younger age or becomes a mother early, she is prone to be treated more unequally than a woman who gets married later or give birth to a child later. These variables also indirectly imply that

early marriage and early motherhood tends to limit the opportunity and access to resources. In Bangladesh, these are treated as one of the prime cause for drop out and unemployment rate among women. Ownership of land also has a significant value for assessing gender balance in a household. Land entitlement not only provides access and acknowledgement from institutions but also works as security and status especially in the developing countries. For such reasons, owning land provides a clear significance of women's position in the household. However, the astonishing part was education received lower weights than expected. Education is considered as a crucial factor for empowerment and equality, but for this sample it derived a lower value comparing to other variables such as: land ownership and contraception's control. Another interesting point is that the income generated a negative value, yet the variable which calculates if a woman is earning or not, has a positive and moderate value. This implies the level of earning is given less importance compared to the fact if a woman is earning or not. It should be noted that we are only considering works that provides women with monetary wages; unpaid works are not taken into account.

Control over decision regarding contraception also affects the gender balance in the household. Such decisions are often triggered by pressure from in laws, cultural and societal norms and prejudice. Physical condition of a woman is sometimes considered as a sole factor or such decision, however, psychological condition are bypassed for this matter. Woman participating and in control of decision of contraception would result in a healthier option for mother and child, physically and mentally. Education and employment is a key factor for ensuring human development. If there are discriminatory approaches in the household, where there men are given privilege for educational attainment but females are discouraged, directly or indirectly, their potential would not realize and this will restrict themselves from accessing and utilizing their resources. Employment status doesn't not only provide benefits in terms of monetary returns, but also, employment opportunity provides a woman with the confidence and opportunity to make them contribute and acknowledge by the society.

Table 6.5: Gender balance Index and corresponding income group

No. of household	GBI	Income group
1	10.138	1
2	15.016	2
3	15.734	1
4	15.734	1
5	15.734	1
6	16.02	2
7	16.071	2
8	16.268	2
9	16.334	2
10	16.378	4
11	16.487	3
12	16.672	1
13	17.403	3
14	17.601	4
15	17.616	4
16	18.861	4
17	19.045	4
18	19.389	3
19	19.85	3
20	20.693	3

From the results of Gender Balance Index, we can see a clear pattern between the gender balance index and the income group. A household with female earning comparatively low is subjected to inequality more than the households where females are earning more. Income ability is transformed as a mean and power to establish and earn their rights in the household. Moreover, they tend to be more involved in the process of decision making which provides a healthier balance in the household.

Among the households with lower score, 25% belongs to the household with low or low-middle income. The later 50% of the household represents a mixture of low-middle, middle and higher income. Finally, 25% households scored high in the gender balance index is from high or middle income group. The lowest GBI is 10.138 which is from the low income group and the highest GBI is 20.693, which belongs to a household with middle income.

There is significant impact of age when a female was married and when she had her first child. In the sample, most of them were married in the age of 18-20 and had their child after 1 or 2 years. If a woman is married later, she is prone to complete her education and has a control over decision making in the household. On the other hand, households from low and high income group have more earning women compared to the households from low-middle and middle income group. There is a significant link between the income and education of a woman. Women from the lower income group have lower level of income. However, for middle and high income group the differences were not very prominent compared to the lower income as group as both these income group's female correspondents has more or less same level of education. For the land ownership and contraception decision, woman scored in general regardless of the income group. This shows a potential gender imbalance for entitlement and control over contraception.

Along with constructing the GBI, open ended questions indicated a positive approach toward gender balance in the household. Most of them supports the notion of gender balance on the humanitarian ground regardless their income level. Moreover, both members perceived their gender as a equal compared to the other sex. There were no significant restrictions or privileges for health, food consumption and personal care. However, educational attainment was lower for the females, and they indentified marital problems and family related issues as the prime reason for that. For the male members such issues were not relevant for stopping their education. Households with low and high income have more earning women, for the monetary incentive 38 and their satisfaction to work. Regarding decision making in the family, it was astonishing to find that very few women were considered while making financial decisions in the family, whereas decisions regarding the household activities are dominated by women. Another interesting point was, few men admitted to be a victim of domestic violence along with women. This implies that in order to restore balance between both sexes, we need to focus on male members as well as the female members. Male members would not admit to suffer or potential to suffer from domestic violence. If they do, they try to hide and avoid it, as it may hurt or question their position in the household. Dowry was observed in low income groups only, higher income groups denied to take or receive any forms of dowry.

Chapter 7: Conclusion

This paper tried to address on the gender related issues in a micro-level and how it varies for different level of income in the Dhaka city. Chapter 1 introduced the issue

and emphasized on the gender equality from the micro level. Conceptualizing the framework of the concept of gender was described in chapter 2, along with addressing few gender related issues. Chapter 3 contains a synopsis of the gender related indicators such as: GDI, GEM, GGI AND GGGI, with both explanation and limitation which provided the scope for originating a new index. The scenario of Bangladesh was described in chapter 4, along with an aggregated argument and results from various gender related indicators. This provided a foundation and necessity to create gender balance index for Bangladesh in the household level. Methodology used for this paper is outlined in the chapter 5, elaborating on the procedure of survey, questionnaire construction, limitations, and variables choose and how the whole index is formulated. In chapter 6, the results from PCA's various tests and index for 20 household in the urban areas of Dhaka were illustrated. The result of the index is in line with the argument I introduced in chapter 1 , that household from higher income group does in fact enjoy gender balance rather than the household with lower income.

The implication of the research lies in addressing the gender discrimination from the vey root level of a country: household. An aggregated indicator provides the generalization of the picture but to indentify the problem, analysis of the micro level could shed some light. Moreover, as the economy is a multidimensional, interrelated and complex, analysis of a household level is a ground work. Moreover, government and non- government are now using gender lens for various policy promotion and project initiation. The possibility for success of such initiation also lies in the condition if the household has a gender balance or not.

For future direction of this research, diversity in demographic and geographical location, with a larger sample and further investigating how the gender imbalance is occurring and how it is evolving in the context of rural and urban establishment. Moreover, to comprehend gender issues in a wholesome manner, other institutions for education, employment, law enforcement etc and their development must be included to provide a broader yet distinct analysis. As gender issues varies significantly for cultural, religious and socio-economic aspect, observing their behavioral 40 changes and patterns for a longer time period would generate more insight to address this issues and shorten the gender gaps on aggregate level.

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INFLUENCE OF MOISTURE ON THE PROPERTIES OF TRANSFORMER OIL

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***Abstract**: Transformer failure might cause by several conditions such as an overload, short-circuit, corrosive sulphur, cooling system problem and insulation failure. Many reported articles have stated that insulation failure is the most pronounced effect towards the transformer failure. Three major factors that promote the insulation failure especially in transformer oil are moisture, temperature and oxidation. Based on that, this research is applied with the purpose to study the influence of moisture towards the transformer oil properties and chemical structure. The AC breakdown strength, viscosity and chemical substance analysis are applied in this study by using Meggar Oil Test Set 60 kV, Viscotester and Fourier Transform Infrared Spectrometer (FTIR), respectively. The results indicate that moisture (in millilitres) which applied to the transformer oil gave an impact to its properties.*

***Keywords:** Transformer oil; Moisture; AC Breakdown voltage; Viscosity; FTIR*

Introduction

The purpose of this research is to study electrical and chemical properties of power transformer oil. The main point is to understand the basic of transformer function and its liquid dielectric. The transformer is a device in static condition. It transforms electrical energy from one circuit to another circuit and maintains the same frequency which is 50 Hertz (Hz) in Malaysia. Besides that, the transformer has become important in the power system for voltage level conversion and maintaining the power flow. The transformer may step up or step down the voltage level depends on its needed. In manufacturing field, the transformer needs a lot of constructional parts. Basically, there are three main parts of transformer which is a primary winding, a secondary winding and a magnetic core. Transformer failure might cause by several conditions such as an overload condition. There is a statistic of transformer failures in the United State of America (USA) from 1997 to 2001. The most caused were by an insulation problem [1]. Insulation system is one of many reason plays in the transformer life. These three parts of the transformer are insulating and cooling by solid dielectric and liquid dielectrics. Solid dielectric, usually made of pressboard, wood and unbleached softwood pulp. The widely used known as “Kraft Paper”, made of unbleached softwood pulp and flow into sulfate process. Liquid dielectric is important due to its dual purposes as heat condition and insulation to high voltage system. In this case, liquid dielectrics refer to petroleum-based mineral oils. Figure 1 shows the statistics of the percentage and the cause of transformer failure in the United States

of America in year 1997 until year 2001. Insulation problem present the highest number of percentages and show the highest cost of transformer failure. Insulation system is one of the issue plays in the transformer life. Its function is to insulate and cooling the transformer. Same as other high voltage system, transformer also needs an insulating material to prevent heat problems. Insulating material is divided by two which is the solid and the liquid dielectric. Solid dielectric usually made of pressboard, wood and unbleached softwood pulp, but the widely used known as "Kraft Paper" has made of unbleached softwood pulp and flow into sulfate process [4]. The main issue in this research is to examine the characteristics of the particular substance oil and the relationship between their characteristics of transformer oil and their causes of failure in three aspects which is in electrical, chemical and physical aspect. Meantime, this research is limited on specific standard and guideline of each analysis to ensure the reliability of the outcome result from the experiment. The experiment will focus on new transformer oil with different moisture content and temperature.

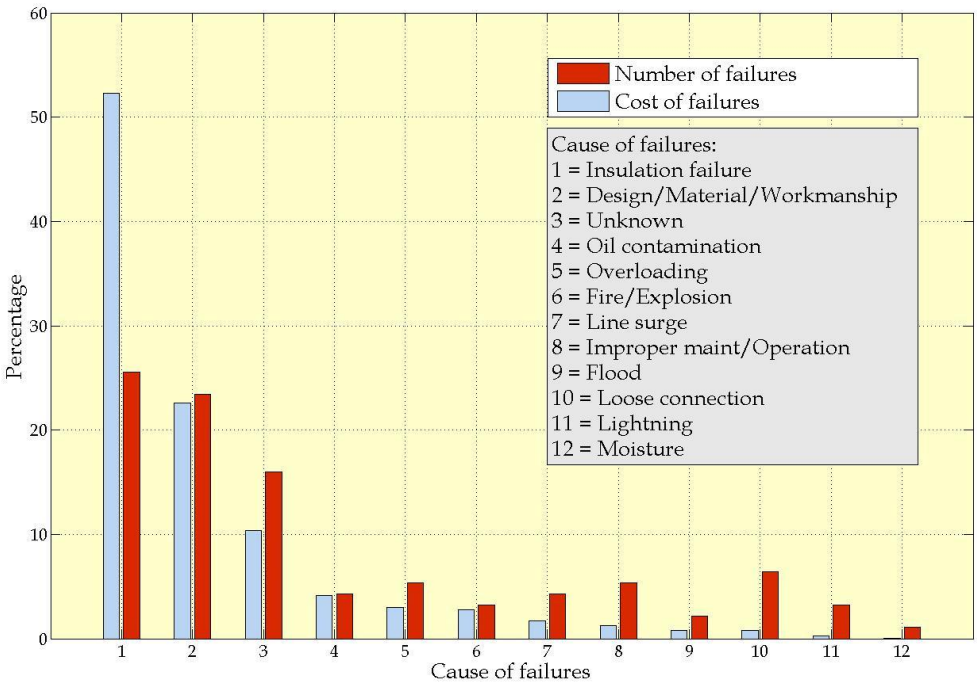

Figure 1: Percentage And Cause Of Transformer Failure In USA (1997-2001) [1]

Review on Liquid Dielectric and Properties

Liquid dielectric is a dielectric under liquid state. Liquid dielectric is to prevent electric discharge, a good liquid dielectric has high dielectric strength, able to prevent breakdown when in electrical stress, cool the windings, non-flammable nature, chemical stability and good heat transfer properties [4]. The electric capacitances per unit of volume determined by dielectric constant and depend on the operating temperature of the liquid and frequency or structure of its constituent molecules. Even solid insulators are important to electrical industry, but liquid insulators are contained in many electrical parts or products. Transformer, circuit breakers, capacitors and cables are major devices that utilize liquid dielectric. The liquid dielectric has properties that need to determine whether it's a good liquid dielectric or not. Liquid dielectric is important because of its dual purposes as heat condition and insulation to high voltage system. In this research, liquid dielectrics refer to petroleum-based mineral oils. Several properties need to count on consideration to analyze a good liquid dielectric. The properties are electrical properties, chemical properties and physical properties. The electrical properties are focused on

breakdown voltage, dielectric dissipation factor and specific resistance [4]. The chemical properties of good liquid dielectric are focused on its acidity, sludge content and water content. Meanwhile, liquid dielectrics for physical properties are focused on pour point, viscosity, conductivity and flash point.

The distillations of a petroleum crude stock produce a fraction of the hydrocarbons and will produce transformer oil by refining. The collected fraction boiling range and refining degree of process was set up early. The characteristic of resulting oils has fallen within limits and suitable to use in transformers. Many international refining companies made the transformer oils by using particular crude oils. The physical, chemical and electrical properties produced to some degree to assure the properties follow the standard and acceptable for use in specific apparatus. The result that has been measured for each characteristic are compared with specific standard that have been agreed by manufacturer and refiners of oils [5]. In a transformer, the amount of oils contained with several of load that the transformer carrying capability and its physical size. For example, the distribution transformer rated 25kVA and contains around 20 gallons of insulating oils.

Next, viscosity of oil is very important for heat transfer by natural convection and as principal parameter in design calculations. While the transformer is in operation, the transformer oils are in electrical and mechanical stresses. Interactions of chemical and winding can cause contamination and speeds up a chemical reaction by high operating temperature and make the changes of original chemical properties [5]. Its electrical and chemical properties periodically tested, to know whether it is suitable to use or not. In this research, breakdown voltage or flashover point will be determined as electrical properties. While the contaminant, molecular and substance group will be examined as chemical properties. The chemical substances of transformer oil are also the important part. The insulating oils consist of mixtures of many hydrocarbon compounds, the different hydrocarbons which come from different sources. However, characteristic of chemical substances reflects the behavior of hydrocarbon broad classes. The hydrocarbon compounds of insulating oils are categorized in three classes which are naphthenes, aromatic hydrocarbons and alkanes. The chemical formula of transformer oils is $C_{12}H_{10-x}CI_x$, where $_x$ = 1-10 (poly chlorinated bi phenyl) [7].

In this research, the behavior of dielectric strength, viscosity and chemical substance against moisture have been analyzed. Dielectric strength or breakdown voltage is a minimum voltage that caused a portion in insulator and it becomes conductor [6]. It happened when the insulating oil reached the time of spark between electrodes. Condition of molecular properties and atomic insulating oils may cause the breakdown voltage, but in high voltage breakdown test, material of the electrodes, moisture, temperature and gas content might cause the breakdown voltage reading increase or decrease [6]. 30 kV is a standard minimum breakdown voltage of transformer oils [6]. The viscosity of oils is very important for heat transfer by natural convection and as principal parameter in design calculations. In nature, viscous liquids are semi fluid and free flowing cause offered some barrier. In order to transfer heat for proper cooling, transformer oils must be freely circulated and as the result, the low viscosity of oils is produced. It can easily flow and make the heat absorption process much faster than high viscosity. Fourier Transform Infrared Spectrometer (FTIR) has been used to analyze the chemical substance of transformer oils. FTIR is one of the most widely used analytical techniques. Moisture in transformer oils will give a big impact to its function to insulate. The best transformer oils should free from moisture. In terms of electrical properties, moisture can cause the value of breakdown voltage decrease. The moisture will break the molecular chain of oils [8]. In terms of chemical properties, the moisture will present as H_2O at 3600-3400 [1/cm] wavenumbers region of FTIR analysis and make its chain as conductor [8]. In viscosity, it is good to see its viscosity value decrease but in function, it means nothing else except failure.

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Methodology

The project methodology and project planning show in Figure 2 in order to review the details about the process of this research. As the function of methodology, the flow chart describes the project at all stages and also are the guidelines about the project planning. Three properties have been determined to analyze and study the characteristic which are the electrical, physical and chemical properties of insulating oil. Each property has the criteria that fulfill a good insulating liquid characteristic [10]. Electrical properties have been analyzing the breakdown voltage of the liquid when reached the spark between electrodes. The physical property is analyzed by the viscosity of liquid. Lastly, the chemical property is through analyzing the chemical substances.

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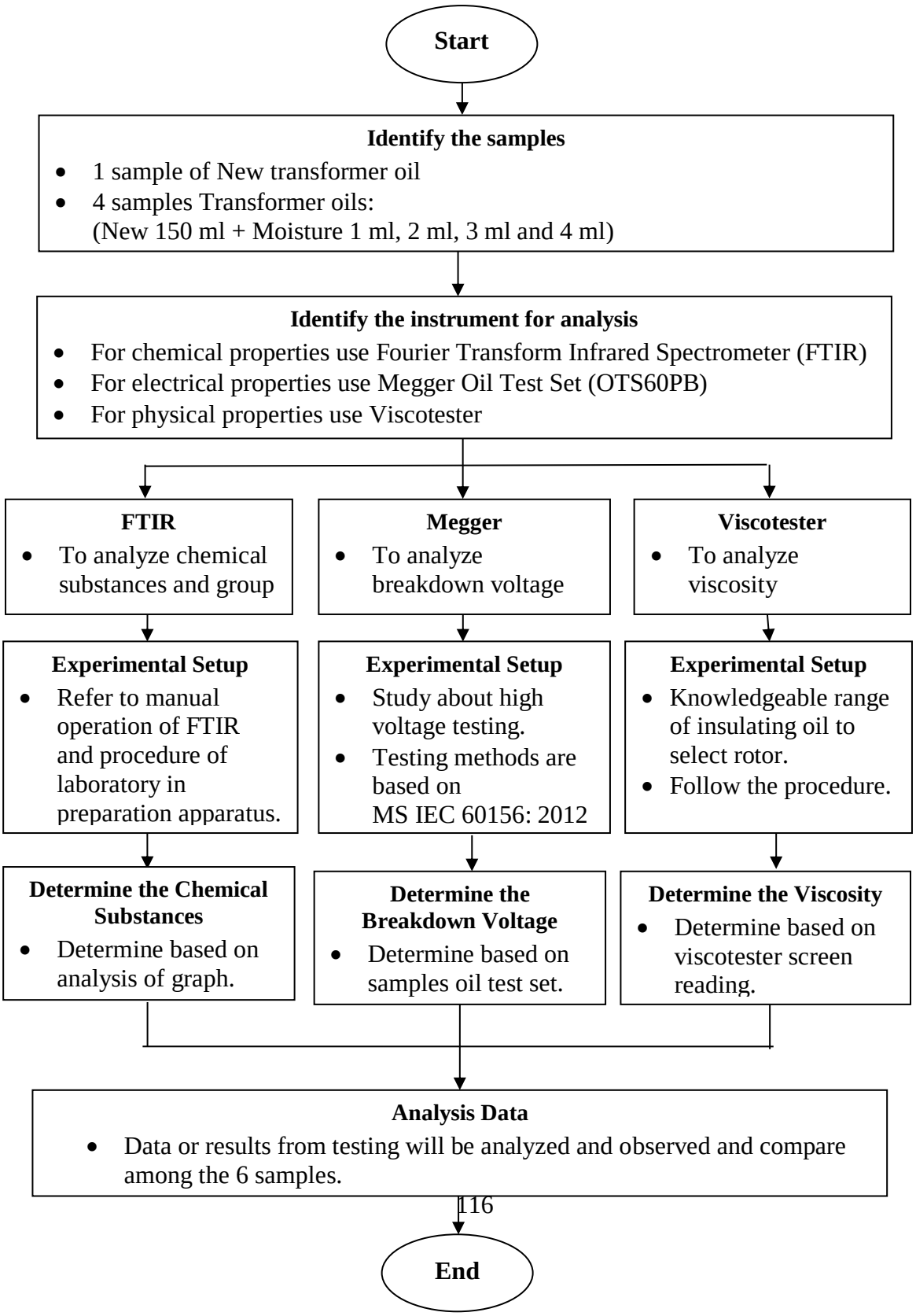

Figure 2: Flow Chart of Project Methodology

Results and Discussion

Three analyses have been done to determine three properties of the Petroleum-based mineral oils which are electrical (breakdown voltage), chemical (Chemical Substances) and physical properties (Viscosity) with different moisture and temperature according to standard test method. Each of the liquid dielectric properties will be tested for different moisture and temperature with different analysis, the recorded result are further discussed. Significant of the analysis is to analyze the characteristic, particular substance oil and the relationship between this characteristic of transformer oil in three properties with the cause of the failure. This is due to transformer function as heat transfer fluid and electrical insulation for a transformer.

Oil Breakdown Voltage Results due to Moisture Effect

The breakdown voltage testing of new transformer insulating oils with changing the moisture content can be seen in Table 1. The sample was set to 350 milliliter quantity of oils for each sample. The sample has been stirring up by using magnetic stirrer hot plate after adding moisture content (water) and filled up into Megger Oil Test Set (OTS60PB) test cell. All the obtained data and result from this experiment has been recorded and analyze. This experiment has taken six times of reading to get the average of values according to MS IEC 60156: 2012. New transformer insulating oils without adding moisture after six readings were taken, the average indicate 60kV. When 1 ml water was added, the average value recorded a decrease to 18kV which is failing the requirement of good transformer insulating oil break down voltage value and remain decrease to 14kV average value after 2 ml water was added. The readings of average value decrease to 10kV after 3 ml water was added and maintain after 4ml of water was added into the oils.

Table 1: Breakdown Voltage Results of Transformer oils due to Moisture Variation

Type of oil sample	Breakdown Voltage (kV)						
	1	2	3	4	5	6	Average
No moisture	60	60	60	60	60	60	60
1 ml	20	10	16	13	12	34	18
2 ml	11	11	15	14	11	19	14
3 ml	10	10	10	9	10	11	10
4 ml	9	10	10	12	9	9	10

Breakdown voltage occurs when the insulating oil reached the time of spark between electrodes. Condition of Molecular properties and atomic insulating oils caused the breakdown voltage. Megger Oil Test Set is fully automatic whether to implement the standard or reading data. This testing will follow MS IEC 60156: 2012. It is expected that new transformer oils have the highest breakdown voltage value than breakdown transformer oils because of the samples still unused and clean from any contaminant. Based on the results stated in Table 1, the additional of 1 ml of water which is equal to 2000 ppm decreases the breakdown voltage of the

oil with differences up to 42kV. This is due to the moisture delivers charge carriers and made the dielectric strength decrease. After that, the additional of 2 ml until 4 ml of water into the transformer oils gave impact to the breakdown voltage results into 10kV and 14kV. The results compromise with the theory of breakdown in insulating oil (bubble theory), which is the breakdown voltage, will decrease when the moisture is increased.

Oil Viscosity Results due to Moisture Effect

The viscosity testing of new transformer insulating oils with the changing in moisture content can be seen in Table 2. The sample was set to 350 milliliter quantity of oils for each sample. All the data obtained from the experiment by using viscotester on moisture control condition. First step is the sample has been stirred up using magnetic stirrer hot plate after adding moisture content (water). This experiment takes three times of reading to get the average value. New transformer insulating oils without adding moisture after three readings were taken, the average indicate 0.15 dPas. When 1 ml water was added, the average of three times reading recorded was 0.15 dPas of oils viscosity value and remain the same average value after 2 ml water were added. However, the readings of average value decrease to 0.14 dips after 3 ml and 4ml of water were added into the oils. In short, when the moisture is increased, the average viscosity reading is decreasing.

Table 2: Viscosity Results of Transformer oils due to Moisture Variation

Type of oil sample	**Viscosity (dPas)**			
	1	2	3	Average
No moisture	0.15	0.14	0.15	0.15
1 ml	0.15	0.15	0.15	0.15
2 ml	0.14	0.15	0.15	0.15
3 ml	0.14	0.13	0.15	0.14
4 ml	0.14	0.14	0.14	0.14

The viscosity of oils is important for heat transfer by natural convection and as principal parameter in design calculations. In order to transfer heat for perfect cooling, transformer oils must be freely circulated. The low viscosity of oils is a desirable parameter as it can easily flow and make the heat absorption process much faster than high viscosity. Viscosity of the oils at room temperature (22°C) has discosity 0.15 dPas. The viscosity of the oil sample at 1 ml and 2 ml are remaining the same. Even the water has very low viscosity that beyond the measuring range of the viscotester. Water or moisture may affect the viscosity of oil if the percentage of substances increase as the characteristic of oils is lead. This statement is proven due to the average value of adding 3 ml and 4 ml make the viscosity of the oils become lower.

Oil Chemical Substances Results due to Moisture Effect

Characteristic of chemical substances reflect the behavior of hydrocarbon broad classes. The hydrocarbon compounds of insulating oils are in three classes which are naphthenes, aromatic hydrocarbons and alkanes. The chemical formula of transformer insulating oils is $C_{12}H_{10-x}CI_x$, where $_x$ = 1-10 (poly chlorinated bi phenyl). The molecule reaction and behavior of acidity and moisture content against the temperature present in the Figure 3.

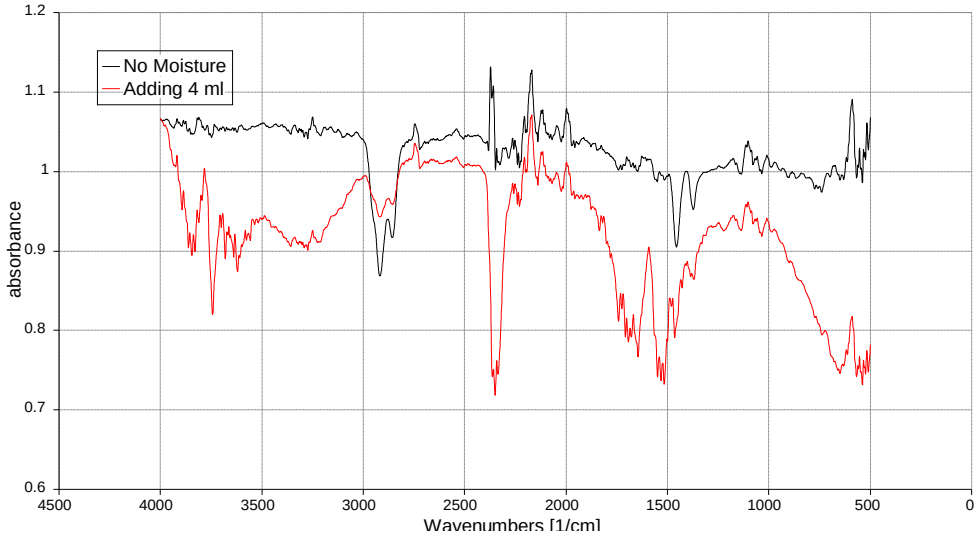

Figure 3: Comparison of Transformer Oils with and without water based on FTIR

Water or moisture is important contaminants to monitor in transformer insulating oils. Figure 3 shows the comparison of IR spectrum between new transformer insulating oils in non-moisture conditions and the added 4 ml of water. The water band near O-H stretching (3400 [1/cm]) can directly measure the concentration of water, the area of this band is linearly correlated to the concentration of water. By referring to the Figure 4 at 3600-3400 [1/cm] region, there are water vapor phase which is H_2O occured. Moisture presents in the oils lowers the dielectric strength because of the moisture will break the molecular chain of oils and make its chain as conductor.

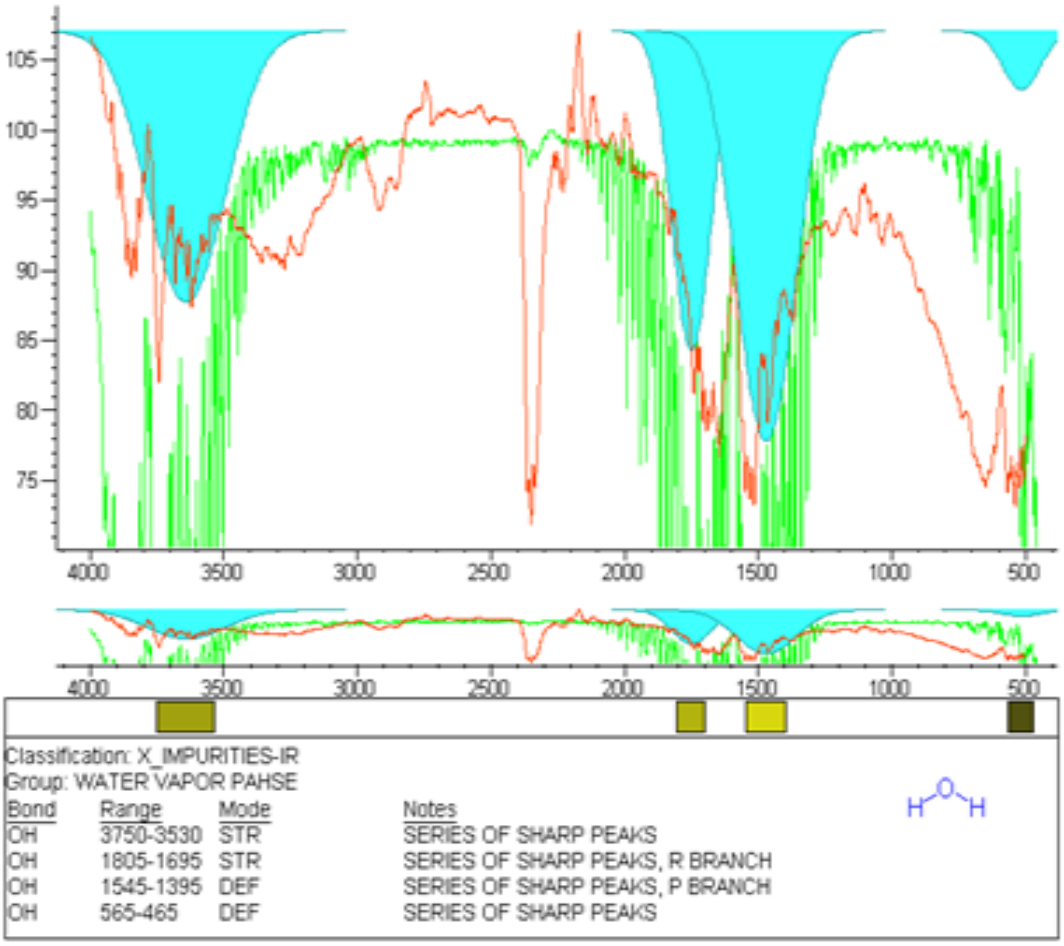

Figure 4: New Transformer Insulating Oils with additional of 4 ml of water (chemical substance analysis based on IR-analyze software)

Conclusion

Three properties have been carried out to determine the characteristic of a good liquid dielectric. The properties were the electrical, chemical and physical properties. Each of these properties has been through the experiment to determine and analyze causes of transformer failure in different water content conditions. Fourier Transform Infrared spectrometer is selected to analyze chemical substances in transformer oils. While, to determine the breakdown voltage of transformer oils, the Megger oil test set is being used and viscotester is used to analyze viscosity of transformer oils. The result of the chemical substances, breakdown voltage and viscosity analysis shows the moisture give an impact in insulating oil chemical substances. This is due to the decreasing of viscosity value and breakdown voltage with increment of water content. From the graph of chemical substances testing, its show that particles of moisture give an effect of the stability absorbance and wavenumbers. This is because of the moisture break the particle chain of oils.

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PENERIMAAN PELAJAR IPT DI MALAYSIA TERHADAP ONLINE EXAM DARI ASPEK PERSEMBAHAN

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Abstract : *Sistem pengujian dalam talian merupakan satu paradigma dalam dunia teknologi maklumat hari ini. Inovasi dan perkembangan teknologi yang berlaku dari semasa ke semasa menjadikan ianya mula mendapat perhatian dari semua pihak khususnya dalam bidang pendidikan. Kertas kerja ini bertujuan untuk mengenal pasti tahap ciri-ciri pengujian dalam peperiksaan atas talian dalam kalangan pelajar Institut Pendidikan Tinggi (IPT) dari aspek persembahan (antaramuka) sistem. Jumlah sampel kajian ini seramai 215 orang responden yang melibatkan pelajar daripada tujuh IPT yang telah menggunakan sistem peperiksaan atas talian ClassMaker. Dapatan kajian ini diperolehi dengan menggunakan kaedah tinjauan (survey) soal selidik sebagai instrumen kajian. Sebanyak 14 item telah dianalisis dengan menggunakan statistik deskriptif. Dapatan keseluruhan tahap ciri-ciri pengujian dalam peperiksaan atas talian mendapati aspek persembahan(antaramuka) berada pada tahap sederhana tinggi. Dapatan kajian menunjukkan bahawa ciri-ciri persembahan (antaramuka) pada kaedah pengujian dalam peperiksaan atas talian masih berada pada tahap yang perlu dipertingkatkan. Diharapkan kajian ini menjadi panduan dalam membantu pihak institusi-institusi pengajian tinggi dalam merancang dan melaksanakan peperiksaan atas talian dalam kursus-kursus yang ditawarkan.*

Keywords: Ujian Atas Talian, Online Exam, Penilaian Pendidikan, Antaramuka.

Pendahuluan

Internet adalah merupakan laman yang mengandungi pelbagai maklumat dalam bentuk teks, grafik, animasi audio dan video yang berdasarkan kepada citarasa dan kreativiti pembinaan laman web (Arif & Jasmy,2000). Mahidun (2007) pula menjelaskan WWW disifatkan sebagai tunjang utama teknologi internet masa kini yang membantu memudahkan pembekalan maklumat dan bahan kursus di dalam pendidikan, khususnya pendidikan jarak jauh, penyelidikan infrastruktur, penyebaran maklumat serta komunikasi elektronik dalam bentuk multimedia. Teknologi multimedia mempunyai potensi yang sangat meluas bagi meningkatkan mutu dan kecekapan proses pengajaran dan pembelajaran (P&P) (Noor Azliza, Lilia Halim, 2002). Perkembangan internet berlaku seperti cendawan yang tumbuh selepas hujan. Ia berkembang dengan pesat dengan adanya kemudahan yang banyak daripadanya. Laporan Global Internet 2014 menunjukkan bahawa jumlah pengguna internet telah menjadi 2,893,587,260 setakat 10 Mei 2014 (sumber:internetlivestats.com)

Dalam bidang pendidikan, internet banyak membantu menjadikan aktiviti pengajaran dan pembelajaran lebih seronok dan menghiburkan. Dengan adanya pembelajaran

menggunakan telefon pintar (Shuib, 2013), portal pembelajaran atas talian (Adnan, 2014) dan peperiksaan atas talian untuk pengajian jarak jauh (Borromeo, 2013) dan sebagainya. Ini menggambarkan bahawa penggunaan internet banyak menarik minat penyelidik untuk mengkaji lebih jauh lagi tentang keberkesannnya dalam bidang pendidikan.

Kajian yang kami lakukan pula melibatkan tentang keberkesanan kaedah pengujian atas talian yang dijalankan ke atas pelajar di peringkat pengajian tinggi di Malaysia. Kelebihan menjalankan peperiksaan atas talian lebih fleksibiliti dalam melaksanakan peperiksaan kepada pelajar dan ketepatan dalam aspek pemarkahan. Dengan menggunakan peperiksaan atas talian, pelajar tidak semestinya terikat dengan kekangan jadual pengajian yang padat dan sukar untk diubah pada saat – saat akhir. Secara khususnya, para pelajar boleh mengambil peperiksaan secara atas talian pada masa yang sama tetapi di lokasi yang berbeza mengikut pada keselesaan pelajar itu sendiri. Kelebihan penilaian formatif dalam peperiksaan atas talian ini membolehkan pelajar memperolehi maklum balas atau jawapan yang sebenar secara serta – merta selepas kesemua soalan dijawap oleh pelajar.

Namun begitu, dari segi kesahan mungkin masih ramai lagi yang ragu tentang keupayaan sistem ujian di atas talian ini. Lantaran itu kajian ini dibuat untuk mengkaji kebolehgunaan kaedah penilaian di atas talian bagi tujuan untuk membantu semua pihak di pusat-pusat pengajian tinggi untuk menilai keberkesanan pelajar dengan pengajaran yang diberikan.

Kajian Literasi

Sistem antaramuka merupakan satu elemen penting dalam setiap sistem kerana antaramuka merupakan satu elemen yang menjadi pengantara antara sistem dan pengguna supaya pengguna boleh memahami segala maklumat dan kehendak sistem yang sedang digunakan. Perkembangan dalam penyelidikan antaramuka semakin maju dan menuju ke arah aplikasi untuk menggantikan pendekatan tradisional yang masih menggunakan papan kekunci dan tetikus.

Dalam konteks e-pembelajaran, interaksi antara pengguna dan sistem adalah amatt penting, kerana ia secara langsung mempengaruhi proses pembelajaran dan pemahaman dalam untuk mencapai sesuatu maklumat dalam sistem. Interaksi antara pengguna dan sistem ini juga secaha tidak langsung berhubung dengan antaramuka dan sering dilihat oleh pengguna sebagai tidak mesra.

Manusia berinteraksi dengan sistem pengkomputeran melalui paparan antaramuka. Antaramuka ialah suatu paparan grafik (*GUI*) di atas skrin komputer yang membantu pengguna menginteperasi maklumat di atasnya untuk berkomunikasi dengan komputer (Preece, Rogers & Sharp, 2002 ; Alessi & Trollip, 2001). Sehubungan itu, dalam proses pembangunan aplikasi, kajian terhadap reka bentuk antaramuka pengguna adalah amat penting bagi memastikan keberkesanan maksimum aplikasi tersebut dalam membantu proses pengajaran dan pembelajaran. Secara umumnya, apabila menjalankan kajian terhadap keberkesanan antaramuka, fokus utama adalah melibatkan tiga komponen utama iaitu manusia, sistem komputer dan interaksi (Rees, White & White, 2001). Seseorang pembangun aplikasi komputer perlu memahami bahawa ketiga-tiga elemen ini memiliki kepentingan yang sama yang perlu diambil kira dalam mereka bentuk, melaksana dan menilai sesuatu antaramuka yang dibangunkan (Rees, White & White, 2001).

Ria Mae (2013), telah mendapatkan bentuk dan jenis soalan-soalan peperiksaan, teknologi demonstrasi modul Moodle Examination dalam Moodle telah dibangunkan dan pensyarah telah mencuba menggunakan modul Moodle Examination tersebut seterusnya membincangkan mengenai ciri-ciri yang mereka mahu untuk dilaksanakan dalam sistem

peperiksaan atas talian. Sistem peperiksaan atas talian amat berguna kepada para pelajar dan pensyarah. Pelajar tidak perlu untuk pergi ke tempat tertentu untuk mengambil peperiksaan mereka manakala sistem penggredan secara automatik yang ada dalam sistem peperiksaan atas talian membantu pensyarah memberi markah seterusnya mengeluarkan gred kepada pelajar mereka.

Adnan & Chin (2014) mengkaji faktor-faktor yang mempengaruhi pelajar-pelajar di institusi pengajian tinggi dalam menggunakan kemudahan internet dengan memuat turun bahan dari aspek isu ciplak dan hak cipta. Kajian melibatkan lebih 400 orang responden dari kalangan mahasiswa university di seluruh Malaysia. Hasil yang diperolehi menunjukkan bahawa aktiviti memuat turun berterusan berlaku walaupun bahawa ianya menyalahi akta hak cipta. Bahkan ada yang mengetahui kesalahan kerana bertentangan dengan prinsip dan nilai moral yang dipegang oleh responden berkenaan.

Kajian untuk menguji kepuasan siswa dalam kursus Sarjana Pentadbiran Perniagan terhadap penggunaan internet di kalangan pelajar sebagai alat sokongan belajar ke atas kaedah pengajaran tradisional telah dijalankan di Filipina. Dapatan kajian telah menunjukkan para pelajar berpuas hati terhadap peranan sistem pembelajaran atas talian sebagai satu alat sokongan untuk pengajaran dan pembelajaran yang sedia ada kerana ia membantu menambah ilmu pengetahuan mengenai bidang perniagaan, meninggikan kemahiran dalam bidang dan meninggikan prestasi pencapaian mereka (Chua & Montalbo, 2014). Secara keseluruhannya didapati penggunaan internet di kalangan responden berjaya membantu meningkatkan prestasi mereka secara keseluruhannya.

Pembelajaran secara atas talian memang telah menjadi perkara yang tidak asing lagi dalam dunia pendidikan hari ini. Ia telah menjadi telah menjadi unsur yang utama untuk mengubah corak pembelajaran tradisional kepada pembelajaran yang berintegrasikan teknologi supaya proses pembelajaran menjadi lebih menarik dan berkesan. Pembelajaran atas talian adalah satu perkara yang penting untuk mendorong kejayaan penggunaan dalam institusi-institusi pengajian tinggi pada hari ini (Yap, 2016). Dapatan kajian telah menunjukkan sistem pembelajaran atas talian merupakan satu alat yang boleh digunakan oleh para pendidik dan pelajar dalam proses pembelajaran dan pengajaran untuk meningkatkan pengetahuan pelajar.

Pernyataan Masalah

Ade et. Al(2015) menyatakan bahawa peperiksaan dengan cara konvensional memerlukan banyak kertas untuk digunakan. Disamping itu juga, pengskoran menggunakan kaedah yang sama memerlukan masa yang lama. Ini menjadikan satu bebanan tambahan kepada para pensyarah untuk mengendalikan peperiksaan dalam batasan masa yang ada.

Ria Mae H(2013), menyatakan bahawa kekurangan tempat peperiksaan meyebabkan peperiksaan sukar dilaksanakan memandangkan bilangan pelajar yang mendaftar di institut pengajian tinggi semakin meningkat. Keadaan ini akan menjadi semakin sukar untuk ujian pertengahan semester yang biasanya dilaksanakan oleh pensyarah tanpa melalui unit peperiksaan institusi pengajian tinggi tersebut. Di samping itu juga, masalah melaksanakan peperiksaan yang melibatkan jumlah pelajar yang ramai dengan jumlah ruang yang terhad. Ini akan menyebabkan sering berlakunya masalah pertindihan waktu peperiksaan sehingga boleh menyebabkan peperiksaan terpaksa ditangguhkan.

Dalam kajian yang dilakukan oleh Mohd Azizol, (2011), mendapati sesuatu teknologi baru yang diperkenalkan ke dalam sesebuah organisasi, seharusnya dijalankan kajian untuk mengetahui apakah manfaat yang diperolehi oleh organisasi itu. Untuk itu kajian ini memfokuskan kepada menilai kebolehgunaan sistem pengujian atas talian ke atas pelajar di institut pengajian tinggi di Malaysia.

Objektif Dan Metodologi Kajian

Objektif Kajian

Kajian ini dibuat adalah kerana berdasarkan objektif yang ingin di capai seperti berikut:

a) Mengenalpasti sistem peperiksaan atas talian yang lebih fleksibel dan mudah digunakan.
b) Menguji keberkesanan sistem peperiksaan atas talian dalam aspek pengukuran dan penilaian.
c) Menilai tahap penerimaan pelajar terhadap sistem yang dibangunkan.

Rekabentuk Kajian

Rekabentuk kajian yang digunakan bergantung kepada tujuan sesuatu kajian (Maxwell, 2005). Kajian ini menggunakan pendekatan kuantitatif yang dijalankan menggunakan kaedah tinjauan. Kaedah tinjauan didapati sesuai dalam pengurusan kajian ini kerana tinjauan yang hendak dilakukan memfokuskan kepada kebolehgunaan sistem pengujian atas talian dan berdasarkan soalan-soalan yang dikemukakan. Selain itu ia hanya melibatkan kerja-kerja pengumpulan data dan maklumat daripada responden yang terlibat sahaja.

Sasaran sampel kajian ini adalah melibatkan pelajar-pelajar pra siswazah dari bidang sains sosial dan sains gunaan. Sasaran adalah melibatkan 7 buah university awam dan swasta yang terdapat di Malaysia. Sampel yang terlibat adalah sebanyak 215 orang pelajar. Jumlah ini sudah mencukupi kerana mengikut jadual penentuan saiz sampel yang dikemukakan oleh Krejcie dan Morgan (1970), 215 sampel kajian sudah mencukupi untuk populasi seramai 100,000 ke 200,000 orang mewakili jumlah pelajar IPT Malaysia. Instrumen kajian yang digunakan adalah berbentuk soal selidik yang menggunakan data nominal. Kajian ini menggunakan persampelan rawak mudah.

Kajian rintis ini dijalankan mengambil kira dua bidang utama di dalam pengajian iaitu bidang sains gunaan dan sains sosial. Soal silidik yang telah dibina ini diberikan kepada tiga (3) orang panel pengesahan pakar daripada Universiti Kebangsaan Malaysia, Universiti Teknologi Malaysia dan Universiti Malaya.

Semua data tinjuan telah dianalisis menggunakan perisian Statistical Package Social Science (SPSS) for Windows versi 20. Ujian deskriptif digunakan untuk melaporkan peratusan dan frekuensi bagi setiap soalan soal selidik. Selain itu, data yang dikutip telah dianalisiskan dengan min dan median untuk mengetahui faktor yang memberikan pengaruh yang besar kepada kegiatan pelajar IPT memuat turun bahan digital. Di samping itu, ujian korelasi juga digunakan untuk melihat hubungan pembolehubah-pembolehubah kajian sama ada hubungan tersebut adalah signifikan atau sebaliknya.

Dapatan Kajian

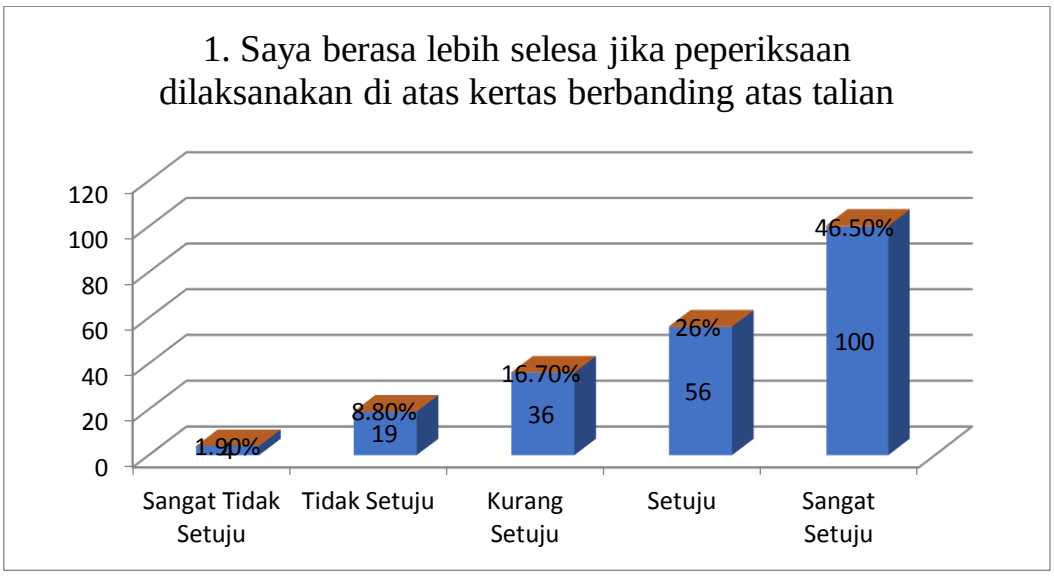
Jadual 1: Faktor penerimaan pelajar terhadap peperiksaan atas talian dari aspek navigasi

Bil	Item	Kekerapan & peratus (N=135)					Min	SP	INT
		Sangat Tidak Setuju	Tidak Setuju	Kurang Setuju	Setuju	Sangat Setuju			
1	Saya berasa lebih selesa jika peperiksaan dilaksanakan di atas kertas berbanding atas talian.	4 (1.9%)	19 (8.8%)	36 (16.7%)	56 (26%)	100 (46.5%)	4.065	1.075	T
2	Saya sukar untuk menumpukan perhatian kepada soalan apabila melakukan peperiksaan atas talian.	7 (3.3%)	16 (7.4%)	34 (15.8%)	86 (40%)	72 (33.5%)	3.93	1.041	ST
3	Saya suka melakukan peperiksaan menggunakan komputer kerana saya sudah biasa melakukannya di atas talian.	6 (2.8%)	34 (15.8%)	78 (36.3%)	46 (21.4%)	51 (23.7%)	3.474	1.101	ST
4	Peperiksaan atas talian adalah lebih mudah daripada ujian kertas peperiksaan.	3 1.40%	17 7.90%	57 26.50%	65 30.20%	73 34.00%	3.874	1.017	ST
5	Peperiksaan atas talian adalah mesra pengguna.	10 4.70%	17 7.90%	66 30.70%	64 29.80%	58 27.00%	3.665	1.098	ST
Min keseluruhan faktor keberkesanan							3.802	1.011	ST

Sumber: Kajian Lapangan, 2017

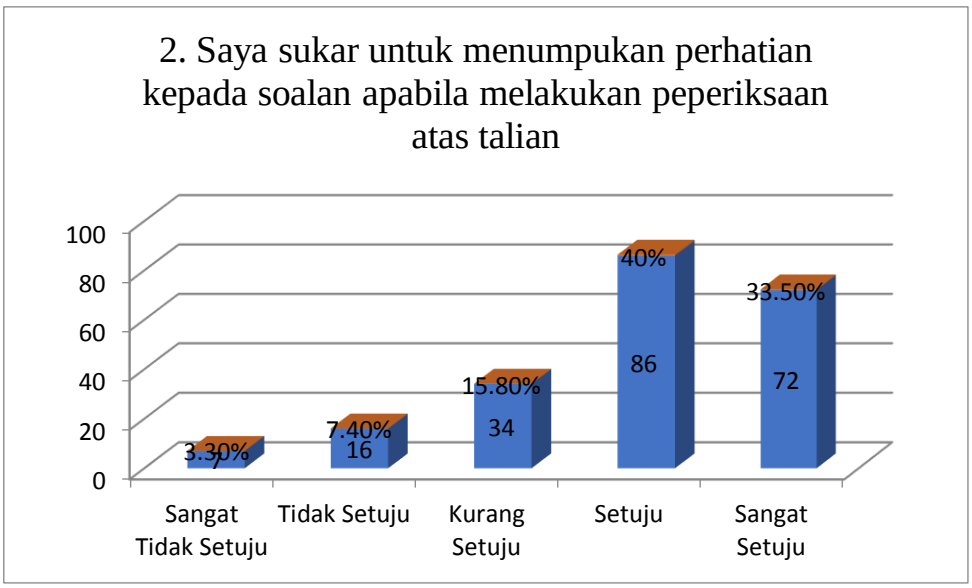
Jadual 1, adalah persoalan kajian berkaitan faktor penerimaan pelajar terhadap peperiksaan atas talian dari aspek navigasi. Berdasarkan dapatan kajian, didapati min keseluruhan dari aspek keberkesanan penggunaan peperiksaan atas talian berada pada tahap sederhana tinggi iaitu sebanyak 3.802. Item yang berkaitan yang ditanya kepada pelajar semuanya dalam penerimaan pelajar terhadap sistem ujian atas talian dari aspek navigasi selepas mereka menggunakan perisian ClassMarker. Setiap item di dalam Jadual 1 diperincikan lagi di dalam graf-graf berikut.

Rajah 1, adalah persoalan kajian berkaitan dengan aspek navigasi berkaitan sistem peperiksaan atas talian dari aspek perbandingan dengan ujian menggunakan kaedah tradisional. Hasil kajian mendapati min keseluruhan dari aspek navigasi peperiksaan atas talian berada pada tahap sederhana tinggi iaitu sebanyak 3.8016. Berdasarkan analisa yang dibuat, didapati pelajar berasa lebih selesa jika peperiksaan dilaksanakan di atas kertas berbanding di atas talian dengan mendapat peratusan tertinggi iaitu 46.5%, manakala 1.9% berpendapat peperiksaan atas talian lebih selesa berbanding di atas kertas. Pelajar juga cenderung kepada kaedah tradisional berbanding dengan kaedah atas talian.



Rajah 1: Perbandingan peperiksaan atas kertas dan atas talian

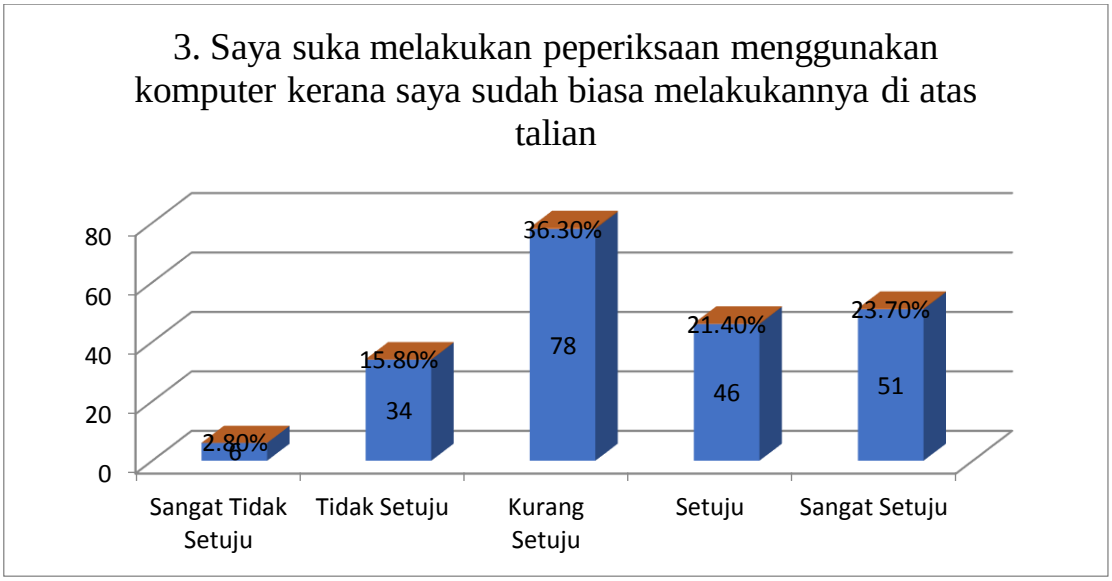
Berdasarkan kepada hasil dapatan pada Rajah 2 pula dilihat dari aspek persetujuan pelajar terhadap persoalan tentang kesukaran untuk memberikan tumpuan kepada soalan yang diajukan secara atas talian. Lebih 60% memberikan jawapan setuju dan sangat setuju dengan soalan tersebut. Manakala 10.7% memberikan jawapan kurang setuju dan sangat tidak setuju terhadap soalan tersebut. Kesimpulan yang dapat di ambil dari dapatan ini ialah kecenderungn pelajar untuk menggunakan peranti untuk membuat perkara lain adalah tinggi berbanding menggunakan sistem peperiksaan atas talian.



Rajah 2: Dapatan dari aspek tumpuan dengan menggunakan peperiksaan atas talian

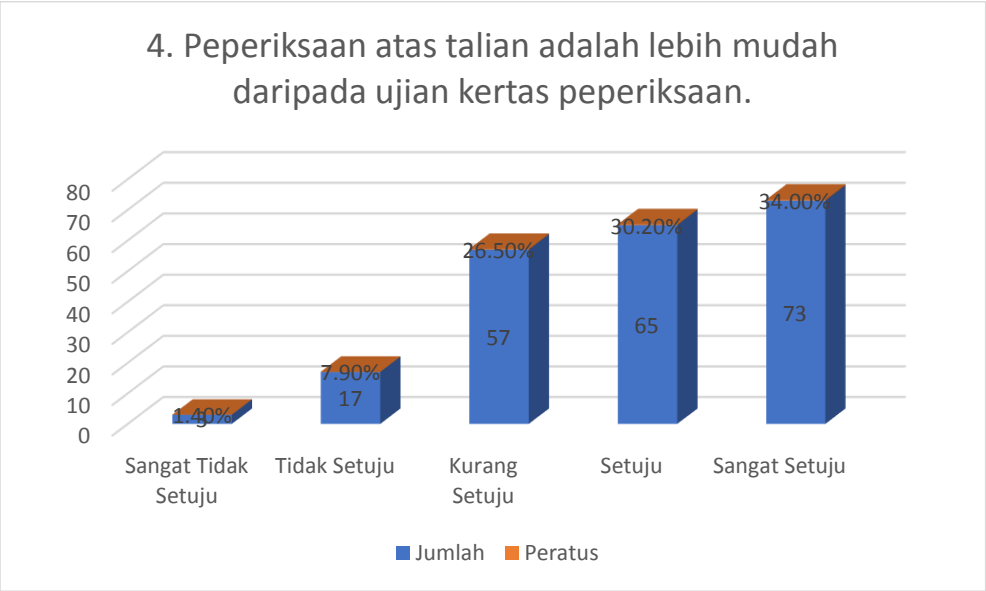
Rajah 3 pula, berdasarkan pada soalan kecenderungan untuk menggunakan aplikasi peperiksaan atas talian, didapati kebanyakan pelajar kurang bersetuju (54.9%) untuk melakukan peperiksaan secara atas talian. Manakala (45.1%) pula setuju dan sangat setuju untuk menggunakan aplikasi peperiksaan atas talian disebabkan mereka pernah mengambil peperiksaan atas talian sebelum ini. Secara keseluruhannya daripada dapatan kajian di atas

dapat disimpulkan bahawa pelajar berminat dengan peperiksaan di atas talian tetapi belum bersedia dari segi mental untuk menerimanya sebagai satu kaedah baru sebagai penilaian di dalam aktiviti pendidikan.



Rajah 3: Dapatan dari aspek kebiasaan pelajar dengan ujian atas talian

Rajah 4 adalah berkenaan item peperiksaan atas talian adalah lebih mudah daripada ujian kertas peperiksaan. Hasil kajian mendapati lebih 60% pelajar (30.2% + 34%) boleh menerima kaedah penilaian atas talian yang dijalankan berbanding hanya 9.3% (1.4% + 7.9%) yang tidak setuju dan sangat tidak setuju. Namun begitu jumlah pelajar yang kurang setuju juga agak tinggi iaitu sebanyak 26.5% atau seramai 57 orang pelajar. Ini dapat disimpulkan bahawa majoriti pelajar berminat menggunakan sistem peperiksaan atas talian tetapi jumlah yang tidak berminat juga adalah agak tinggi dan boleh memberikan kesan kepada kaedah yang digunakan di dalam pengajaran dan pembelajaran.



Rajah 4: Peperiksaan atas talian adalah lebih mudah daripada ujian kertas peperiksaan

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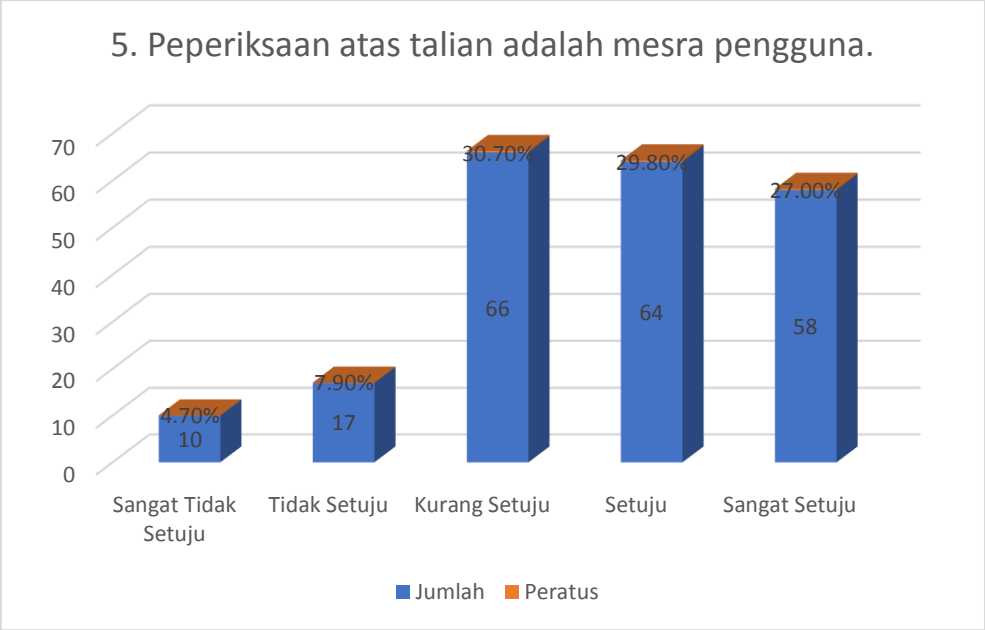
Item terakhir yang di nilai dari aspek navigasi ialah adakah peperiksaan atas talian mesra pengguna atau tidak. Hasil yang diperolehi boleh dirujuk pada Rajah 5. Majoriti pelajar, iaitu 66 orang atau 30.7% mengatakan kurang bersetuju berbanding 64 orang atau 29.8% yang mengatakan setuju. Namun begitu, jika dibandingkan antara jumlah yang setuju dan sangat setuju dengan yang kurang setuju, tidak setuju dan sangat tidak setuju, kita akan dapati majoriti pelajar menganggap bahawa sistem yang digunakan adalah mesra pengguna. Hasil perbandingan antara kedua-dua aspek ini ialah 56.8% (29.8% setuju + 27% sangat setuju) berbanding 43.3% (4.7% Sangat tidak setuju + 7.9% Tidak setuju + 30.7% kurang setuju).



Rajah 5: Peperiksaan atas talian adalah mesra pengguna

Perbincangan

Berdasarkan dapatan kajian yang dibuat, secara keseluruhannya dapat disimpulkan beberapa perkara berkaitan isu kesesuian navigasi terhadap kaedah peperiksaan yang dibuat secara atas talian untuk pelajar di institusi pengajian tinggi. Antara kesimpulannya ialah:

a) Pelajar mempunyai minat untuk menggunakan kemudahan kaedah peperiksaan atas talian. Namun begitu terdapat ruang yang perlu ditambah baik fungsinya pada sistem untuk menjadikan ianya lebih efisyen dan mudah digunakan oleh pelajar. Perubahan yang dibuat pada sistem perlulah lebih baik dari aspek mesra pengguna berbanding dengan apa yang telah ada pada hari ini. Ini kerana, walaupun sistem yang ada ini telah ada banyak ciri mesra penggunanya, namun masih belum mampu menarik minat pelajar untuk menggunakannya secara meluas.

b) Kaedah peperiksaan atas talian lebih mudah dan fleksibel untuk digunakan berbanding dengan kaedah tradisional yang digunakan pada hari ini. Namun begitu mentaliti pelajar belum berani untuk berubah kepada kaedah baru walaupun telah ada kesedaran dalam diri pelajar tentang kelebihan kaedah peperiksaan atas talian berbanding kaedah tradisional. Mereka masih belum bersedia untuk mengubah kaedah peperiksaan dengan menggunakan kertas berbanding peperiksaan yang dibuat secara atas talian.

c) Kebanyakan pelajar sudah biasa dengan sistem peperiksaan atas talian melalui teknologi internet dan kemudahan alat komunikasi yang canggih dan dekat dengan mereka. Namun begitu masih ramai juga pelajar yang tidak biasa menggunakan kaedah peperiksaan atas talian. Walaupun jumlahnya bukanlah banyak, tetapi ia tetap akan merencatkan perkembangan teknologi dalam pendidikan ini sekiranya tidak terdapat usaha untuk memberikan banyak pendedahan kepada para pelajar.

d) Secara keseluruhannya dapat disimpulkan bawah penerimaan pelajar terhadap kaedah penilaian atas talian adalah berada pada tahap sederhana tetapi lebih condong ke arah bersedia untuk menggunakan aplikasi penilaian pendidikan mereka dalam bentuk atas talian. Walaupun ada sebilangan pelajar yang tidak berminat dengan kaedah penilaian yang baru ini, namun bilangan yang tidak berminat itu adalah di peringkat pertengahan sahaja. Bilangan pelajar yang sangat tidak berminat pula hanyalah pada kadar yang terlalu minima untuk dianggap sebagai satu penolakan kepada kaedah penilaian yang baru ini.

Maka ianya boleh dianggap bahawa secara keseluruhannya kaedah penilaian dengan menggunakan aplikasi atas talian boleh diimplimentasikan di dalam sistem pendidikan moden hari ini khususnya untuk pengajian di peringkat institusi pengajian tinggi.

Batasan Dan Cadangan Kajian

Kejayaan penggunaan sistem maklumat bergantung kepada sejauh tahap kebolehgunaan sistem tersebut dari segi keberkesanannya dalam mengatasi masalah yang dihadapi oleh institusi yang menggunakan sistem ini. Kajian yang dilakukan ini adalah untuk mengenalpasti sejauh sistem ini sesuai digunakan dalam aktiviti pengajian dan pembelajaran di peringkat pengajian tinggi. Kumpulan sasaran penyelidikan ini adalah meliputi institut pengajian tinggi di Malaysia sahaja. Untuk mengkaji keberkesanan penggunaan sistem pengujian atas talian, kajian lanjut perlu dilaksanakan bagi melihat kesan penggunaannya ke atas pencapaian akademik pelajar.

Cadangan ini boleh diperluaskan lagi memfokuskan kajian kepada penggunaan telefon bimbit dalam penggunaan sistem ujian secara atas talian. Ini kerana penggunaan teknologi telefon pintar sama ada dengan menggunakan perisian sistem Android atau IOS berkembang sangat pesat pada hari ini. Kajian boleh di buat dengan menumpukan kepada aspek keselamatan, mesra pengguna atau keselesaan pengguna dengan sistem peperiksaan menggunakan telefon bimbit.

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RELATIONSHIP BETWEEN TYPES OF WORK MOTIVATION AND WORKER PROFILE IN UK HOSPITALITY WORKERS

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Abstract: *Objectives: The UK hospitality industry employs more than two million workers and accounts for 7% of the country's workforce. However, despite the number of people employed, work-related mental health issues are a cause for concern in this worker population. While our previous research in UK hospitality workers identified that work motivation was a predictor of mental health, the relationship between types of work motivation and worker profile (e.g. demography, work experience, position) has not been explored to date. This study aimed to i) identify the primary type of work motivation, and ii) explore relationships between worker profile and types of work motivation in UK hospitality workers.Methodology: 103 UK hospitality workers completed a worker profile questionnaire and work motivation measure. Descriptive statistics were yielded to compare each type of motivation, and correlation analyses were conducted between worker profile and motivation type.Findings:Levels of internal motivation were found to be significantly higher than external motivation. Male and longer time served in the industry were associated with amotivation, the lowest form of external motivation. A higher position in the organisation was associated with external regulation, the second lowest form of external motivation.Future research: Research evaluating the effectiveness of interventions to enhance intrinsic motivation, particularly among male experienced workers or managers/owners is warranted. Furthermore, male hospitality workers' high levels of external motivation may highlight the UK's strong masculine culture as described in Hofstede's cultural dimension theory. This echoes with our previous research finding that shame concerning mental health issues is a problem among UK hospitality workers. Cross-cultural comparisons of work motivation and mental health would be an important future direction to help place these findings in a global context.*

Keywords: *Internal Motivation; External Motivation; UK Hospitality Workers; Worker Profile*

Introduction

Mental Health Of UK Hospitality Workers

The UK hospitality industry offers food and accommodation services (Rook, 2011), and employs more than two million workers (7% of the total UK workforce). Relative to other areas of employment, workers in this industry suffer from poor mental health (Kotera, Adhikari & Van Gordon, 2017). Indeed, more than 70% of UK hospitality workers are emotionally exhausted from work, and almost half of the individuals included in this figure take absence due to mental health at some point in their career (Davis, 2015). The 'emotional labor'

(Hochschild, 1985) of working in hospitality arises from (i) remaining efficient yet having to provide quality customer service (Dann, 1990), (ii) maintaining a professional emotional display while sometimes dealing with thoughtless or rude behaviour on the part of customers (Harris & Reynolds, 2004), and working long and anti-social hours (Kotera et al., 2017). All of these factors increase the risk for depression and other occupational mental health issues (Constanti & Gibbs, 2005; Gilmour & Patten, 2007).

The problems that mentally distressed workers experience are diverse. In addition to creativity and productivity (Dunnagan, Peterson, & Haynes, 2001), work effectiveness can also suffer (Gilmour & Patten, 2007). Depression is known to inhibit work productivity leading to disability, absenteeism, and premature early retirement (Blackmore et al., 2007). Furthermore, a workplace with distressed workers can incur significant turnover (i.e., of employees) and financial costs to the organisation (International Labour Organization, 2010; Villanueva & Djurkovic, 2009). A high turnover is a serious problem in the UK hospitality industry where the average rate among bar staff is 180%, and more than 30% among managers (Badger & Lashley, 2000). Replacing one member of customer-facing staff costs approximately £1,000 or approximately £5,000 for replacing a hospitality manager (Lashley & Best, 2002).

Relationship Between Worker Profile And Mental Health

Studies demonstrate that worker profile is related to mental health problems (e.g., Jones & Bright, 2001; Lazarus & Folkman, 1984;). For example, female workers are more likely to report their stress-related health concerns, whereas men are more likely to report stressful situations (Lazarus & Folkman, 1984). Furthermore, women report more psychological distress than men (Jones & Bright, 2001) which might be due to them having relatively more demands in the home, and having less control over work processes compared to men (Dollard, 2001).

In addition to gender, the age of workers is also related to mental health (Jones & Bright, 2001). For example, Wall et al. (1997) showed that younger workers can be in better psychological health than older workers, and that middle-aged workers report lower levels of enthusiasm and contentment compared to younger and older workers (Wall et al., 1997). This may be explained by job strain; negative anxiety caused by high psychological demands with low decision scope (Kambayashi et al., 2013). A study specifically investigating this condition showed that older workers perceive greater job strain than younger workers (Vanagas & Axelsson, 2004).

Position in the organisation is also known to affect employee levels of mental health. More specifically, it is generally understood that workers in a higher position have more control over work, which can lead to greater capacity to moderate stress levels versus workers in a lower position (i.e., that have less control over work tasks and demands) (Burrow, 2000). This relationship can also be observed socio-economically; workers in lower socio-economic groups tend to have jobs with less control which can increase the risk of stress-related mental health problems (Bright, 2001; Dollard, 2001). However, mangers in certain roles, such as those in the hotel industry, have been identified as experiencing more stressors than lower-ranking hourly-paid employees (O'Neil & Davis, 2011). Thus, regardless of the correlational direction, it appears that the impact of one's position on mental health is salient.

Finally, working hours also are associated with mental health. For example, a study showed that people who work more than 50 hours per week report more stress than those who do not (O'Neil & Davis, 2011). This is consistent with findings from a large-scale (n=2187) longitudinal study conducted in Japan (Kuroda & Yamamoto, 2016). Furthermore, studies demonstrate that working excessively long hours increases the risk of mental illness and suicidal ideations (Bunting 2004; Gershuny 2000; Trades Union Council, 2015).

Significant Impact Of Motivation On Mental Health

Work motivation, the psychological force driving workers to engage in work-related activities (Pinder, 1998), has been researched in depth by organisational psychologists, because a highly-motivated workforce is deemed to be a key asset to organisations (Kanfer, Chen, & Pritchard, 2008). Likewise, low levels of work health and motivation are detrimental to organisations and cost £6 billion per year to the UK economy, equivalent to 0.4% of UK GDP in 2012 (Centre for Economics and Business Research, 2013).

One of the most prominent theories concerning work motivation is self-determination theory (SDT), which supports our natural proclivity to use psychological energy to create an integrated sense of self with social structure (Deci & Ryan, 1985). SDT categorises motivation into intrinsic motivation and extrinsic motivation. Intrinsic motivation underlies activities undertaken because they are inherently interesting and satisfying, whilst extrinsic motivation underlies activities undertaken for an instrumental reason such as money and/or status (Kotera et al., 2017). Ryan's model (1995) further categorises work motivation into six types, which in order of least autonomous and internalised to the most autonomous and internalised, are as follows:

1. Amotivation: where workers have no intention to be engaged in work.
2. External regulation: where workers do an activity only to obtain a reward (e.g., I work only because I get paid).
3. Introjected regulation: where workers are motivated by self-worth and related factors (e.g., I work because I want people to think of me in a certain way).
4. Identified regulation: where workers recognise the value of the activity, and perceive it as their own (e.g., I work because I understand that it is important to me).
5. Integrated regulation: where the value of the activity is part of a worker's identity (e.g., I work because it's part of who I am).
6. Intrinsic motivation: where worker find the task inherently enjoyable, challenging, and/or a means for their self-actualisation (Deci & Ryan, 2000; Kotera et al., 2017).

The three less autonomous and internalised forms of motivation (i.e., amotivation, external regulation and introjected regulation) are denoted as *controlled motivation*, while the three more autonomous and internalised forms of motivation (i.e. identified regulation, integrated regulation and intrinsic motivation) constitute *autonomous motivation* (Gagne & Forest, 2011).

Autonomous motivation relates to various positive organisational outcomes (Gagne & Forest, 2011) including high-engagement with information searching (Koestner & Losier, 2002), outcome attainment (Sheldon & Elliot, 1999), higher work productivity (Baard, Deci, & Ryan, 2004; Miller, 2002), well-being (Ilardi, Leone, Kasser, & Ryan, 1993), work-life satisfaction (Locke & Latham, 2004), and prosocial behaviour including volunteering (Gagne, 2003). Studies report that satisfying the three psychological needs of competence, autonomy, and relatedness coupled with a cooperative organisational culture can help to cultivate autonomous motivation (Deci & Ryan, 2000; Gagne & Deci, 2005). On the other hand, controlled motivation relates to negative consequences (Vallerand & Ratelle, 2002) such as burnout, as well as physical and mental health problems (Houkes, Jassen, de Jonge, & Bakker, 2003) such as depression (Blais, et al., 1993), turnover intentions (Quast & Kleinbeck, 1990), unplanned effort to achieve goals (Koestner, Losier, Vallerand & Carducci, 1996), unstable communication (Koestner & Losier, 2002), and limited performance for low attention and memory (Vallerand, 1997).

To date, the relationships between these types of work motivation and their impacts on mental health in the hospitality workers worldwide have not been thoroughly investigated (Kotera et al., 2017). However, in Northern Cyprus, autonomous motivation was positively related to job satisfaction and organisational attachment, and negatively related to emotional burnout among hotel workers (Karatepe & Uludag, 2007). Among Turkish hotel employees, autonomous motivation and job resources were also reported to reduce emotional burnout (Babakus, Yavas, & Karatepe, 2008). Additionally, a Nigerian study (Karatepe & Aleshinloye, 2009) reported autonomous motivation was positively related to work performance, and negatively related to burnout, emotional incongruence and turnover intentions.

Prior studies have observed that some hospitality workers experience challenges relating to work motivation (Martin, Mactaggart, & Bowden, 2006) and that there exists a significant relationship between work motivation and job performance (Jayaveera, 2015) in UK hospitality workers. Furthermore, our previous research identified that work motivation was significantly related to, and a significant predictor of, mental health problems (Kotera et al., 2017). However, to date, no study has investigated the relationship between types of work motivation and worker profile in UK hospitality workers.

Objectives

|Given the aforementioned gap in understanding the relationship between work motivation and worker profile in UK hospitality workers, this study aimed to i) identify the primary type of work motivation in a sample of UK hospitality workers, and ii) explore relationships between worker profile and types of work motivation in the same population group.

Methodology

Participants

UK hospitality workers were recruited using the authors' professional networks. A total of 116 workers agreed to participate of which 103 (47 male, 56 female) completed the worker profile questionnaire and motivation measure. Participants were included in the study if they were aged 18 years or older and had been working for at least for one year in the UK hospitality industry. Due to the prevalence of part-time work in the UK hospitality industry (People 1st, 2013b), both full-time and part-time workers were included (55 full-time, 48 part-time). The age range of participants was 18-55 years (M=28.2, SD=8.6) with 40% working in a hotel, 36% in a restaurant, and the remaining 24% in other hospitality outlets. The average number of hours worked each week was 46.4 hours for full-time workers (SD=8.3) and 20.7 hours for part-time workers (SD=6.9). In terms of length of service, 39% of participants had been working in hospitality for more than five years, 33% for two to five years, and the remaining 28% for less than two years. The same participants were also included in a parallel study by the same authors that focussed on mental health-related outcomes (Kotera et al., 2017).

Procedure

Ethical approval was obtained from the authors' University research ethics committee. After providing informed consent, participants were sent links to a worker profile questionnaire as well as the work motivation measure detailed below. Descriptive statistics were yielded, and levels of each type of work motivation were identified. Correlation analyses were then performed to investigate relationships between work motivation subscales and worker profile. All analyses were conducted using IBM SPSS version 24.0.

Measures

Worker Profile Questionnaire

The worker profile questionnaire was devised by the authors and elicited information relating to (i) gender, (ii) age, (iii) years of experience working in the hospitality industry, (iv) average weekly working hours, (v) work setting (e.g. restaurant, hotel), (vi) position in the organisation, and (vii) geographic location of work.

Work Extrinsic and Intrinsic Motivation Scale (WEIMS).
The 18-item Work Extrinsic and Intrinsic Motivation Scale (WEIMS) self-report instrument is based on SDT theory and assesses levels of different types of work motivation (Tremblay, Blanchard, Taylor, Pelletier, & Villeneuve, 2009). The 18 items comprise three questions for each of the following six forms of motivation: (i) amotivation, (ii) external regulation, (iii) introjected regulation, (iv) identified regulation, (v) integrated regulation, and (vi) intrinsic motivation. Each item is scored on a seven-point Likert scale (from 1 = 'Does not correspond at all' to 7 = 'Corresponds exactly'). All of the subscales have adequate Cronbach's alphas of between .64 and .83 (Tremblay et al., 2009).

Results

Descriptive Statistics and T-Test

Table 1 shows the descriptive statistics for worker profile and work motivation. Three scores in WEIMS were identified as outliers using the outlier labelling rule (Hoaglin & Iglewicz, 1987) (i.e., and were thus winsorised; Turkey, 1962).

Table 1: Descriptive statistics of UK hospitality workers' profile and work motivation (n=103)

	M	SD	Skewness	Kurtosis
Age	28.18	8.63	1.45	1.72
WE	5.93	5.56	2.02	5.28
WWH	34.81	14.61	0.12	-0.83
IM	17.38	2.86	-1.17	1.19
ITR	17.54	3.22	-1.44	2.00
IDR	17.06	2.93	-1.09	1.09
IJR	17.48	3.02	-1.25	1.48
ER	16.26	2.76	-0.59	0.03
AM	15.75	5.45	-1.24	0.31

WE = Work Experience (years); WWH = Weekly Working Hours; IM = Intrinsic Motivation; ITR = Integrated Regulation; IDR = Identified Regulation; IJR = Introjected Regulation; ER = External Regulation; AM = Amotivation

UK hospitality workers' integrated regulation (ITR) was the highest type of work motivation, while amotivation (AM) was the lowest. Overall, autonomous motivation (IM, ITR, and IDR) was higher than controlled motivation (IJR, ER, and AM). A total score for autonomous motivation and controlled motivation was calculated (i.e., by combining the relevant subscales) and a t-test was then conducted (Table 2).

Table 2: T-test for autonomous motivation and controlled motivation (n=103)

Autonomous motivation		Controlled motivation	
M	SD	M	SD

17.31*	2.64	16.47*	2.97

* There was significant difference between the two.

As shown in Table 2, UK hospitality workers' autonomous motivation was significantly higher than controlled motivation (P<.05).

Correlations

Kendall's tau-b correlations were used to examine relationships between work motivation and worker profile (Table 3).

Table 3: Correlations between worker profile and work motivation

	1	2	3	4	5	6	7	8	9	10	11
GN	.19*	.32**	.26**	.24*	.14	-.001	.02	.06	.10	.06	.26**
1. Age	-	.56**	.41**	.47**	.12	-.04	.03	.03	-.08	-.08	-.04
2. WE		-	.60**	.43**	.19*	.06	.13	.16*	.06	.03	.24**
3. WWH			-	.44**	.17*	.15*	.18*	.23**	.10	.03	.15*
4. Posi				-	.06	.08	.05	.02	-.05	-.16*	.06
5. PWC					-	.01	.02	-.02	.05	-.07	-.09
6. IM						-	.46**	.48**	.29**	.22**	.15*
7. ITR							-	.53**	.45**	.25**	.30**
8. IDR								-	.38**	.36**	.30**
9. IJR									-	.19*	.37**
10. ER										-	.19**
11. AM											-

*. Correlation is significant at the .05 level (2-tailed).

**. Correlation is significant at the.01 level (2-tailed).

WE = Work Experience (years); WWH = Weekly Working Hours; Posi = Position in the Organisation; PWC = Population of the Working City; IM = Intrinsic Motivation; ITR = Integrated Regulation; IDR = Identified Regulation; IJR = Introjected Regulation; ER = External Regulation; AM = Amotivation

There were significant correlations between worker profile and work motivation. These included a significantly association between (i) gender and amotivation, (ii) work experience and amotivation, (iii) weekly working hours and all three autonomous motivation measures, and (iv) position in the organisation and external regulation.

Discussion

This study evaluated the levels of different types of work motivation in UK hospitality workers, and then explored the relationship between worker profile and work motivation. The current sample of UK hospitality workers scored highest on integrated regulation, while amotivation was the lowest scoring of all the six types of work motivation. A t-test revealed that autonomous motivation was significantly higher than controlled motivation. This suggests that overall, UK hospitality workers are engaged in their services for internal satisfaction rather

than external rewards such as money and status. This may be related to the fact that many of the jobs in the hospitality industry are classified amongst the lowest paid occupations in the UK (Office for National Statistics, 2013; Wildes, 2005). Another potential explanation is that to be considered eligible for the study, the current sample of UK hospitality workers had to have more than one year of work experience. This is relevant because if an employee was highly motivated externally, s/he might not be committed to working for long periods of time on relatively low wages. In the future, it would be worthwhile to explore specifically what stimulates the internal motivation of UK hospitality workers whilst undertaking daily job activities. Qualitative studies are likely to be a useful means of exploring such a research question.

There are several implications associated with the mild correlations between gender and work motivation, particularly the fact that male workers tended to have higher levels of amotivation compared to female workers. Indeed, this appears to be supportive of the view that the UK has a masculine culture, as described by Hofstede and Minkov's (2010) cultural dimension theory (Kotera et al., 2017). Cultural dimension theory evaluates cultures according to six indices: i) power distance, ii) individualism versus collectivism, iii) uncertainty avoidance, iv) masculinity versus femininity, v) long-term orientation versus short-term orientation, and vi) indulgence versus restraint. A masculine culture values success, and people are ambitious and live in order to work, while a feminine culture values relationships and quality of life, and people are drawn toward doing what they love, rather than climbing up the socioeconomic ladder. In other words, people in a masculine culture are driven by external motivation, while people in a feminine culture are inspired by internal motivation. The outcome is relevant given that the UK's level of masculinity ranked 11th among 76 countries (Hofstede & Minkov, 2010). Future research could investigate the relationship between work motivation and masculine/feminine culture. For example, UK workers could be compared with Dutch workers, as the Netherlands has a similar culture and socio-economic status to the UK but with a much lower level of masculinity.

External motivation was significantly related to work experience and the position in the organisation. More specifically, the longer participants had worked in the hospitality industry, and the higher their position in the organisation, the more likely they were to have higher levels of external motivation. This gives rise to a concern in terms of the future health and development of the industry, as experienced managers/owners are the key players in terms of influencing the future direction of the industry. Accordingly, initiatives to improve employee levels of internal motivation are likely to be warranted, as high internal motivation is associated with health and work-related positive outcomes (Gagne & Forest, 2011; Ilardi et al., 1993). An example of such an initiative might be the Disney strategy, a Neuro-Linguistic Programming intervention (Dilts, 1998) deemed to enhance internal motivation by making use of active physical movements and exploring dreams and future plans (Kotera & Sheffield, 2017). This is different from psychological approaches such as cognitive behavioural therapy that arguably rely too heavily on clients applying logical thinking and verbalisation of their delicate feelings (National Health Services, 2016). By accessing the 'dreamer', 'realist', and 'spoiler' aspects of creativity, the Disney strategy could help identify what hospitality managers and owners want internally from their lives and career. Another example is the izakaya (Japanese pub) industry of Japan where it has become common to have a daily staff meeting where employees share their dreams and aspirations with each other (e.g., Teppen, 2012).

There were several limitations to the present study. In particular, participant recruitment was conducted via opportunity sampling, which compromises the generalisability of the study findings. Also, although this study identified the levels of each type of work motivation, what affects them has not yet been investigated. Future studies could investigate the factors that contribute to the different types of work motivation in UK hospitality workers.

Employees in the fast-growing UK hospitality industry suffer from high levels of psychological distress and mental illness. While other studies have investigated the relationship between mental health and work motivation, this is the first study to explore the relationship between work motivation and worker profile in UK hospitality workers. The study showed that internal motivation was higher than external motivation overall, and that external motivation was significantly correlated with gender, work experience, and position in the organisation. Initiatives focussing on augmenting internal motivation of male experienced manager/owners may be an effective step for improving levels of work motivation in the UK hospitality industry.

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PROJEK SMART e-FATIHAH: SATU INOVASI KE ARAH KESEMPURNAAN BACAAN AL-FATIHAH DALAM SOLAT

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Abstrak: *Seiring dengan kepesatan perkembangan teknologi maklumat dan komunikasi, proses pembelajaran juga memerlukan kaedah terkini yang berasaskan teknologi. Dalam dunia Islam, kemajuan teknologi ini seringkali dimanfaatkan bagi tujuan dakwah. Salah satu aktiviti dakwah yang boleh dilaksanakan menerusi teknologi ialah mengajar dan memperbaiki bacaan surah al-Fatihah. Dewasa kini, ramai daripada kalangan Muslim yang tidak tahu malah tidak dapat membaca al-Fatihah dengan baik sekaligus mencacatkan solat individu terbabit. Kepentingan al-Fatihah tidak dinafikan lagi sebagai rukun dalam solat dan tidak sah solat seseorang tanpa membaca al-Fatihah. Di samping itu, kesalahan yang jelas pula seperti berubah makna, huruf serta baris ayat juga boleh membatalkan solat. Justeru, tujuan kajian ini adalah untuk memperkenalkan dan membincangkan projek "Smart e-Fatihah" sebagai salah satu aplikasi yang membantu pengguna khususnya umat Islam untuk mempraktikkan bacaan al-Fatihah dengan betul dalam kehidupan seharian mereka terutama dalam ibadah solat. Kajian ini menggunakan kaedah kualitatif melalui instrumen pengumpulan data seperti terjemahan dan bacaan al-Quran oleh Qari yang terkenal di seluruh dunia seperti Syeikh Abdul Basit, Syeikh Abdul Rahman as-Sudais, Syeikh Mahmoud Khalil al-Hussary, Syeikh Saad al-Ghamidi, Syeikh Ayyub dan Syeikh Misyari Rasyid. Kajian ini memberi satu alternatif kepada guru agama dan masyarakat awam termasuk muallaf yang ingin mempelajari dan memperbaiki bacaan al-Fatihah dengan cara yang mudah dan interaktif tanpa memerlukan kos dan masa yang banyak. Kajian lanjutan boleh dijalankan bagi mengaplikasikan teknologi ini di dalam proses pengajaran dan pembelajaran di sekolah dan institusi pengajian tinggi.*

***Kata kunci**: Al-Fatihah, Inovasi, Solat*

Pendahuluan

Al-Quran merupakan mukjizat yang terbesar diturunkan kepada nabi Muhammad untuk disampaikan kepada umat manusia dengan perantaraan malaikat Jibril. Maksud dan tujuan penurunan al-Quran itu adalah untuk kebaikan dan kemaslahatan manusia itu sendiri baik untuk dunia mahupun akhirat. Allah swt berfirman di dalam surah Yunus maksudnya: "Hai manusia, sesungguhnya telah datang kepadamu pelajaran dari Tuhanmu dan penyembuh bagi penyakit-penyakit (yang berada) dalam dada dan petunjuk serta rahmat bagi orang-orang yang beriman" (Surah Yunus: 57). Justeru, menjadi satu kewajipan bagi setiap umat Islam untuk berusaha

mencari inisiatif mempelajari al-Quran yang bersumber dari Allah Yang Maha Bijaksana. Kepentingan mempelajari al-Quran disebut Ibnu Khaldun dalam kitab Muqaddimah iaitu "al-Quran itu perlu dipelajari dan dibaca oleh kanak-kanak pada peringkat awal, kerana membaca al-Quran akan menanamkan benih-benih keimanan ke dalam jiwa kanak-kanak" (Mohd Majid Konting & Zakaria Kasa, 2002). Antara surah utama yang perlu dipelajari ialah surah al-Fatihah yang terletak di awal mushaf dan memiliki tujuh ayat. Surah al-Fatihah merupakan rukun yang perlu ditunaikan di dalam solat bagi menjamin kesempurnaan solat. Maka, kewajipan mempelajari surah ini menjadi berat kerana melibatkan ibadah yang diterima atau ditolak (Muhammad Farhan et al., 2009).

Bagaimanapun, masih ramai umat Islam yang tidak dapat membaca al-Fatihah dengan baik sehingga mencacatkan solat. Masalah buta huruf al-Quran di negara Malaysia juga agak membimbangkan kerana masih ramai umat Islam yang lemah dari segi bacaan tajwid yang betul dan tidak menyebut huruf hijai'yyah dengan lafaz makhraj yang tepat. Selain itu, utusan Malaysia bertarikh 4 November 2013 turut menyebut berkenaan kajian yang dijalankan terhadap pelajar tingkatan empat di salah sebuah sekolah menengah di negeri Terengganu pada tahun 2006 menunjukkan sebanyak 38.1 peratus daripada mereka mempunyai gred sangat lemah dalam tahap bacaan al-Quran. Malah, penemuan ini menjadi lebih membimbangkan pada zaman teknologi media sosial seperti Facebook yang menjadi ketagihan ramai remaja (Hussaini, 2013). Meskipun begitu, pelbagai usaha pemerkasaan pembelajaran al-Quran giat dijalankan di Malaysia dengan teknik-teknik pengajaran yang memudahkan dan menjadikan pembelajaran al-Quran lebih menyeronokkan. Semuanya bertujuan bagi membasmi golongan buta al-Quran dan sekaligus membantu para muallaf iaitu golongan yang baru memeluk Islam untuk mempelajari al-Quran.

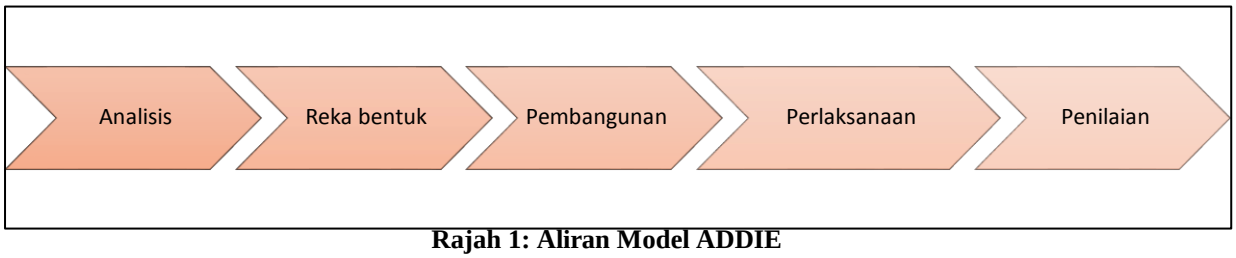
Perkembangan pesat teknologi maklumat dan komunikasi tidak dapat dinafikan lagi mempengaruhi hampir semua aspek kehidupan termasuklah pendidikan sehingga mengubah kaedah pembelajaran. Pada zaman kini, proses pembelajaran telah melampaui ruang fizikal bilik darjah, bersifat globalisasi dan sepanjang hayat (Norliza, 2013). Terdapat beberapa kajian yang memperakui kemampuan teknologi multimedia dalam mengatasi kelemahan yang dihadapi dalam proses pengajaran dan pembelajaran. (Muhammad Nazir et el., 2017). Oleh sebab itu, kecanggihan teknologi seperti penggunaan peranti mudah alih sebagai contoh telefon bimbit, iPad, telefon pintar, tablet dan sebagainya sepatutnya menjadi peluang besar yang dapat dimanfaatkan dengan aplikasi yang sesuai khusus untuk mempelajari al-Quran. Justeru, kajian ini adalah bertujuan untuk memperkenalkan dan membincangkan projek "Smart e-Fatihah" sebagai salah satu aplikasi yang membantu pengguna khususnya umat Islam untuk mempraktikkan bacaan al-Fatihah dengan betul dalam kehidupan seharian mereka terutama dalam ibadah solat. Kajian ini diharapkan dapat membantu dan memudahkan masyarakat awam terutamanya muallaf yang ingin mempelajari dan memperbaiki bacaan al-Quran.

Metodologi Kajian

Penyelidikan ini menggunakan pendekatan kualitatif yang melibatkan teknik pengumpulan data secara pemerhatian dan dokumentasi. Pemerhatian dilakukan dengan mengamati proses pembelajaran al-Quran sebagai data awal untuk mengetahui kaedah pembelajaran yang berjalan, permasalahan dan alternatif solusi yang perlu dilakukan. Kaedah dokumentasi juga dilakukan melalui pengumpulan terjemahan dan bacaan al-Quran oleh Qari yang terkenal di seluruh dunia seperti Syeikh Abdul Basit, Syeikh Abdul Rahman as-Sudais, Syeikh Mahmoud Khalil al-Hussary, Syeikh Saad al-Ghamidi, Syeikh Ayyub dan Syeikh Misyari Rasyid.

Terdapat pelbagai model yang boleh diterapkan dalam suatu perisian yang ingin dibina. Untuk tujuan penghasilan perisian pembelajaran ini, penyelidik telah memilih model reka

bentuk ADDIE sebagai panduan bagi memastikan proses pembangunan berjalan secara teratur dan terarah. Model ADDIE dipilih kerana reka bentuk instruksi yang menjadi asas kepada model-model reka bentuk instruksi yang lain. ADDIE adalah singkatan daripada *Analysis* (analisis), *Design* (reka bentuk), *Development* (pembangunan), *Implementation* (perlaksanaan) dan *Evaluation* (penilaian) (Mohamad Siri Muslimin et al., 2017). Rajah 1 di bawah menunjukkan aliran model ADDIE.



Rajah 1: Aliran Model ADDIE

Proses reka bentuk dan pembangunan aplikasi Smart e-Fatihah bermula dengan peringkat analisis iaitu penyelidik menjalankan analisis terhadap kaedah pembelajaran al-Quran yang sesuai pada masa kini, keperluan dan objektif. Satu bentuk pembelajaran surah al-Fatihah secara mudah dan interaktif perlu dibentuk untuk memperbaiki bacaan seterusnya menyempurnakan ibadah solat. Setelah mengenal pasti keperluan pengguna dan objektif, proses merekabentuk aplikasi diteruskan berdasarkan beberapa strategi dan pendekatan pengajaran dan pembelajaran yang sesuai serta melibatkan perletakan elemen menu, objek dan cadangan persembahan. Dalam fasa pembangunan, aplikasi dihasilkan dalam bentuk prototaip berdasarkan reka bentuk yang telah dihasilkan sebelumnya. Prototaip tersebut dilaksanakan bagi melihat kebolehgunaannya setelah berjaya dibangunkan. Proses penilaian prototaip adalah peringkat akhir projek untuk menentukan sama ada aplikasi tersebut berkesan untuk pengguna dan sejauh mana obejektif dapat dicapai.

Perbincangan dan Dapatan

Definisi Aplikasi

Maksud aplikasi atau perisian tertentu sama ada secara atas talian (*online*) atau tanpa talian (offline) merupakan salah satu bentuk teknologi atau boleh juga dikatakan sebagai satu produk yang dihasilkan oleh teknologi. Istilah atas talian merupakan terjemahan kepada istilah bahasa Inggeris "*Online*" yang berkaitan penyambungan kepada sesuatu sistem bagi alatan teknologi tertentu seperti komputer dan sistem itu biasanya adalah internet (Ahmad Zaki bin Amiruddin et al., 2014). Manakala, istilah tanpa talian yang dikenali sebagai "*Offline*" adalah sebaliknya iaitu ketika tidak terhubung dengan internet.

Aplikasi menurut Kamus Dewan Bahasa dan Pustaka ialah isi atur cara atau program komputer yang direka khusus untuk kegunaan tertentu. Aplikasi adalah bersifat dua hala dan melibatkan pengguna secara aktif sewaktu aplikasi tersebut dijalankan. Gabungan kesan visual dan audio yang menjadikan sesebuah aplikasi lebih realistik dan disebut sebagai aplikasi interaktif. Kewujudan teknologi terkini menyebabkan pengguna turut terlibat dalam membuat keputusan dan melakukan pergerakan fizikal. Sebagai contoh, permainan komputer, permainan video dan aplikasi realiti maya (Kamus Dewan Bahasa dan Pustaka, t.t). Kajian ini membahaskan aplikasi Smart e-Fatihah yang bercirikan online interaktif khusus untuk pengguna yang baru mempelajari al-Quran.

Objektif Projek

Kesempurnaan bacaan al-Fatihah itu adalah penting dalam menjaga kesempurnaan ibadah solat, maka membaca al-Fatihah adalah suatu tuntutan ke atas setiap Muslim termasuk keperluan memperbaiki bacaannya. Bagi mencapai tujuan tersebut, satu aplikasi pembelajaran surah al-Fatihah yang dinamakan sebagai projek Smart e-Fatihah dibangunkan dengan satu perisian yang menarik serta mesra pengguna. Aplikasi ini membantu para pengguna dalam kalangan umat Islam untuk mempraktikkan bacaan al-Fatihah dengan betul dalam kehidupan seharian mereka terutama dalam ibadah solat. Secara umumnya, Smart e-Fatihah berfungsi sebagai satu medium atau alat bantu, tanpa disediakan sebarang modul kurikulum khusus untuk pembelajaran.

Skop Projek

Tujuan skop kajian adalah untuk menggariskan beberapa fokus yang telah ditentukan oleh penyelidik dan berfungsi sebagai garis panduan untuk mengelakkan kajian tersasar jauh daripada sempadan kajian yang dirancang (Seri Syahliliana, 2015). Secara ringkasnya, kajian ini difokuskan kepada surah al-Fatihah sahaja yang menjadi rukun qauli dalam solat. Projek ini bertujuan menjadi alat bantu yang disasarkan kepada golongan yang baru mula mempelajari al-Quran khususnya golongan muallaf untuk mempelajari dan memperbaiki bacaan al-Fatihah. Elemen-elemen utama yang menjadi fokus dalam menu aplikasi ini ialah koleksi murotal dan surah al-Fatihah beserta terjemahan. Penyelidik memilih tiga jenis bahasa sebagai pilihan dalam menggunakan aplikasi ini iaitu Bahasa Melayu, Bahasa Inggeris dan Bahasa Mandarin.

Kelebihan Projek

Berdasarkan pengenalan kepada projek Smart e-Fatihah, aplikasi ini sangat bermanfaat untuk pengguna kerana memiliki beberapa kelebihan. Antara kelebihan yang boleh disenaraikan adalah:

a) Mesra Pengguna

Aplikasi Smart e-Fatihah boleh digunakan dengan mudah oleh semua peringkat umur dan masyarakat kerana terdapat ikon-ikon yang membantu serta konsep pilihan bahasa. Tiga jenis pilihan bahasa disediakan untuk pengguna iaitu Bahasa Melayu, Bahasa Inggeris dan Bahasa Mandarin. Aplikasi ini juga boleh digunakan di mana-mana tanpa mengira tempat dan secara boleh dimuat turun percuma untuk pengguna di *google play*.

b) Kaedah Pembelajaran Yang Interakt

Elemen-elemen yang terdapat dalam aplikasi Smart e-Fatihah seperti grafik, audio, teks dan sebagainya mampu menggalakan perkembangan kaedah pembelajaran ke arah yang lebih aktif, di mana pengguna lebih cenderung untuk memahami dan menguasai apa yang dipelajarinya. Di samping itu, aplikasi Smart e-Fatihah mampu membantu meningkatkan kemahiran penguasaan makna bahasa al-Quran khususnya dalam surah al-Fatihah sekaligus mendorong untuk khusyuk dalam solat. Aplikasi ini juga mengelakkan pengguna merasa bosan selain memupuk minat untuk terus berusaha memperbaiki bacaan al-Quran.

c) Dalam Rasm Uthmani

Jabatan Kemajuan Islam Malaysia (JAKIM) telah menyediakan garis panduan pembuatan, pengendalian, penjualan dan pelupusan ayat suci al-quran yang menyebut bahawa ayat yang dicetak hendaklah diambil daripada al-Quran mashaf Rasm Uthmani dan al-Quran yang bukan Rasm Uthmani hendaklah dilupuskan (JAKIM, 2008). Meskipun al-Quran yang ditulis dengan

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Rasm Uthmani di zaman mutakhir ini telah tersebar dengan meluas, namun masih banyak ayat al-Quran yang tidak mengikut Rasm Uthmani terutamanya di laman-laman sesawang. Aplikasi Smart e-Fatihah direka khas mengikut Rasm Uthmani yang memudahkan bacaan dengan jenis qiraat, bertepatan dengan riwayat bacaan mutuwatir dan mengikut tulisan al-Quran yang Imla'i.

d) Tidak Menggunakan Kos Dan Masa Yang Banyak

Kaedah pembelajaran tradisional mempunyai beberapa batasan dari segi masa dan tempat selain memakan kos yang banyak. Aplikasi Smart e-Fatihah direka sebagai medium teknologi terkini yang mampu menjimatkan kos perjalanan dan pengangkutan yang mahal serta bayaran yuran kelas bulanan. Kaedah ini juga tidak bergantung kepada masa kerana pengguna boleh menggunakan aplikasi ini pada bila-bila masa dan tempat.

Dapatan - Prototaip

Di dalam penghasilan aplikasi, prototaip merujuk kepada produk yang dibangunkan menghampiri reka bentuk produk sebenar dan mempunyai ciri-ciri yang seakan sama dengan produk akhir. Pembangunan prototaip aplikasi akan dihasilkan setelah mengenal pasti keperluan dalam reka bentuk, dengan menggunakan kandungan bahan yang telah diputuskan. Di samping itu, prototaip akan dibangunkan berdasarkan perancangan melalui papan cerita dan alat-alat yang dikenal pasti. Gabungan penggunaan elemen multimedia seperti teks, audio, dan grafik menjadikan aplikasi tersebut lebih menarik dan interaktif (Mohamad Siri Muslimin et al, 2017). Gambaran prototaip dalam bentuk grafik antara muka dalam aplikasi pembelajaran mudah alih Smart e-Fatihah boleh dilihat dalam rajah 2 di bawah:

Rajah 2: Paparan Muka Kandungan Smart e-Fatihah

Paparan menu utama bagi aplikasi terdiri daripada koleksi murotal al-Fatihah yang dibaca oleh enam Qari yang terkenal di seluruh dunia iaitu Syeikh Abdul Basit, Syeikh Abdul Rahman as-Sudais, Syeikh Mahmoud Khalil al-Hussary, Syeikh Saad al-Ghamidi, Syeikh Ayyub dan Syeikh Misyari Rasyid. Selain itu, terdapat ikon bagi Surah al-Fatihah dan Ertinya yang mengandungi terjemahan surah al-Fatihah dengan terjemahan Bahasa Melayu, Bahasa Inggeris dan Bahasa Mandarin.

Kesimpulan

Secara kesimpulannya, berdasarkan penerangan dan pelaksanaan, aplikasi Smart e-Fatihah mampu memberi satu pendekatan pembelajaran yang lebih mudah, menarik dan menyeronokkan selain membantu semua peringkat umur untuk mempelajari surah al-Fatihah. Inspirasi di sebalik penghasilan aplikasi ini adalah ekoran masih ramai umat Islam yang tidak dapat membaca al-Fatihah dengan baik selain membantu para muallaf mempraktikkan bacaan mereka dengan mudah tanpa menggunakan kos dan masa yang banyak. Berbekalkan sistem pembelajaran yang semakin hebat dan pendekatan pembelajaran mudah alih yang boleh berlaku hanya di hujung jari, setiap insan dapat mempelajari ilmu dengan lebih efektif. Reka bentuk dan pembangunan aplikasi yang menerapkan elemen animasi, audio, teks dan grafik termasuk reka bentuk yang dinamik dan interaktif ternyata dapat menjadikan aktiviti pengajaran dan pembelajaran lebih menarik, memotivasi dan bermakna. Aplikasi ini unik kerana mengandungi ayat-ayat dalam bentuk Rasm Uthmani bersama tiga jenis pilihan bahasa. Pengguna juga boleh mendengar bacaan al-Quran daripada Qari yang terkenal di seluruh dunia. Kajian ini menjadi satu alternatif kepada guru agama dan masyarakat awam termasuk muallaf yang ingin mempelajari dan memperbaiki bacaan al-Fatihah dengan cara yang mudah dan interaktif. Usaha pengintegrasian teknologi ini juga diharapkan dapat memotivasikan pengguna untuk meneroka kefahaman surah al-Fatihah dan surah-surah lain dari al-Quran serta menanam minat untuk mendalami kandungan yang ada di dalam al-Quran.

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PENERAPAN NAQLI DAN AQLI: KAJIAN TERHADAP KURIKULUM PROGRAM TAMHIDI SYARIAH DAN UNDANG-UNDANG

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Abstrak: *Kajian ini dijalankan bertujuan untuk mengkaji penerapan ilmu naqli dan aqli dalam kurikulum Al-Mabadi' Al-Fiqhiyyah sebagai salah satu kursus utama yang ditawarkan bagi Program Tamhidi Syariah dan Undang-Undang di Pusat Tamhidi, Universiti Sains Islam Malaysia (USIM). Kajian ini amat signifikan dalam usaha ahli akademik menyediakan kurikulum unik menepati acuan USIM untuk menjayakan pelan strategik universiti sebagai Pusat Rujukan Ilmu Naqli dan Aqli menjelang 2025. Metodologi yang digunakan dalam kajian ini adalah berdasarkan temubual pakar dalam bidang kajian dan kaji selidik maklumbalas pelajar yang terlibat secara langsung dengan kurikulum Al-Mabadi' Al-Fiqhiyyah. Penyelidik menyediakan dua bentuk persoalan kajian berbeza berdasarkan kesesuaian responden untuk mendapatkan maklumat yang berkaitan dengan objektif penyelidikan. Dapatan kajian menunjukkan bahawa kurikulum Program Tamhidi Syariah dan Undang-Undang dalam kursus Al-Mabadi' Al-Fiqhiyyah mengandungi elemen naqli dan aqli. Hasil kajian juga menyatakan bahawa penerapan naqli dan aqli dalam kurikulum Al-Mabadi' Al-Fiqhiyyah menepati falsafah (roh)USIM. Kajian ini boleh menjadi panduan kepada pihak jabatan dan USIM sebagai pencerahan kepada pelajar, pensyarah serta masyarakat mengenai impak integrasi ilmu naqli dan ilmu aqli yang amat signifikan dalam pembentukan perwatakan dan sahsiah pelajar. Sekaligus memperkasa pembangunan diri, masyarakat dan negara. Kajian ini juga boleh dijadikan panduan untuk kajian lanjutan.*

Katakunci*: Naqli, Aqli, Kurikulum, Tamhidi, Syariah.*

Pendahuluan

Kurikulum adalah komponen yang penting dalam pendidikan. Setiap institusi yang terlibat dengan dunia pendidikan pasti akan berusaha untuk memastikan kurikulum yang disediakan adalah kurikulum yang terbaik untuk mencapai matlamat pendidikan. Identiti masyarakat yang terbentuk dari generasi pelajar adalah cerminan kepada kekuatan dan kepincangan sesuatu kurikulum. Bersama-sama dalam usaha pembentukan masyarakat, model

pendidikan USIM adalah berlandaskan kepada beberapa prinsip yang mengintegrasikan Sains Islam dengan Sains Sosial dan Fizikal. Nilai universal yang terdapat dalam nilai-nilai Islam berperanan memandu dan mengembangkan nilai-nilai ilmu saintifik dan teknologi. Menjadi harapan USIM untuk menjadikan integrasi ilmu Naqli dan Aqli sebagai teras utama untuk meneraju ilmu dan melahirkan mahasiswa holistik dan seimbang serta modal insan yang berkualiti, progresif dan dihormati.

Konsep gabungan dua ilmu ini umumnya mendapat istilah yang pelbagai seperti integrasi ilmu fardu ain dan ilmu fardu kifayah, islamisasi dan kesepaduan ilmu. Persamaan yang diperolehi ialah gabungan kedua-dua ilmu ini adalah faktor utama memperkasa pembangunan diri, masyarakat, negara dan ummah. Noor Hisyam Md. Nawi (2011) dalam artikelnya bertajuk Penelitian Semula Konsep Asas Menurut Perspektif Gagasan Islamisasi Ilmu Moden membincangkan sumber dan hirarki ilmu serta gagasan islamisasi ilmu moden yang dikenali sebagai kesepaduan antara naqli dan aqli. Beliau menekankan konsep naqli dan aqli bagi melengkapkan pertumbuhan potensi pelajar yang bersifat sepadu, seimbang dan menyeluruh.

Sementara itu, kajian yang lebih spesifik mengenai naqli dan aqli dalam kurikulum telah ditulis oleh Zetty Nurzuliana Rashed dan Ab. Halim Tamuri (2015) dalam kertas kerja yang bertajuk Kepentingan Integrasi Ilmu Naqli dan Ilmu Aqli dalam Pengajaran Pendidikan Islam. Kertas kerja ini membincangkan tentang kepentingan kesepaduan antara naqli dan aqli dalam pengajaran Pendidikan Islam supaya generasi yang dilahirkan nanti merupakan generasi insan kamil yang menjadikan al-Quran sebati dalam kehidupan mereka. Kajian ini mendapati terdapat beberapa kepentingan integrasi ilmu ini antaranya adalah sebagai prasyarat pembangunan diri,masyarakat dan negara.

Kurikulum Program Tamhidi Syariah & Undang-Undang

Program Tamhidi Syariah & Undang-Undang adalah salah satu dari lima program yang ditawarkan di Pusat Tamhidi selain daripada program Tamhidi Perubatan, Tamhidi Pergigian, Tamhidi Sains & Teknologi serta Tamhidi Perakaunan & Muamalat. Pusat Tamhidi adalah sebuah pusat pembelajaran peringkat pra universiti di USIM yang bukan sahaja menerima pelajar lepasan Sijil Pelajaran Malaysia daripada aliran agama malah pelajar antarabangsa lepasan General Certificate Education (GCE) O Level yang berkelayakan.

Menyokong falsafah, visi dan misi USIM, Pusat Tamhidi menyediakan kurikulum yang menerapkan elemen naqli dan aqli dalam kursus-kursus yang ditawarkan dalam setiap program. Melalui artikel tulisan Akhmal Annas Hasmori (2011), dinyatakan bahawa menurut Mohd Daud (1993), kurikulum diterjemahkan sebagai satu budaya dan ilmu pengetahuan untuk membantu guru atau tenaga akademik dalam proses pengajaran dan pembelajaran kepada kumpulan murid yang tertentu. Bagi Program Tamhidi Syariah & Undang-Undang, terdapat sembilan kursus untuk semester 1 dan lapan kursus untuk semester 2.

Jadual 1: Kursus yang ditawarkan kepada pelajar Tamhidi Syariah & Undang-Undang (Mohamed Akhiruddin Ibrahim, Mazlina Mohamed Tamjid & Mohd Nurhakimi Md Yaman 2015)

SEMESTER 1		
Kod Kursus	**Kursus**	**Jam Kredit**
TSU0214	al-Madkhal ila al-Syariah	4
TSU0314	Introduction to Law	4
TSU0404	al-Mabadi' al-Fiqhiyyah	4
TLE0612	English for Academic Purposes I	2

TLE0622	English for Academic Purposes II	2
TLA0713	Al-Lughah Al-Arabiyyah Al-Ittisaliyyah I	3
TLA0812	Al-Lughah Al-Arabiyyah Al-Kitabiyyah I	2
TCL0822	ICT Skill	2
TUH0752	Al-Quran Wa al-Hadith Fi Ulum al-Ijtimaiyyah	2
	Jumlah	**25**

SEMESTER 2		
Kod Kursus	**Kursus**	**Jam Kredit**
TSU0614	General Principle of Malaysia Law	4
TSU0714	Law and Society	4
TSU0804	al-Fiqh wa al-Mujtama’	4
TLE0712	English for Academic Purposes III	2
TLE0722	English for Academic Purposes IV	2
TLE0813	Introduction to English for Law	3
TLA0723	Al-Lughah Al-Arabiyyah Al-Ittisaliyyah II	3
TLA0823	Al-Lughah Al-Arabiyyah Al-Kitabiyyah II	3
	Jumlah	**25**

Terdapat tiga kursus bagi disiplin ilmu naqli dan enam kursus bagi disiplin ilmu aqli pada semester pertama. Manakala pada semester kedua terdapat satu kursus bagi disiplin ilmu naqli dan tujuh kursus bagi disiplin ilmu aqli. Sepanjang pengajian selama setahun di peringkat pra universiti, Program Tamhidi Syariah & Undang-Undang menawarkan empat kursus bagi disiplin ilmu naqli dan tiga belas kursus bagi disiplin ilmu aqli kepada pelajar.

Pelajar Tamhidi Syariah & Undang-Undang adalah calon mahasiswa (*feeder*) bagi bidang Sarjana Muda Syariah & Undang-Undang di Fakulti Syariah & Undang-Undang USIM. Untuk melayakkan pelajar mengikuti program ijazah tersebut, calon hendaklah memenuhi syarat yang ditetapkan iaitu memperoleh Band 4 dalam peperiksaan Malaysian University English Test (MUET), disamping lulus pengajian di peringkat Program Tamhidi Syariah & Undang-Undang (Mohamed Akhiruddin Ibrahim et al, 2015).

Kursus al-Mabadi’ al-Fiqhiyyah

Al-Mabadi’ al-Fiqhiyyah adalah salah satu dari tiga kursus bagi disiplin ilmu naqli untuk semester pertama Program Tamhidi Syariah dan Undang-undang. Ia merupakan kursus wajib program dengan 4 jam kredit. Kursus ini berkaitan dengan ilmu pengetahuan asas kepada konsep dan prinsip-prinsip perundangan Islam. Silibus pelajaran mencakupi empat bidang ilmu dan dimulai dengan bidang Fiqh, Usul Fiqh, Qawaid Fiqhiyyah dan yang terakhir adalah Maqasid Syariah.

a) Ilmu Fiqh

Tajuk-tajuk yang dipelajari adalah berkaitan dengan pengertian dan kupasannya, perkembangan pengertian (istilah), ciri-ciri, pembahagian serta ikhtilafat dan sebab-sebabnya secara ringkas.

b) Ilmu Usul Fiqh

Ia merupakan komponen terbesar dalam modul yang disediakan berbanding bahagian ilmu yang lain. Ia menyentuh secara ringkas tentang pengertian dan kupasannya, perbezaan ilmu fiqh dan ilmu usul fiqh, perkembangan, penulisan, faktor perbezaan dalam penetapan hukum serta sumber hukum.

c) Ilmu Qawaid Fiqhiyyah

Silibus yang disediakan adalah ringkas sebagai pendedahan asas kepada pelajar dengan menyentuh tentang pengertian, jenis-jenis, kepentingan, lima kaedah fiqh yang utama serta perbezaan kaedah fiqh dan kaedah usul fiqh.

d) Ilmu Maqasid Syariah

Kompenen terakhir ini adalah pelengkap kepada modul dengan beberapa tajuk ringkas iaitu pengertian serta bahagian-bahagian maqasid syariah.

Penerapan Naqli dan Aqli USIM

Aspek akademik dan kurikulum sebagai teras utama universiti mempunyai peranan penting dalam merealisasikan visi dan misi USIM yang mendukung integrasi naqli dan aqli. Justeru, dari segi fokus pengajian, USIM menawarkan program akademik yang mengintegrasikan ilmu naqli dan aqli, iaitu gabungan ilmu berasaskan al-Quran dan Sunnah serta ilmu kontemporari (Musa Ahmad, 2015).

Empat peringkat integrasi telah digariskan USIM sebagai asas kepada pembinaan kurikulum unik naqli dan aqli di dalam program akademik yang ditawarkan. Ahmad Zaki Salleh (2015) di dalam buku suntingannya yang bertajuk Integrasi Naqli dan Aqli Dalam Disiplin Syariah dan Undang-undang telah menjelaskan peringkat-peringkat tersebut iaitu pengayatan (al-Nusus), perbandingan (al-Muqaranah), adaptasi (al-Taqyim) dan integrasi (al-Tafaqquh).

a) Peringkat Pengayatan (Mustawa al-Nusus)

Peringkat pengayatan bermaksud rujukan kepada sumber asas ajaran Islam iaitu al-Quran, hadis dan kitab-kitab turath yang muktabar. Ia melibatkan proses mengenal pasti sumber dari al-Quran dan sunnah yang menjadi asas pensyariatan terhadap topik yang dibincangkan. Ia juga melibatkan pengenalan nas-nas dari al-Quran dan sunnah yang menyokong falsafah atau intipati konsep-konsep yang diperkenalkan di dalam sesuatu kursus. Nas atau teks dari al-Quran dan sunnah tersebut dikupas dengan mengutarakan pendapat fuqaha melalui kitab-kitab turath yang menjadi rujukan utama di dalam syariah. Ia juga melibatkan proses menganalisa dalil melalui perbincangan hujah-hujah yang dikemukakan dan diperbahaskan oleh para fuqaha.

b) Peringkat Perbandingan (Mustawa al-Muqaranah)

Peringkat perbandingan merujuk kepada persamaan atau perbezaaan antara ilmu Islam dan ilmu konvensional. Proses perbandingan memerlukan analisa kepada kedua-dua elemen tersebut dan mencari unsur-unsur yang sama atau berbeza da dalam konteks yang selari.

c) Peringkat Adaptasi (Mustawa al-Taqyim)

Peringkat Adaptasi melibatkan proses memilih, menyaring, menyesuaikan dan mengguna pakai mana-mana prinsip, nilai dan kerangka yang tidak bercanggah dengan Islam. Peringkat ini memerlukan kemahiran menilai dan membuat keputusan terhadap kepatuhan syariah bagi prinsip-prinsip yang diguna pakai di dalam amalan semasa.

d) Peringkat Integrasi (Mustawa al-Tafaqquh)

Peringkat Integrasi menggabung dan mengaplikasi pelbagai disiplin ilmu yang menghasilkan kurikulum yang holistik. Penghayatan dan pembudayaan serta mampu mendemostrasi pelbagai disiplin ilmu melalui beberapa kursus yang ditawarkan menjelaskan lagi kaedah al-tafaqquh. Antaranya pembudayaan dan penghayatan disiplin-disiplin ilmu pengurusan, politik, perundangan, matematik dan lain-lain.

Naib Canselor USIM, dalam ucapannya Sempena Majlis Amanat Tahun Baharu 2016 menyatakan bahawa bagi memantapkan lagi pembudayaan dan amalan integrasi ilmu Naqli dan Aqli dalam empat fungsi dan peranan utama USIM iaitu pentadbiran, akademik, penyelidikan dan pembangunan mahasiswa, Pusat Pengembangan Integrasi Ilmu Naqli dan Aqli (PIINA) telah ditubuhkan pada Februari 2015 dan mula beroperasi pada Mei 2015. Pada tahun itu juga, beberapa aktiviti telah mula dijalankan oleh PIINA antaranya Kursus Pengenalan Integrasi Ilmu Naqli dan Aqli bagi kakitangan pentadbiran dan kakitangan akademik serta Bengkel Pemurnian dan Penulisan Modul Kursus Tahap Penataran Pengenalan Integrasi Ilmu Naqli dan Aqli.

Rekabentuk Kajian

Kajian ini berbentuk kualitatif bagi mendapatkan pandangan dan maklumbalas terhadap penerapan naqli dan aqli dalam kurikulum Program Tamhidi Syariah Dan Undang-Undang dengan memberi fokus kepada kursus Al-Mabadi' Al-Fiqhiyyah. Metodologi yang digunakan dalam kajian ini adalah berdasarkan metod temubual yang melibatkan temubual pakar dalam bidang kajian dan maklumbalas pelajar yang terlibat secara langsung dengan kursus Al-Mabadi' Al-Fiqhiyyah.

Pihak responden temubual adalah pensyarah kanan Fakulti Syariah dan Undang-Undang USIM dengan kepakaran dalam bidang Usul Fiqh, Fiqh Muamalat, Fiqh Muqaran dan Fatwa. Responden diberikan modul kursus Al-Mabadi' Al-Fiqhiyyah sebagai bahan kajian untuk dibuat penilaian dalam tempoh sebulan. Bagi tujuan agar sesuatu data tidak tertinggal dan perjalanan temubual berjalan dengan lancar, penyelidik menggunakan metod bebas tetapi terkawal iaitu dengan menyediakan panduan awal temubual yang berbentuk soalan-soalan penting yang berkaitan dengan penyelidikan.

Pihak responden maklumbalas pula merupakan para pelajar Tamhidi Syariah dan Undang-Undang yang telah mengambil kursus tersebut pada awal semester pengajian 2015/2016. Metod persampelan yang digunakan adalah persampelan secara rawak kerana kajian ini hanya melibatkan 30 orang pelajar bagi mewakili populasi pelajar Tamhidi Syariah dan Undang-Undang. Penyelidik menyediakan borang maklumbalas untuk mendapatkan maklumat yang berkaitan dengan objektif penyelidikan.

Dapatan Kajian dan Perbincangan

Dapatan kajian menunjukkan bahawa kurikulum Program Tamhidi Syariah dan Undang-Undang dalam kursus Al-Mabadi' Al-Fiqhiyyah mengandungi elemen naqli dan aqli. Kajian juga mendapati bahawa penerapan elemen naqli dan aqli dalam kurikulum Al-Mabadi' Al-Fiqhiyyah menepati falsafah Universiti Sains Islam Malaysia.

Kursus Al-Mabadi' Al-Fiqhiyyah dalam kurikulum Program Tamhidi Syariah dan Undang-Undang Mengandungi Elemen Naqli Dan Aqli.

Berdasarkan temubual, hasil kajian mendapati kursus yang ditawarkan dalam Program Tamhidi Syariah dan Undang-Undang ini mengandungi elemen penerapan naqli dan aqli yang sangat jelas. Responden menjelaskan bahawa wujud penerapan naqli dan aqli apabila terdapat kerangka teori syarak bagi setiap bidang ilmu samada Fiqh, Usul Fiqh, Qawaid Fiqhiyyah dan

Maqasid Syariah dalam modul pembelajaran bagi kursus tersebut. Kerangka teori ini adalah ilmu naqli yang merangkumi falsafah, kaedah-kaedah dan ciri-ciri yang menjelaskan konsep bidang ilmu tertentu. Ia dilengkapkan dengan unsur praktikal apabila terdapat hubungkait antara kerangka teori dengan praktikal hukum-hukum semasa. Menurut responden, masdar-masdar (sumber-sumber) mazhab itu sendiri adalah gabungan naqli dan aqli kerana masdar utama dalam proses penentuan adalah al-Quran, sunnah, ijmak dan qiyas. Al-Quran dan sunnah adalah ilmu Naqli manakala ijma' dan qiyas adalah ilmu aqli dengan qiyas sebagai komponen paling besar mewakili elemen aqli.

Maklumbalas pelajar sebagai responden pihak kedua juga secara umumnya menunjukkan bahawa kurikulum kajian di bawah Program Tamhidi Syariah dan Undang-undang ini dikenalpasti mengandungi elemen naqli dan aqli. Dapatan kajian adalah berdasarkan analisa kepada komponen maklumbalas dengan arahan yang diberikan secara umum tanpa pengkelasan dan fokus kepada skop naqli dan aqli. Namun begitu, hasil kajian mendapati terdapat maklumbalas yang telah menyentuh skop naqli dan aqli. Penyelidik juga melihat maklumbalas tersebut boleh terbahagi kepada dua kategori iaitu;

a) Maklumbalas dalam skop naqli dan aqli secara langsung.

Responden 4: Saya bersyukur kerana dapat mempelajari kursus ini kerana saya mendapat dan menambah pengetahuan seterusnya membezakan ilmu Aqli dan Naqli.

Responden 9: Subjek al-Mabadik al-Fiqhiyyah adalah kursus yang sangat seronok untuk dipelajari kerana menepati konsep ilmu Aqli dan Naqli USIM. Seterusnya melahirkan graduan yang holistik.

Responden 15: Penerapan ilmu Aqli dan Naqli dalam diri pelajar adalah satu langkah bijak untuk mengekang masalah moral yang semakin meruncing pada masa kini. Jadi elemen Naqli dan Aqli perlu diteruskan pada masa akan datang.

Responden 18: Penerapan ilmu di dalam setiap subjek yang ada serta berkait bersama ilmu Aqli dan Naqli wajar diteruskan dan diaplikasikan untuk masa akan datang.

b) Maklumbalas dalam skop naqli dan aqli secara tidak langsung.

Responden 10: Saya berpuas hati dan gembira dengan kursus pembelajaran pada sem 1 Tamhidi semuanya memuaskan dan membantu saya untuk memperolehi pengalaman dalam pengajian Fiqh, Syariah, Undang-undang dan Bahasa.

Responden 14: Kekalkan silibus atau tambah sedikit mengikut isu semasa...

Responden 16: ...adakan perbincangan mengenai isu-isu semasa...

Kurikulum Program Tamhidi Syariah Dan Undang-Undang Dalam Kursus Al-Mabadi' Al-Fiqhiyyah Menepati Falsafah USIM Sebagai Sebuah Universiti Yang Menerajui Integrasi Ilmu Naqli Dan Aqli.

Berdasarkan hasil temubual, kandungan modul yang didominasi oleh ilmu Usul Fiqh dan Qawaid Fiqhiyyah ini secara jelas telah diakui menepati falsafah USIM sebagai sebuah

universiti yang menerajui integrasi ilmu naqli dan aqli. Menurut responden, ia boleh difahami atas dasar bahawa USIM meletakkan ilmu Usul Fiqh dan Qawaid Fiqhiyyah sebagai ilmu asas untuk menerajui gabungan naqli dan aqli. Penyelidik mendapati usaha ini telah mula dilaksanakan oleh Pusat Pengembangan Integrasi Ilmu Naqli dan Aqli (PIINA) sebagai pusat tanggungjawab dalam merangka, menggubal dan melaksana program latihan berterusan bagi meningkatkan keupayaan modal insan berteraskan integrasi ilmu Naqli dan Aqli dalam pentadbiran, pembelajaran, pengajaran dan penyelidikan (http://piina.usim.edu.my). Antara program teras yang dibangunkan PIINA adalah Kursus Usul Fiqh dan Kursus Qawaid Fiqhiyyah di samping dua program lain iaitu Kursus Pengenalan iNaQ dan Bistro@PIINA.

Hasil kajian juga mendapati kandungan kursus Al-Mabadi' Al-Fiqhiyyah menepati falsafah USIM dengan menepati empat peringkat integrasi yang telah digariskan USIM sebagai asas kepada pembinaan kurikulum unik naqli dan aqli di dalam program akademik yang ditawarkan. Di peringkat Pengayatan (Mustawa al-Nusus), kandungan silibus adalah bersumberkan kepada kitab-kitab turath yang muktabar dengan mengambil pandangan jumhur bagi setiap tajuk yang dibincangkan. Terdapat juga beberapa tajuk yang memberi pendedahan umum diantara konsep Islam dalam skop Munakahat, Muamalat serta Jinayat dan pemakaiannya di Malaysia. Kemampuan untuk melihat persamaan atau perbezaaan antara ilmu Islam dan ilmu konvensional ini selari dengan Peringkat Perbandingan (Mustawa al-Muqaranah).

Pendedahan asas terhadap lima kaedah fiqh yang utama yang terkandung dalam silibus juga adalah langkah awal melatih pelajar mendepani masalah harian mereka dan menangani masalah semasa. Kursus ini sekaligus membantu pengukuhan disiplin ilmu lain seperti Bahasa Arab kerana kandungan modul dalam bahasa Arab memerlukan penguasaan bahasa yang betul bagi mendapatkan pemahaman yang sahih. Prinsip-prinsip perundangan Islam yang dibincangkan juga berkaitan secara tidak langsung dengan kursus Introduction to Law yang turut dipelajari pada semester pertama. Kedua-dua perkara ini dilihat selari dengan Peringkat Adaptasi (Mustawa al-Taqyim) dan Peringkat Integrasi (Mustawa al-Tafaqquh) iaitu peringkat ketiga dan keempat yang digariskan USIM sebagai asas kepada pembinaan kurikulum unik naqli dan aqli.

Dapatan umum dalam kajian ini juga menunjukkan terdapat penerapan Naqli dan Aqli yang menepati falsafah USIM dalam kurikulum Program Tamhidi Syariah Dan Undang-Undang. Asas pembentukan kurikulum program ini adalah gabungan kursus syariah, kursus undang-undang dan kursus bahasa. Konsep gabungan ini disebut secara jelas dalam Amanat Tahun Baharu Naib Canselor USIM 2014: Menjajarkan Pelan Strategik USIM ke Arah Pengukuhan Agenda Integrasi Ilmu Naqli dan Aqli. Menurut Mantan Naib Canselor USIM dalam ucapannya"*...kita patut melihat secara keseluruhan program tersebut dan mereka bentuknya (design the curriculum) supaya ada ruang untuk integrasi ilmu Naqli dan Aqli"* (Asma Ismail. 2014).

Kesimpulan berdasarkan keseluruhan dapatan dan perbincangan daripada kajian ini, penyelidik mendapati bahawa kurikulum naqli dan aqli yang menepati falsafah USIM terdapat dalam kursus Al-Mabadi' Al-Fiqhiyyah secara khususnya dan terdapat di dalam Program Tamhidi Syariah dan Undang-Undang secara umumnya. Penyelidik juga memperolehi dapatan dari sisi sampingan apabila dapatan lain dari kajian juga menunjukkan bahawa pemberatan kepada elemen aqli sangat ketara berbanding elemen naqli berdasarkan kuantiti kursus yang ditawarkan di semester dua pengajian. Perkara ini boleh dijadikan sebagai kajian lanjutan samada dalam skop kajian yang sama berkaitan naqli dan aqli mahupun skop kajian lain yang berbeza. Selain daripada itu, penyelidik juga melihat beberapa penambahbaikan perlu dibuat dalam kandungan modul kursus dalam skop ilmu aqli dengan memperbanyakkan perbincangan kepada isu semasa bagi mencapai hakikat kebenaran ilmu.

Penutup

Kepentingan integrasi ilmu naqli dan aqli tidak dapat dipertikaikan. Gabungan keduanya memberi impak positif duniawi dan ukhrawi, satu impak yang tinggi nilainya. Adnan Mohamed Yusuf (2015) ada menyatakan pandangan Alparslan Acikgenc tentang kepentingan integrasi ini melalui artikelnya Gagasan integrasi ilmu Naqli dan Aqli (USIM): Sorotan awal dari perspektif Fakulti Pengajian Quran dan Sunnah. Justifikasi secara teori, apabila disepadukan atau diintegrasikan kedua-dua ilmu naqli dan ilmu aqli, iaitu antara ilmu agama yang berasaskan al-Quran dan Sunnah dan sains moden (ilmu kontemporari), natijahnya ialah ilmu hakikat kebenaran pasti akan diperolehi. Puncanya adalah kerana cahaya bagi hati sanubari ialah ilmu-ilmu agama, manakala cahaya bagi akal ialah ilmu-ilmu sains moden. Manakala himmah (keazaman) para pelajar akan bertambah tinggi dengan kedua-dua ilmu yang boleh diumpamakan seperti dua sayap ini. Ketika kedua-duanya terpisah, akan lahir pada yang pertama sifat taksub (superstition or fanatic), dan pada yang kedua muslihat (corruption) dan keraguan (scepticism).

Usaha mengintegrasikan ilmu naqli dan aqli dalam kurikulum yang ditawarkan adalah usaha yang sangat murni dan perlu mendapat sokongan yang berterusan dari semua pihak. Apa jua istilah yang digunakan, ia perlu dilihat sebagai agenda memartabatkan ummah dalam melahirkan insan kamil sesuai untuk pembangunan negara, ummah dan manusia sejagat.

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BIOKIDS: AN INNOVATION TOWARDS THE INTEGRATION OF NAQLI AND AQLI KNOWLEDGE

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Abstract: *Biology is a branch of knowledge that deals with living organisms and vital processes. The Biology knowledge such as human creation is scattered throughout the Quran. One of the miracles in the Quran is that it describes accurately the embryonic stages during creation and formation of a fetus until delivery. It is important to relate between the science of Biology and Quran which meets the physical and spiritual needs in order to produce a balanced holistic person. This concept is known as integration of naqli and aqli that combines the revealed knowledge and modern sciences. Therefore, this study aims to introduce and discuss a tool named as "Biokids" courseware that helps the children to understand more on Biology field with the reflection of the integration of naqli and aqli knowledge. This study involved qualitative method, which is collecting data obtained by conducting a review of Quranic verses that related to the area of knowledge. This effort is hoped to attract kids to learn more about Biology as the interactive courseware provides new method of learning to people especially those at young age who love to have more active learning environment. Future research may also be focused on designing and developing an interactive courseware for Biology subject in collaboration with Biology teachers and educational professionals.*

Keywords*:* *Biology, Naqli, Aqli, Integration*

Introduction

Allah has stressed the obligation to reflect upon and examine the signs of creation around. A verse in the Quran refers to such people in the following manner: "Those who remember God, standing, sitting and lying on their sides, and reflect on the creation of the heavens and the earth: 'Our Lord, You have not created this for nothing. Glory be to You! So safeguard us from the punishment of the Fire" (Surat Ali Imran: 191) (Harun Yahya, 2004). Therefore, it is a need to study and examine various aspects of the world, such as the rain, plants, animals, birth and geographical landmarks. Quran is the main source that contains guidance for all mankind. It is scientifically more advanced than the present scientific knowledge as there are more than six thousands of signs in the Quran of which more than a thousand deal with science. The use of advanced technology nowadays have proven many of the facts that are already present in the Quran from over 1400 years (Zakir Naik 2000).

Biology is a kind of knowledge existed in the Quran which deals with living things, both in the animal and plant kingdom. The scientific progress has interpreted the hidden meaning of some Quranic verses about biology. For example, Allah has made it clear in the Quran that animals were created from water by the following verse: "And Allah has created every animal from water" (Surah An-Nur: 45). Modern research also revealed that cytoplasm, the basic substance of the cell is made up of 80% water. Most organisms consist of 50% to 90% water and that every living entity requires water for its existence (Zakir Naik 2000). In Surah Taha, Allah said that: "… and it is He who sent down rain from the sky and with it brought forth a variety of plants in pairs" (Surah Taha: 53). Scientists have found that plants have both male and female parts. People also know that fruit comes from plants that have sexual characteristics even when they come from unfertilized flowers like bananas. Surah ar-Ra'd revealed the discovery with the following verse "…and of all fruits (God) placed (on the earth) two pairs" (Surah ar-Ra'd: 3) (Maurice, 1978).

The history witnesses that Muslim scholars also made contributions in biology field. An Islamic scholar, Al-Dinawari is one of the leading botanists and his work, 'The Book of Plants,' was a landmark book, earning him the epithet, 'The Father of Islamic Botany' (Martyn Shuttleworth, 2010). Therefore, to study biology is of great importance that benefits not only the biology field but reaches across other scientific disciplines and Muslim society. One of the methods to learn biology easily is through Information and Communication Technology known as ICT as it has making information more accessible and changed the way the learners interact with the content (Ida Aryanie et al., 2011). ICT such as computer eased the burden on the resources needed for the teaching and learning process. It is used as a teaching tool and able to solve the problem in learning. Instead of recording the students' performance and feedbacks, the use of computer also reduce the time and effort required to master in learning materials (Teoh Sian Hoon, 2006). Hence, it is believed that ICT helps the learning process and could improve the understanding. However, this paper will focus on interactive courseware which is an example of ICT. The objective of this paper is to introduce and discuss the "Biokids" courseware which helps the children to understand more on biology field with the reflection of the integration of naqli and aqli knowledge. This effort is hoped to attract students at young age to study Quran and science.

Research Methodology

A methodology can be defined as a set of methods that define the process and order of how something is to be achieved (Andrew and Ainslie, 2000). This study applied qualitative method that is collecting data obtained by conducting a review of Quranic verses that is related to the area of knowledge which is, biology. The result of this is the development of "Biokids" courseware which will promote naqli and aqli integration.

This interactive courseware also guided by the ADDIE (Analysis, Design, Development, Implementation, and Evaluation). It is a strategic planning for the instructional design process (Jeff Clay, n.d). ADDIE is a five-phase systematic model and each phase represents a series of tasks that help to ensure development efforts stay on tract, on time, and on target (Norasiken et al., 2012). The steps as following:

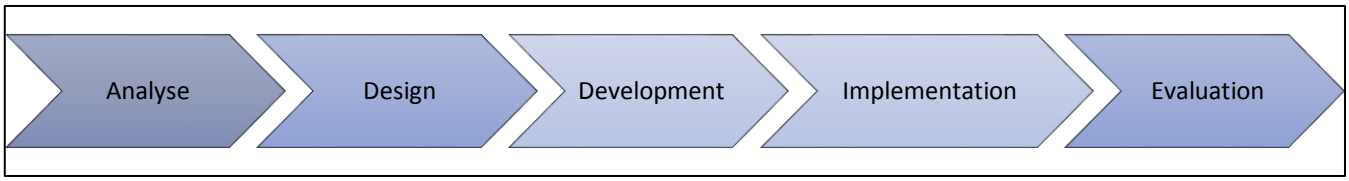

Figure 1: Addie Model

1) Analysis: In this phase, needs analysis is conducted. The designer determines the audience's needs, existing knowledge and any other relevant characteristics (Ida Aryanie et al., 2011). The system is analysed and the problems are also described.
2) Design: This phase is a determination process of how the information is going to be learnt. The designer determines the development strategy in accordance with the data obtained during the analysis phase and how the objectives will be reached is clarified (Selay and Buket, 2008).

   This courseware should attract the attention of consumers which is included with several graphic elements that are appropriate to a multimedia presentation designed to get attention of the users. Adobe Photoshop CS6 has used to structure the interface design of the courseware. The images that will be used in interface were edited as a png format. The voice of Quran recitation is recorded by audacity software while the audio is edited using Cyberlink PowerDirector 10 and Cyberlink WaveEditor.
3) Development: The development phase involves preparing all of the components of multimedia (Selay and Buket, 2008). Adobe Flash Player CS6 is the main software in developing this application where all graphics, audio, video and text are integrated in the Flash animation clips to produce powerful interactive features.
4) Implementation: The purpose of this phase is to introduce Biokids courseware to the target audience. The delivery environment should be effective and efficient for implementation of Biokids.
5) Evaluation: This phase is the end stage of the project that will determine whether the instruction is sufficient enough in getting the most effective outcome. Biokids courseware will be evaluated in order to see up to what extent the design meets the learning objectives and the needs of learners.

Interactive Courseware: The Malaysian Experience

The use of multimedia-based in education is rapidly gaining popularity in Malaysia. Multimedia courseware can be defined as an interactive communication process based on the use of computer technology inclusive of combination and integration between text, graphics, sound, animation and video (Mohd Nor Hajar et al., 2013). It became a great attention and necessity in a software as it helps a lot in the process of teaching and learning. Malaysia constantly invests in computer technology for education because of a strong belief that it will improve learning outcomes. E-learning has been developed in Malaysia under the educational technology programs offered by the government through the Malaysian Ministry of Education (Norfadilah, 2015).

Malaysian Ministry of Education has adopted multimedia-based learning for a pilot project entitled Smart School Project in 1998. This project aims to improve Malaysian Primary and Secondary students learning attitudes and achievements and also to enhance teachers' performance by the end of 2020 (Norfadilah et al., 2010). The opportunity to use interactive courseware were given to the teachers in selected Smart Schools in teaching Malay, English, Mathematics and Science subjects in the classroom. Laptop also supplied by Malaysian government to each teacher to ensure that the supplied interactive courseware can be utilized successfully. However, interactive courseware should not be expected to replace teachers' roles in delivering knowledge but must be seen as a tool for increasing the students' involvement in teaching and learning (Norfadilah, 2015).

Interactive courseware is a kind of teaching and learning method that motivate students to learn and encourage them to participate actively. Toward the goal, this study aims to introduce Biokids courseware which is an interactive courseware that helps children to learn biology in an effective environment and fun learning. At the same time, children is able to

understand the Quranic verses, in the light of established scientific discoveries through a courseware. This innovation can be said as the effort of integrating naqli and aqli knowledge.

Potential of Interactive Courseware in Promoting Naqli and Aqli Knowledge

The first guidance from Allah is al-Quran following by al-Sunnah. These two sources are granted by Allah to man in order to achieve two types of knowledge including the knowledge through revelation and prophet as well as the acquired knowledge learned through experiences and when man strives with his mind (Al-Migdadi, 2011). The knowledge through revelation is naqli knowledge which came from authentic sources such as Al-Quran and Sunnah of Prophet Muhammad. Meanwhile, the term aqli or non-revealed knowledge also known as worldly knowledge means logical and intellectual interpretation of any given matter (Siti Salmiah et al., 2016). The combination of naqli and aqli knowledge is an effort to create a society that has balance between worldly and the hereafter, which is a generation that has the love and heart for al-Quran and master in modern knowledge. It matches with the vision of National Education Philosophy (FPK) and Islamic Education Philosophy (FPI) which is to generate a balanced generation from the aspects of physical, emotion, spiritual and intellectual (Zetty Nurzuliana Rashed et al., 2015).

The evolution of technology has brought the world closer and the access and sharing of information became easier. The use of ICT such as computer provided many opportunities and it is a part of society. Thus, it can be efficiently utilized in promoting Islamic teachings. Muslims should use this new technology, as well as to put their efforts to learn and comprehend Islamic teachings. The efforts to bring the beneficial new developments into the Muslim society, develop and perfect them is a communal obligation (fard kifayah) (Abdullahi, 2013). Interactive courseware is a technology and it should be used as an effort to introduce naqli knowledge in science. For that reason, Biokids courseware is created to children in learning biology and teaching about Quran at the same time.

Discussion

Biokids is an interactive courseware created for children particularly as it is important to appreciate the opportunities in cultivating interest to learning. The discussion about Biokids in this paper will be divided into objective, limitation of project, project feature and how Biokids works.

Objective

Online multimedia courseware- Biokids aims to teach children about biology via online source. They can learn through the system and play the education games that is provided in the system. Hence, the kids will be more interested to learn from the games. The child can also learn and understand the Quranic verses related to the biology topics. Thus, the kids will learn science as well as the Quran through animation, video, graphic, sound and texts. This multimedia project is hoped to increase children's interest to learn more about sciences and Quran.

Limitation of Project

Biokids courseware will focus on general knowledge about biology for kids and its Quranic verses. The kids can choose any of four topics they like to learn. It will be the alternative tools for kids to learn independently and do practices through the games that is provided in the system. The four main topics in Biokids are botany (the study of plants),

physiology (how living organisms function), zoology (the study of animals) and embryology (the study of genes and embryo).

Project Feature

Firstly, this project is multimedia-based learning which is flexible without depending on teachers, books or in class. Traditional learning needs students to allocate specific time for learning, following to the teachers or schedule whereas interactive courseware can be used in various places such as at home, on the bed or while travelling. In short, the learner will easily enjoy using it any time and at any places. Secondly, the courseware is an interactive learning. It is mutual action between the learner, the learning system, and the learning material. There are also video, music, graphics, texts, and games which make the learner more interest to learn. More cartoon are used and the childish style is used on sound narrator to attract the kids. The kids will return to the program and play it again and again because of exciting, challenging and fun feeling. Based on these reasons, with the interactive learning elements, the proposed multimedia courseware of Biokids can help kids to understand the content easily compare to when they read books.

Thirdly, it is cost-effective. Although multimedia courseware has its own development costs, but it can save a lot on expensive and time-consuming travel and transportation, tuition and class monthly fee, and other expenses related to the program. Fourthly, it is user-friendly as it brings ability to navigate through material in whatever ways. It has options which are three language consists of Malay, English and Arabic language as well as icon and button that are simple to use. Lastly, this project integrates naqli and aqli knowledge since it combines biology knowledge and revealed knowledge that is Quran in order to attract the kids to learn and understand Quran. It means they do not ignore revealed knowledge in the future while mastering modern science.

How Biokids Works

The multimedia-based courseware will cover four topics that are botany, physiology, zoology and embryology. In every topic, the proposed courseware will teach the kids all of the information relating to the topics with the explanation from the Quran. Animation, sound, text, video and graphic will be included to the design of user interface. The needs and psychology of kids are important elements to be analysed in designing the interface. Kids like to play, thus there are some flash games that have been developed for them like quizzes, puzzles, crosswords, and other interesting educational games. To be more attractive, sound effects will be added appropriately with the situation such as special sound for wrong and right answer. In addition, the background for Biokids will be designed relating to the topic. For instance, the background for botany will be about types forest and for zoology is on different kinds of animals. Besides, the voice teaching also will guide the kids to click the next station, play and stop button and others. Kids can click on voice teaching to listen and pronounce the word correctly and to listen to the explanation such as the embryonal stages during creation and formation until delivery. The ‘home’ button is to go back to the main page, ‘Previous’ and ‘Next’ button use to forward or back and all these three buttons; ‘Home’, ‘Previous’ and ‘Next’ will appear in each page.

Quranic verses are important part in every topic. Once the kids click on the “Enjoy the Quran” button, they will listen to the Quran recitation and its translation with the help of video, graphic and animation to increase the understanding. Based on the research, there are 46 verses about biology in the Quran and the most verses came from the last juz in the Quran which is juz 30 that are surah al-Naba’, al-Nazi’at, al-Infitar, al-Tariq and al-Tin. Meanwhile, surah al-An’am and surah al-Tariq contained most number of verses about biology. Kids can also select

"Quranic Games" to play the fun flash games in order to attract them to enjoy the Quran in learning biology. Three languages will be prepared to ease them to use Biokids consists of Malay, English and Arabic languages. By listening and enjoying the Quran lesson in Biokids, kids can learn how to recite Quran correctly and understand the meaning at the same time appreciate the miracle of Quran.

Conclusion

In conclusion, Biokids is created for the interactive teaching and learning of biology with the use of technology. Interactive courseware provides alternative of learning to the kids who love to have fun learning environment. Colours, animation, graphic, video, text, sound and music will attract them to explore more and increase their understanding in biology and Quran. Biokids courseware is believed to spread biology knowledge among kids since its interactive features is suitable to children nowadays which are flexible, interactive, user-friendly, as well as integrating naqli and aqli knowledge which aims to generate a balanced and holistic person. The main element in Biokids which is Quran is used to explain four biology topics which are botany, physiology, zoology and embryology. Hence, Biokids has the potential to introduce Quran from young age and show the miracle of Quran in life. It is hoped that Biokids is able to produce a holistic generation who is master in Quran and biology. Future research may be focused on designing and developing an interactive courseware for Biology subject in collaboration with Biology teachers and educational professionals.

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SMART i-ASTRONOMY: EXPLORING THE ASTRONOMY KNOWLEDGE

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Abstract: *Astronomy knowledge plays crucial part in this world since most of human activity depends on it for example when predicting the weather and compass direction. For instance, in deciding the exact date for first day of Ramadhan in Hijri calendar, Muslims use astronomy knowledge as known as 'Ilmu Falak'. Other than that, astronomy offers many kind of job opportunity for human. We also believe that few approaches regarding astronomy knowledge onto others will make people understand a little bit about this superlative science. Hence, this paper intend to introduce and discuss a tool to be implemented as "Smart i-Astronomy" courseware. We hope this effort in introducing this science field to people especially amongst students at young age could leverage positive responds and increase students' interest to learn more about astronomy. Especially nowadays, we need young Muslims experts to expand and develop Al-Biruni, Ptolemy and Al-Battani's forte.*

***Keywords**: Astronomy Knowledge, Science field, Falak*

Introduction

The history witnesses that Muslim scholars has excelled in every branch of scientific knowledge included astronomy. It was one of Muslim's exploration and can be regarded as a pride of Islamic civilization (Saadan Man et al., 2012). Islamic astronomy or Arabic astronomy can also be referred to as '*ilm al-Falak*'. It is one of the forgotten Islamic field even though this knowledge has been developed by Muslim scientists since the first century of Hijrah (Muhammad Adil Afridi, 2013). One of the Muslim scientists is Abu Abdullah al-Battani. He was a mathematician and also a famous astronomer who wrote many books on astronomy. He is recognized as one of the greatest astronomer in his time and in the middle ages (Hafez, 2010). There was also Al-Haytham, al-Khawarizmi, Al-Falaki, Ptolemy and al-Biruni who made major contributions to the field of astronomy. In modern era, the most well-known Malay scholar of astronomy was the late Syeikh Tahir Jalaluddin al-Falaki al-Azhari and Tuan Haji Mohd Khair bin Hj. Mohd Taib (Susiknan Azhari, 2010). Many expert graduates produced by the Falak course in the university led by Tuan Haji Mohd Khair. They were then managed to form an astronomy association called Persatuan Falak Syar'i Malaysia (Saadan Man et al., 2012).

The development of astronomy is related to the God's commandment to observe nature. Verses 190 to191 in Surah Ali 'Imran clearly prove this statement, as in the following meaning: 'Behold! In the creations of the heavens and the earth, and the alternation of night and day – there are indeed signs for men of understanding – Men who celebrate the praises of Allah, standing, sitting, and lying down on their sides, and contemplate the (wonders of) creation in the heavens and the earth, (with the thought): "Our Lord! Not for nothing have You created (all) this! Glory to You! Give us salvation from the suffering of the Fire!'. The verse above clearly told the Muslims to observe, and study the phenomena of the creations. They have to use their intellect, a potential to give reasons and reasons on the creation which is balanced and follow the rules or measures prescribed by Allah SWT. Study of the phenomena is included in the field of astronomy (Mohd Yusof, 2015).

It is clear that astronomy is at the forefront of science and technology which answering fundamental questions and has continue to revolutionize our thinking on a worldwide scale. Astronomy has been used to measure time in the past as well as mark the seasons and navigate the oceans (Marissa Rosenberg et al., 2014). Therefore, to study astronomy is of great importance that benefits not only the astronomy field but reaches across other scientific disciplines. One of the ways to learn astronomy easily is through ICT otherwise known as Information and Communication Technology as it is a common medium to retrieve information. The influence of information technology on social practices has making information more accessible and changed the way the learners interact with the content (Ida Aryanie, 2011). According to Delombaerde (2001), multimedia software, whether distributed via CD-ROM or the internet, possibly provides instructors that enhancing or replacing their traditional education methods through multimedia demonstration and simulation (Delombaerde et al., 2001).

A development of ICT application in teaching and learning is interactive courseware. Interactive courseware is an alternative on how the information source can be spread to the people interactively using the computers. According to Inglis et al. (2002), it is generally understood that interactive courseware is a form of multimedia in which the presentation carried out in the digital form and interaction between the user and the presentation is supported (Inglis et al., 2002). The objective of this paper is to introduce and discuss an interactive courseware to learn astronomy which named as "Smart I-Astronomy" courseware. This effort is also hoped to attract students at young age especially to study science.

Project Significant

The importance of the research is to help people, especially the students at young age to understand about the Quranic verses, in the light of established scientific discoveries through a courseware. The secret of those verses are exposed by this courseware at the same time demonstrate the astronomy knowledge is in the Quran as well. It also helps people to identify Quranic verses by classifications of astronomy's knowledge. This multimedia project is hoped to increase students' interest to learn more about sciences generally and astronomy particularly.

Objective

This project aims to develop a courseware that computerized the astronomy's learning process known as "Smart I-Astronomy". In addition, this paper aims to reveal the role of science and technology in promoting Islamic knowledge. Hence, this multimedia project is an approach that could leverage positive responds and increase students' interest to learn more about astronomy.

Limitation of Project

The scope of the study is the application covers the general knowledge of astronomy and its relation to the Quranic verses. This application can be used by everyone especially for Muslims; parents and children. There are Falak section containing Islamic calendar, determination of prayer times, *ru'yah* and *hisab*, eclipse, qiblah's direction as well as five classifications of astronomy knowledge which are The Sun and Moon, Stars and Planets, Orbits, The Day and Night and Creation of the Universe.

Research Methodology

A qualitative method involved in this study is collecting data obtained by conducting a review of Quranic verses that related to the area of knowledge which is, astronomy. The result of this is the development of "Smart I-Astronomy" courseware that promotes naqli and aqli integration.

In addition, ADDIE method is implemented in courseware development. ADDIE is the acronym of a generic instructional design model, which stands for Analyze, Design, Develop, Implement, and Evaluate (Gordon Welty, 2007). It is like a strategic planning for the instructional design process (Jeff Clay, n.d). The steps as following:

1) Analysis: The designer identifies the learning problem, the goals and objectives, the audience's needs, existing knowledge and any other relevant characteristics during analysis (Ida Aryanie et al., 2011). Some of the software used in the courseware are authoring process such as Adobe Photoshop CS6, multimedia tools and voice recording software.

2) Design: During this phase, the learning objectives were determined and the content is designed interactively to encourage the learners to explore further. To illustrate how the prototype is going to be, a detail storyboard has been created. Then, Adobe Photoshop CS6 is used to structure the interface design of the courseware. The images that will be used in interface were edited as a PNG format. Audacity software has recorded the voice of Quran recitation while the audio is edited using Cyberlink PowerDirector 10 and Cyberlink WaveEditor.

3) Development: The development phase involves the creating or obtaining any media mentioned in the design of the courseware. This phase as actual production of the design specifications (Ida Aryanie et al., 2011). All images, audio, video and text are inserted into Adobe Flash Player CS6 which is the main software to develop this application. In this process, testing and reproducing process will be done and saved via file in SWF format once the entire component has run well and complete.

4) Implementation: This phase is where Smart I-Astronomy courseware is published to the target audience. The delivery environment should be prepared for implementation of Smart I-Astronomy.

5) Evaluation: As this phase had taken place at the end stage of the project, it will receive feedback from students. During this phase, Smart I-Astronomy courseware will evaluate whether it requires further development or it meets the students' needs.

Discussion

The Quran is a revelation from Allah and was sent down to human as guidance. In twenty-three years, there are various purposes in the revelation of Quran. The age in which Quran was revealed is when humankind progressed in the course of development. Meanwhile, science developed in the Arab world after the Quran was revealed. Many objects related to science field specifically astronomy were mentioned in the Quran such as existence of sun, moon, stars and other planets that are widely discussed. These verses can form the philosophy

of the science of Qur'an on astronomy knowledge (Wan Helmy Shahriman et al., 2015). According to Ensiklopedia Pendidikan Sains dalam al-Quran, astronomy is expressed as a scientific study of all objects whether in the universe, out of the earth or in the atmosphere. Among these objects are the sun, moon, stars, nebulae, galaxies, planets and others in space (Yahaya Jusoh and Azhar Muhammad, 2007).

In creating the courseware, the researcher suggested the verses of Quran to be classified based on five topics which are The Sun and Moon, Stars and Planets, Orbits, The Day and Night and Creation of the Universe. Therefore, the main menu of Smart I-Astronomy will consist of these five sub-menus and the students can choose which topic they want to learn by clicking on it. Students can choose what they want to learn next because the mode of learning is interactive and does not impose a strict linear progression between each steps. Then, the description page that explain about the knowledge will appear in text, video, sound, graphics or animation which will bring the interactive multimedia into the learning environment.

After that, once the students click on the "Quranic Verses" button, the students will get to know which verse in the Quran is related to the topic and which surah in the Quran mention the topic. Based on the research, there are 66 verses about astronomy in the Quran found by researcher. The most verses came from the last juz in the Quran which is juz 30 that are surah al-Naba', al-Takwir, al-Buruj, al-Tariq and al-Shams. In addition, it is found that two surah from Quran contain the most number of verses about astronomy which are surah al-Rahman and al-Saffat. Students can choose to listen to the Quran recitation by clicking on the 'Play' and 'Stop' button. Also, students can select the language they prefer consists of Malay and English languages by clicking on 'Language' button. The 'Home' button is for coming back to the main page and students will found it easy to go forward or back by clicking on the 'Previous' and 'Next' button. These three buttons; 'Home', 'Previous' and 'Next' will appear in each page.

As the teaching of Islamic astronomy has been taught in official course at several universities, Smart I-Astronomy courseware is going to take this opportunity to promote Islamic astronomy and help the process of teaching and learning in Falak course. In addition, it is in line with a need to have experts like past Muslim scholars who are capable to resolve problems and encounter challenges in modern Islamic astronomy issues. Instead of the five sub-menus, there is also a button for Falak section. By clicking on that button, students can learn about Islamic calendar, determination of prayer times, *ru'yah* and *hisab*, eclipse, and qiblah's direction that will appear in interactive ways of learning by video and animation.

Project Feature

Nowadays, learning astronomy is done manually by using books or in class or otherwise students need someone to teach and guide them especially for a beginner. Without a teacher, students will not be able to explore more. Also, students need to allocate specific time for learning astronomy, depending on the teacher or schedule. Class, tuition or any related program may cost students for the monthly fee. The learning materials and transportation costs may also be considered. Based on these reason, Smart I-Astronomy courseware is created with interactive and features.

Firstly, this project is multimedia-based learning which used computer technology to deliver knowledge and improve students' understanding. Secondly, it is cost-effective. Instead of reducing cost in terms of transportation and tuition fees, it is suitable for those who have limited mobility and limited daily time to devote their time in learning. Thirdly, it is user-friendly as it brings ability to navigate through material in lots of ways. It has options which are dual-language consists of Malay and English language as well as icon and button that are simple enough to be used without an instructor. Fourthly, this courseware has audio feature

that is generally split into two categories, namely sound and music. Audio is believed to increase enjoyment and engage user in a way that static material does not. In this courseware, the Quran recitation is used which help those who are not really well in reciting at the same time able to learn Quran and its translation. The fifth feature is visual element comprised of text, animations and graphics that is used to demonstrate an idea or illustrate the meaning and at the same time provide more enjoyable learning experience.

Conclusion

In conclusion, with the continuous development of science and technology, interactive courseware provides new method of learning to students especially for those at young age who love to have more active learning environment. Also, it cannot be denied that multimedia-based learning enhances students' participation and understanding through the colourful text, video, graphic and animation. The researcher believes that Smart I-Astronomy courseware will spread astronomy knowledge among students considering its interactive features which are multimedia-based learning, cost-effective, user-friendly, as well as using audio and visual to emphasize the learning atmosphere.

The five different topics of astronomy have been developed in a brief way together with the Quranic verses for each topic in order to relate the astronomy's findings with the revelation. Falak section also aims to produce skillful and credible Muslim astronomers. At the same time, this application implements the integration of naqli and aqli knowledge which is important in producing a holistic generation who master in revelation and modern science knowledge. Future research may also be focused on designing and development of an interactive courseware for astronomy subject in collaboration with astronomy teachers and educational professionals. It is hoped that this approach will come out with positive feedbacks and increase students' interest in learning astronomy.

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LEVERS OF CONTROL UNDER THE INFLUENCE OF NATIONAL CULTURE: AN EMPIRICAL ANALYSIS

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Abstract : *In today borderless international economy, businesses across nations are increasing dramatically. Under such case, importing or exporting control mechanisms across culture without adjustment is packed with risk. Thus, the relationship between national culture and management control systems (MCS) is inseparable and complex. Thus, cultural differences across countries are supposed to influence the preferences and differences in the philosophies and approach of MCS design. Based on the Hofstede (1980) cultural dimensions, (i.e. Collectivism, high uncertainty avoidance, and high power distance) and Simons (1995) levers of control framework (LOC) (beliefs, boundary, diagnostic, and interactive control), this study empirically examined the association between national culture and MCS. Using a survey of 129 top managers of the Palestinian listed firms, we examine the influence of national culture on MCS. The evidence suggests that collectivism and high uncertainty avoidance are the main cultural dimensions that influencing the philosophies of MCS design in the Arab countries, whereas high power distance has no effect on MCS. Finally, findings provide suggestions for potential directions of future cultural research in MCS.*

Keywords*: Management Control System, Levers Of Control, National Culture, Palestine*

Introduction

The relationship between national culture and MCS design represent an extension of contingency-based research from its organization basis into more sociological concern (Chenhall, 2003). This concern seems as a logical response due to increasing number of businesses across nations, as one of the results of globalization (Harrison & McKinnon, 1999; Harrison, McKinnon, Panchapakesan, & Leung, 1994; Merchant, Chow, & Wu, 1995; Suh, 2016). World movement toward international firms encouraged managers to know whether control practice that is used in one country can be used in another country effectively (Chow, Shields, & Wu, 1999; Efferin & Hopper, 2007; Harrison & McKinnon, 1999; Van der Stede, 2002). Thus, Merchant et al. (1995) commented on this point that importing or exporting control mechanisms across culture without adjustment is packed with risk. In fact, the motivation to study the impact of national culture on MCS design is to answer the questions that whether and how the differences in national culture gives rise to differences in the philosophies and approach of MCS design (Chow, Shields, & Chan, 1991; Daley, Jiambalvo, Sundem, & Kondo, 1985; Harrison et al., 1994). Besides, Merchant (1982) argues that management control is the problem of human behavior. In contrast, Hofstede, Hofstede, and Minkov (2010) argues that human behavior is strongly associated with national culture. Hence, implementing this concept stresses the importance of national culture as the guide of human

behavior, which is the main challenge of MCS design (Daley et al., 1985; Otley, 1978; Van der Stede, 2002).

Based on that, this study is going to provide an empirical evidence on the relationship between national culture and levers of control framework. In particular, the influence of collectivism culture, high uncertainty avoidance, and high power distance on levers of control (LOC) framework. The purpose behind examine these national culture dimensions is to get a more in-depth understanding of the role of national culture on the preferences and differences in the philosophies and approach of MCS design between the Anglo-American culture, that considered the source of exporting management control system, to the other side of the world. In particular, to the Arab world that considered the opposite culture of Anglo-American culture. In fact, Arab countries have been neglected in the context of the cross-cultural research of MCS. Indeed, the missing part of this global MCS research is the Arab countries (Dik, 2011).

This paper is organized as follows. The next section of this paper discusses the literature review followed by a section on research methodology. The subsequent section focuses on the results and discussion, and, finally, the conclusion is in the last section.

Literature Review And Hypotheses Development

Hofstede (1980) defines culture as the collective programming of the mind which distinguishes the member of one human group from another. In fact, understanding the concept of culture is considered a difficult task and that encouraged Hofstede (1980) who, from his survey of employee attitudes in the world-wide subsidiaries of IBM, disaggregated culture into four norm values (which he termed ‘‘dimensions’’ of culture): uncertainty avoidance (UA) power distance (PD), individualism (IDV), and masculinity (MAS). Later on, Hofstede & Bond, (1988) identified Confucian Dynamism (CD) as the fifth norm value of culture. More recently, in the 2000s, research by Bulgarian scholar Michael Minkov using data from the World Values Survey (Minkov, 2007) allowed a new calculation of the fifth, and the addition of a sixth dimension (Hofstede et al., 2010). The six dimensions are labelled Indulgence versus Restraint and have been added to Hofstede cultural dimensions (Hofstede, 2011). Nevertheless, Hofstede (1980) culture definition and dimensions is the most acceptable in MCS research (Chow et al., 1991; Harrison, 1992, 1993; Merchant et al., 1995; Ueno & Sekaran, 1992). Whereas, MCS definition can be derived from Simon (1995). He, defined MCS as “the formal, information-based routines and procedures managers use to maintain or alter patterns in organizational activity” (Simons, 1995, p. 5).

However, the possible influence of national culture differences on MCS design required a proper definition for MCS design instead of sufficiency of MCS definition per se. According to Shurafa and Mohamed (2016), MCS design is “the process of selecting and modifying control mechanisms that suit the organizational context, to ensure that information flow from those mechanisms will result in quick response and discipline to keep the organization on track of growth and success” (p,131). Because there is accumulating evidence that each nation has its particular culture, which influences their preferences for the reaction toward management control its fundamental task in the MCS design to study the influence of national culture on MCS design. Indeed, since the existence of Hofstede (1980) cultural dimensions, cross-cultural research of MCS emerges in the mide of 80s. Previous studies examined the relationship between Hofstede cultural dimensions and elements of control systems such as budget (Daley et al., 1985; Harrison, 1992), formal communication (Ueno & Sekaran, 1992), formality of control, appraisal system, team development and frequency of feedback (Vance et al., 1992) and structuring of activities (Lincoln, Hanada, & McBride, 1986) and incentive system (Van der Stede, 2002) among others. For further comprehensive review of the previous studies refer to Harrison and McKinnon (1999). Previous literature shows inconsistent and mixed results at

best. Few studies confirm the high impact of national culture on MCS design, whereas some were unable to detect a significant influence (Efferin & Hopper, 2007; Harrison & McKinnon, 1999; Merchant et al., 1995). In addition, previous researchers examined the impact of national on a subpart of control system and they omitted the holistic control system approach such as levers of control and that is the aim of this study to full this research gap. However, discussing each of national culture dimension that will be used in this study (i.e. collectivism, high uncertainty avoidance, and, high power distance,) separately related to MCS design will illustrate the issue further in depth.

Collectivism Culture and Levers of Control

This section discusses the relationship between collectivism culture and each dimensions of levers of control – beliefs control system, boundary control system, diagnostic control system and interactive control system.

Collectivism and beliefs control system

Collectivism culture refers to, "society in which people from birth onward are integrated into strong and cohesive in-groups, which throughout people's lifetimes continue to protect them in exchange for unquestioning loyalty" (Hofstede & Hofstede, 2004, p. 76). Therefore, the relationship between employer and employee has a moral component, which implies that the employer should protect their employees in return for their loyalty and that will be reflected on the MCS in general and on beliefs system in particular. In this context, employees from collectivism culture are expected to be fully motivated in achieving the aim of this beliefs system by searching, creating, exploring and initiating through communication network that dominating collectivism culture, and as such, organization core value and mission statement will be successfully communicated. In different words, employees from collectivism culture are expected to show their loyalty in protecting and maintain their group success by fully participated in beliefs system.

Collectivism And Boundary Control System

People from collectivism culture are more concerned about group success and they do not have the same level of self-interest that appears in individualism culture (Hofstede et al., 2010). Therefore, boundary control system is supposed to be loose because people in the collectivism culture are already have the motivation to protect their organization as it represents their group umbrella. As the purpose of boundary system is to set limits and constraints to protect organizational assets, behavior, survival and growth (Simons, 2000), collectivism culture provides the fundamental role of the boundary system since people from such culture are already have the sense of protecting their organization from dysfunctional and/or deviant behavior. In addition, individuals' loyalty toward group success in the collectivism culture has the ability to assist in designing motivated boundary system instead of restricted boundary system.

Collectivism And Diagnostic Control System

Diagnostic control is the backbone of MCS (Simons, 1995). It is concerned about setting plans and budgets as well as measures the performance to make comparison between actual and desired outcomes (Simons, 2013). Preparing those plans and budgets in collectivism culture are not limited to the top management since collectivism societies believe in in-group work and there is already communication network in this kind of culture (Hofstede et al., 2010), which will assist in setting those plans and budget after a proper communication between superiors and their subordinates. Add to this, the influence of collectivism culture on the

internal consistency between organization members and departments may influence organizational culture to be more cooperative and that definitely will result in setting efficient and relevant plans and budget due to high level of communication, cooperation and coordination as a natural influence of the collectivism culture.

Collectivism And Interactive Control System

As collectivism culture is more concerned about group success (Hofstede et al., 2010), both the superiors and the subordinates are supposed to be more concerned about the source of group success that imply in achieving organization goals and objectives. This may result in better coordination and communication between superiors and their subordinates in the collectivism culture. Hence, interactive use of MCS in this scenario may become more efficient due to this coordination and communication, in fact, subordinates in this case are supposed to be more motivated to participate in the interactive use of MCS by providing the required information through the established communication channels. Simons (1995), comments on the importance of this cooperation and coordination to create an information network in order to monitor critical success factors. He states, "senior managers must encourage continuous search activity and create information network… Individual must share information with others" (p. 92). Thus, sharing of information through establishing communication networks could be more applicable to collectivism culture, as there already exists a communication networks and that will positively influence interactive control. Based on the above discussion the following hypothesis represents the expected relationship between collectivism culture and LOC.

H1: There is a significant association between collectivism culture and LOC.

High Power Distance culture and Levers of Control

This section discusses the relationship between high power distance culture and each dimensions of levers of control – beliefs control system, boundary control system, diagnostic control system and interactive control system.

High power distance and beliefs control system

Power distance represents "the extent to which less powerful members of institutions and organizations within a country accept that power is distributed unequally" (Hofstede et al., 2010, p. 61). Power distance was theoretically identified as the main cultural dimension that determines the appropriate relationship between the superior and subordinate, top management and middle management (Harrison, 1993; Hofstede, 1984; O'Connor, 1995). In this context, Simons (1995), commented on the importance of decreasing the distance between middle managers and top management with the purpose of inspiring middle managers to participate in beliefs control system to transform organizational beliefs into action and strategies. He stated; *"Middle managers are especially important in identifying and creating strategic initiatives, these managers will not become enthusiastic participants in the search for opportunity if they do not understand the beliefs of the organization and are not invited to participate in transforming those beliefs into action and strategies"* (p. 37).

High Power Distance And Boundary Control System

As the boundary system is responsible to impose limits and constraints on organizational activities (Simons, 1995), top management in high power distance culture are expected to use boundary system with the intention of maintaining high distance between top and middle managers as well as to keep distance between organization managers and the rest

of organization members due to the influence of high power distance characteristics, especially the propensity toward maintaining high distance between ruler and the ruled. Consequently, boundary systems under this kind of culture will be designed and used to maintain this distance between superiors and their subordinates, which will assist in setting the appropriate limits and constraints on opportunity seeking behavior that was established and motivated by beliefs system. In doing so, the fundamental aim of the boundary system in providing the optimal control techniques through imposing constraints such as code of conduct, proscribed behavior, rules and procedures, action to be avoided as well as limits that are established based on pre-defined business risk (Simons, 2000), will be completely established.

High Power Distance And Diagnostic Control System

Diagnostic control is responsible to measure the actual performance of the company in comparison with the expected through setting plans, budget, and objectives (Simons, 2013). The possible influence of high power distance culture, in this case might result in setting those plans and budgets in the top management office with formal appropriate communication between top management and lower level management. In fact, exploiting boundary system in establishing and maintaining high distance between high and low organization members as was discussed earlier may assist in setting plans and budget in superior office after appropriate communication with their subordinates, because such distance will extend to influence the communication channels all over the organization and that may encourage low-level managers or their employees to participate or give their point view regarding those plans and/or budget, and that may result in setting relevant and achievable plans and/or budget.

High Power Distance And Interactive Control System

Interactive control represent to which level top managers will engage personally in monitoring the outcome of any control systems, to stimulate search and learning in order to allowing new strategies to emerge (Simons, 1990). This in turn, required high level of communication and coordination between superior and their subordinates. By contrast, high power distance societies are described by formal distance between superior and subordinate (Harrison, 1993; Hofstede, 1984; O'Connor, 1995). This formal distance is expected to has its influence on the relationship between superiors and their subordinates, which will assist in improving the communication effectiveness between both of them to be more clear and direct to the point. Appropriate communication between top managers and lower-level managers is fundamental to the effectiveness of interactive use of any control system (Simons, 2013). Based on the above discussion, the following hypothesis (H3), present the expected association between high power distance culture and LOC.

> **H3:** There is a significant association between high power distance culture and LOC framework.

Theoretical Framework

Based on Simons (1995) LOC and Hofstede (1980) cultural dimensions the theoretical framework is illustrated in Figure1.

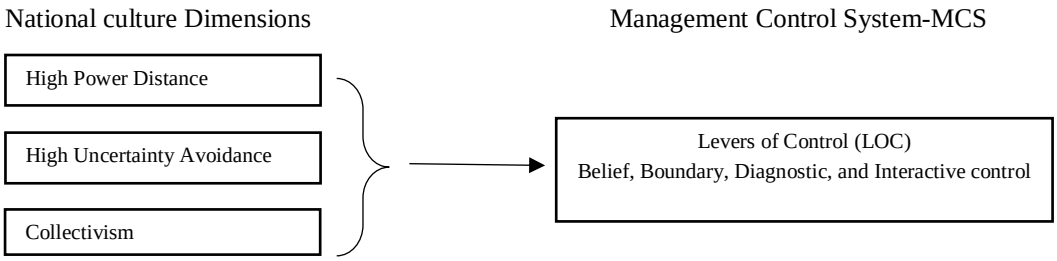

Figure 1 Theoretical framework

Methodology And Variables Measurement

Survey questionnaire with a cover letter was personally distributed to the top-managers of the Palestinian listed firms. We chose the top-managers as informants since they are knowledgeable about the firm's MCS. A total of 245 questionnaires was distributed in August 2015. A total of 90 questionnaires were returned. A follow up calls and emails to each of non-responding firms yield a further 47 returned questionnaires. Eight of the total respondents (137) failed to complete the questionnaires. Citing reason such as staffing constraints, contravening company, and huge amount of missing data. Consequently, a total of 129 completed questionnaires, which represent a response rate of 52.6% was used to perform data analysis. For the purpose of testing response bias, we perform t-test for early and late response as suggested by (Armstrong & Overton, 1977). No statically significant differences were found in the mean score on the MCS, organizational learning, and firm's performance between the early and late respondents.

This study is based on levers of control framework, which is dependent upon the extent to which firms emphasize the use of beliefs, boundary, diagnostic and interactive control system. Each of beliefs and boundary systems was measured by using items adopted from Widener (2007). Respondents were asked to choose their preference from a five point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), to indicate the emphasis place on each of belief and boundary systems in their control system. The diagnostic and interactive use of MCS was measured by using items adopted from Henri (2006). Participated managers were asked to select their preference from a five point Likert ranging from 1(Never) to 5 (Always), to indicate the emphasis they place on diagnostic and interactive system in controlling their organization. National culture dimensions have been measured using 12 items adapted from VSM 94 of Hofstede and Hofstede (2001). These 12 indicators were used to determine the impact of high power distance, high uncertainty avoidance and collectivism culture on MCS design. The respondents were asked to indicate their response on a five point Likert scale (1= strongly disagree to 5 = strongly agree).

Data Analysis and Findings

Using SmartPLS 2, we analyzed the collected data. Table 1 provides outer convergent validity for all items with respect to its variables. All factor loading of the research measurements exceed the cut-off 0.70. Similar, reliability test of this study was confirmed as all value of composite reliability exceed the recommended cut-off 0.70 (Hair, Black, Babin, & Anderson, 2010), and range between 0.881 to 0.941 as presented in Table 1. In addition, the recommended standard value of average variance extracted (AVE) was found to be greater than

0.50 as suggested by Fornell and Bookstein (1982), in order to ensure that the latent variable has the ability to explain more than half of the variance of its indicator on average.

Table 1: Outer model, Convergent Validity and Composite Reliability

Construct	Items	Loading	CR	AVE
Beliefs	Mission statement communicates values	0.878	0.921	0.744
	Top managers communicate values	0.849		
	Workforce is aware of values	0.877		
	Mission statement inspires our workforce	0.846		
Boundary	Defines appropriate behavior	0.890	0.893	0.676
	Informs about off-limits behavior	0.770		
	Communicate risks to be avoided	0.804		
	Workforce aware of code of conduct	0.819		
Diagnostic	Track progress towards goals	0.893	0.911	0.719
	Monitor results	0.826		
	Compare outcomes to expectations	0.816		
	Review key measures	0.854		
Interactive	Enable discussion in meeting of superiors, subordinates and peers.	0.756	0.941	0.694
	Enable continual challenge and debate of underlying data, assumption, and action plan.	0.859		
	provide common view of the organization.	0.831		
	Tie the organization together.	0.860		
	Enable organization to focus on critical success factors.	0.843		
	Develop a common vocabulary in the organization	0.843		
	Enable the organization to focus on common issues	0.835		
	Enable discussion in meeting of superiors, subordinates and peers.	0.756		
	Enable continual challenge and debate of underlying data, assumption, and action plan.	0.859		
Power distance	Subordinates are frequently afraid to express disagreement with superiors.	0.783	0.863	0.678
	There are considerable distance between top managers and middle managers.	0.862		
	There are considerable distance between middle managers and organization members.	0.824		
Collectivism	Our company prefers to communicate its results with its members.	0.799	0.828	0.617
	Organization managers prefer to work individually rather than to work in-group.	0.732		
	Our company prefer group decision making.	0.823		
Uncertainty Avoidance	A company or organization's rules should not be broken.	0.750	0.869	0.626
	Our company has specific rules, procedures, and work laws.	0.898		
	Our company extremely implement its rules, procedures, and work laws.	0.729		
	The company allows its members to search for new ideas and opportunities.	0.776		

Latent variable correlation which examining the correlations between the measures of potentially overlapping constructs appear in Table 2. The table clearly shows that the values of

all square root of AVE (Bold values) exceed the correlation with other constructs (elements in the rows and columns), which manifest the discriminant validity of this study.

Table 2: Latent Variable Correlations

	(BS)	(BOS)	(COLL)	(DS)	(IS)	(PD)	(UA)
Belief System (BS)	**0.863**						
Boundary System (BOS)	0.765	**0.875**					
Collectivism (COLL)	0.694	0.665	**0.816**				
Diagnostic System (DS)	0.639	0.555	0.588	**0.767**			
Interactive System (IS)	0.612	0.633	0.543	0.779	**0.883**		
Power Distance (PD)	0.297	0.405	0.399	0.256	0.279	**0.822**	
Uncertainty Avoidance (UA)	0.644	0.650	0.621	0.646	0.602	0.257	**0.791**

As this study proof its measurements validity and reliability, we proceed the bootstrapping approach to test research hypotheses. Path coefficient of the research hypotheses illustrated in Table 3. Research hypotheses (H1& H2) that predict positive and significant association between each of collectivism and high uncertainty avoidance with LOC framework, was highly supported at p-value ($P < 0.01$). By contrast, H3 that concern about the association between high power distance and LOC framework (H1), was rejected as the p-value is greater than 0.05. Table 3 illustrates the results.

Table 3: Path Coefficient of the Research Hypotheses

Hypotheses	Relationship	Std. Beta	T- value	P-value	Result
H1	Collectivism → LOC	0.362	4.61	0.000	Supported**
H2	High uncertainty avoidance → LOC	0.408	5.55	0.000	Supported**
H3	High power distance → LOC	-0.037	0.59	0.278	Not supported

Significant at P**= < 0.01

Discussion

This paper sought to examine the influence of national culture on MCS, in particular on levers of control framework (LOC). It was hypothesized in first hypothesis (H1) that, collectivism culture is positively associated with LOC framework. The path coefficient of this relationship was supported at ($\beta = 0.362$, $t = 4.61$, $p < 0.000$). This finding is theoretically consistent with previous contingent-based research such as (Harrison & McKinnon, 1999; Van der Stede, 2002; Bond et al ,1982; Ueno & Sekaran,1992; Harrison, 1993; Leung & Bond, 1984; Dik, 2011), who confirm positive significant association between collectivism culture and MCS design. The theoretical base of this association is that the more the society have high rank on collectivism culture scale the more the preference to design MCS will be different from individualism society. For example, there is a tendency in cross-cultural research on MCS to assume that collectivist societies prefer groups over the individual (Harrison & McKinnon, 1999). Hence, as Arab society is ranked with high level of collectivism, work is carried out in the name of group. For instance, Dik, (2011), reported that performance evaluation in some Arab companies is measured according to group scores of achievements, which reflect the importance of the collectivism culture in the context of the Arab MCS. This result gives

supports to the claim of Hofstede et al., (2010), who noted that people of collectivism culture from birth onwards are integrated into strong and cohesive in-groups.

Furthermore, the current result is in line with a variety of previous contingent-based research that predict organizational behavior as well as employees' behavior under collectivism culture, such as: decision making process (Harrison et al., 1994), incentive schemes (Chow et al., 1994; Chow et al., 1991; Merchant et al., 1995) and participation (Chow, Kato, & Merchant, 1996; Harrison, 1992). Those preferences are driven by collectivism culture (Harrison and McKinnon, 1999). As a result, information exchange in the collective cultures disseminates easily and very fast (Dik, 2011). Hence, in regard to the decision-making, information can be exchanged between top managers quickly through informal talking, and then a final decision is made. Consistently with Alattar et al. (2009), Arab companies such as Palestinian companies rely to a great extent on oral communication. This finding support the theoretical description of the cultural dimensions of Arab World.

In the second hypothesis (H2), it was hypothesized that, there is a positive association between high uncertainty avoidance culture and LOC framework. The path coefficient was also accepted at ($\beta = 0.408$, $t = 5.55$, $p < 0.000$). This accepted association between high uncertainty avoidance culture and MCS is harmonize with previous research grounded in contingency theory, who confirm positive significant influence of the uncertainty avoidance culture on the preferences of MCS design (Chow et al., 1999; Harrison & McKinnon, 1999; Harrison, 1993; Ueno & Wu, 1993; Van der Stede, 2002; Dik, 2011; Leung & Bond, 1984). The theoretical background of this association is built upon the characteristics of high uncertainty avoidance culture. Sociologists such as Hofstede et al., (2010), described high uncertainty avoidance societies that they adhere to strict laws, rules, security, safety, autocratic style of management and control with a preference for rule-based as they believe that absolute truth is the only way to confront uncertainty (Hofstede & Bond, 1988). This means Palestinian managers avoid uncertainty by designing restricted MCS due to the influence of their culture, which become the best way to harmonize their personality characteristics. Thus, managers of high uncertainty avoidance culture try to feel more secure by relying on strict laws, rules, security, procedures and safety. In addition to that, since Palestinian environment is dominated by high level of the environmental uncertainty (Shurafa & Mohamed, 2016), designing autocratic style of MCS might be the way to avoid uncertainty in such society.

Finally, hypothesis (H3), that concern about the association between high power distance culture and LOC framework, was rejected at ($\beta = -0.037$, $t = 0.59$, $p < 0.28$). This result is not surprising since it is in line with the findings of Merchant et al., (1995), who cannot find significant association between national culture dimensions and MCS. However, power distance was theoretically identified as the main cultural dimension that determines the appropriate relationship between the superior and subordinate, as well as within the entire organization hierarchy (Harrison, 1993; Hofstede, 1984; O'Connor, 1995; Hofstede & Hofstede, 2010). In this context, the empirical result of the current study should be read in the context of the previous studies. Harrison et al. (1994), reported that, Asian countries as high power distance societies, the emphasis is associated with group decision making as a result of high power distance influence. In the context of the Palestinian companies, group decision making was determined by the influence of the collectivism culture that dominating Palestine, rather than the effect of the high power distance culture. Therefore, in the Palestinian companies the appropriate relationship between the superior and subordinate, as well as within the entire organization hierarchy, was determined by the influence of the collectivism culture instead of high power distance culture.

Conclusion and Recommendation

This study provides an empirical evidence on the relationship between national culture and levers of control framework. In particular, the influence of high power distance, high uncertainty avoidance and collectivism culture on LOC framework. The purpose behind examine these relationships is to get a more in-depth understanding of the role of national culture on the preferences and differences in MCS design between the Anglo-American culture that considered the source of exporting management control system to the other side of the world since importing or exporting control mechanisms across culture without adjustment is packed with risk as was noted by Merchant et al. (1995). The findings show that collectivism culture and high uncertainty avoidance has strong significant influence on LOC framework, whereas high power distance culture has no effect on MCS design in the context of the Arab world, which might reflect the influence of collectivism culture over high power distance culture. In general, national culture is an important antecedent factor of the MCS design, since there is accumulated evidence that each nation has its special national characteristics, which reflected in its philosophies and approach of MCS design (Chow et al., 1991; Daley et al., 1985; Harrison et al., 1994). In conclusion, we recommended for future research to repeat this stud in different Arab countries to find whether all of the 22 Arab countries share the same preferences in the philosophy and approach of MCS design or there are clear differences between them. In addition, its useful to replicate this study outside the Arab countries. In particular, in any county that share the same culture characteristics with Arab world based on Hofstede cultural scale to examine whether same culture will lead to same philosophy and approach of MCS design or there are clear differences even in the countries that share same culture characteristics.

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HUBUNGAN ANTARA PENGALAMAN MENGAJAR DAN TAHAP PERANCANGAN PENGAJARAN DALAM KALANGAN GURU PENDIDIKAN JASMANI TINGKATAN 4

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Abstract *Artikel ini merupakan satu kajian tentang hubungan antara pengalaman mengajar dan perancangan pengajaran dalam kalangan guru Pendidikan Jasmani tingkatan 4. Kajian ini dijalankan di salah sebuah daerah di negeri Selangor. Seramai 50 orang guru Pendidikan Jasmani Tingkatan 4 terlibat sebagai responden. Soal selidik digunakan sebagai instrumen untuk mengumpul maklumat berkaitan dengan pengalaman mengajar dan perancangan pengajaran dalam kalangan guru Pendidikan Jasmani Tingkatan 4. Analisis diskriptif dan inferensi digunakan untuk menjawab soalan kajian. Analisis diskriptif seperti peratus, median dan min. Manakala analisis inferensi adalah Pearson-r. Hasil daripada analisis statistik, didapati, tidak terdapat hubungan yang signifikan antara pengalaman mengajar dan perancangan pengajaran dalam kalangan guru Pendidikan Jasmani Tingkatan 4 ($r=0.2$, $p>0.05$). Ini menunjukkan bahawa tahap perancangan pengajaran tidak mempunyai kaitan dengan pengalaman mengajar dalam kalangan guru Pendidikan Jasmani Tingkatan 4. Walaupun guru itu mempunyai pengalaman mengajar yang lama, namun tahap perancangan pengajaran masih tidak memuaskan. Ini berkemungkinan, guru yang telah lama mengajar mempunyai banyak pengalaman dan tidak perlu membuat perancang pengajaran dengan memuaskan.*

***Keywords**: Pengalaman Mengajar, Perancangan Pengajaran, Pendidikan Jasmani Tingkatan 4, Sekolah Menengah.*

Pengenalan

Mata pelajaran Pendidikan Jasmani merupakan mata pelajaran yang diajar secara teori dan amali di sekolah menengah. Ini kerana terdapat elemen kesihatan dan latihan fizikal di dalam mata pelajaran tersebut. Oleh yang demikian guru yang mengajar mata pelajaran Pendidikan Jasmani perlu guru yang mahir dalam bidang teori mahupun amali. Dengan kata lain, sebaik-baiknya matapelajaran ini perlu diajar oleh guru yang ospyen dalam Pendidikan Jasmani ataupun Sains Sukan. Guru yang opsyen Pendidikan Jasmani mempunyai pengetahuan tentang mata pelajaran Pendidikan Jasmani. Disamping itu mereka juga mempunyai kemahiran dalam mengajar teknik-teknik asas sesuatu permainan. Melalui pengetahuan dan kemahiran ini akan dapat melancarkan lagi proses pelaksanaan pengajaran Pendidikan Jasmani di sekolah.

Bagi melaksana proses pengajaran dan pembelajaran Pendidikan Jasmani dengan lancar, guru Pendidikan Jasmani juga perlu membuat perancangan pengajaran dengan rapi. Perancangan pengajaran ini penting sebelum melaksana sesuatu pengajaran. Melalui perancangan, guru akan dapat melaksana pengajaran dengan teratur dan murid pula akan dapat belajar dengan berkesan dan menyeronokkan. Menurut Robert & Yinger (1980) perancangan yang baik akan dapat membantu guru dan kelas akan dapat berfungsi dengan berkesan. Oleh yang demikian, setiap guru hendaklah membuat perancangan pengajaran sebelum mereka melaksana pengajaran di kelas ataupun dipadang dan gelanggang permainan. Walaupun mereka sudah lama mengajar ataupun baru mengajar perancangan perlu dibuat sebelum pergi ke proses pengajaran dan pembelajaran. Menurut Goodwin (1999) guru yang berpengalaman mengajar akan dapat menyumbang kepada pengajaran yang berkesan. Bagi guru yang telah lama mengajar sudah tentu mempunyai pengalaman dalam merancang pengajaran berbanding dengan guru yang baru mengajar. Tetapi bagi guru yang baru tamat pengajian di universiti atau di institusi pendidikan guru pula biasanya mempunyai semangat dan motivasi yang tinggi untuk mengajar dan sudah pasti mereka akan membuat perancangan dengan rapi sebelum mengajar di kelas atau di padang. Berdasarkan kepada pernyataan tersebut jika diteliti tidak kira guru baru ataupun lama, kedua-dua kumpulan ini sebenarnya mampu membuat perancangan pengajaran dengan baik. Walaupun demikian berdasarkan kepada kajian yang dibuat pihak Jemaah Nazir (2007), masih terdapat bukti yang menunjukkan bahawa perancangan pengajaran masih kurang memuaskan. Misalnya hasil daripada pemerhatian itu, didapati objektif pengajaran dari aspek psikomotor, kognitif, dan kognitif tidak selaras dengan aktiviti yang dijalankan semasa pelaksanaan proses pengajaran dan pembelajaran Pendidikan Jasmani. Jika guru tersebut telah membuat perancangan pengajaran yang rapi berkemungkinan tidak akan berlaku ketidakselarasan antara objektif pengajaran dengan aktiviti pengajaran yang telah dijalankan. Sehubungan dengan itu, penyelidik ingin menjalankan satu kajian bagi melihat sejauhamana guru yang telah lama mengajar ataupun baru mengajar dalam membuat perancangan pengajaran sebelum melaksana pengajaran dan pembelajaran Pendidikan Jasmani Tingkatan 4 bagi tunjang kecergasan fizikal di sekolah menengah. Selain itu untuk mengenalpasti hubungan antara pengalaman mengajar dengan tahap perancangan pengajaran dalam kalangan guru Pendidikan Jasmani Tingkatan 4.

Perancangan Pengajaran

Perancangan merupakan perkara utama yang perlu dilakukan oleh guru sebelum melaksana pengajaran. Bailey (2003) menjelaskan bahawa perancangan adalah kerja guru yang kekal di bawah kawalan mereka secara langsung. Oleh itu sebagai guru Pendidikan Jasmani perlu membuat perancangan sebelum melaksana pengajaran. Ini adalah untuk memastikan objektif pengajaran yang telah dirancang dapat dicapai. Lagipun, menurut Johnson (2007) perancangan dapat mengawal pengajaran bagi memastikan tercapainya objektif pembelajaran pelajar. Pengajaran ialah satu proses yang kompleks dan memerlukan pelbagai aktiviti jika inginkan sesuatu proses pembelajaran dapat dilaksanakan dengan jaya seterusnya mencapai objektif yang telah ditetapkan. Proses pembelajaran ini bisanya melibatkan gabungan aktiviti antara guru dan pelajar (Siti Hawa, Mazlen, Norasmah & Zamri, 2006). Sehubungan dengan itu perancangan yang efisen dan teliti perlu dibuat terlebih dahulu sebelum melaksanakan pengajaran Pendidikan Jasmani Tingkatan 4 bagi tunjang kecergasan di sekolah menengah.

Perancangan juga meliputi penyediaan dari aspek persekitaran fizikal kelas dan memilih bahan-bahan (Hughes, 2002). Perancangan juga melibatkan pemilihan strategi pengajaran, kaedah, teknik, aktiviti dan alat bantu mengajar yang selaras dengan pencapaian objektif (Mohamad Idris, 2002). Oleh yang demikian, dalam merancang, guru Pendidikan Jasmani perlu membuat persediaan tentang sumber dan bahan pengajaran serta kemudahan dan peralatan yang mencukupi sebelum melaksanakan pengajaran Pendidikan Jasmani Tingkatan

4 bagi tunjang kecergasan di sekolah. Menurut Cruickshank, Jenkins, & Metcalf. (2003), guru perlu mempunyai pengetahuan dan kemahiran dalam merancang, melaksana pengajaran, dan menilai pembelajaran bagi memastikan pelajar dapat belajar dengan lebih baik.

Merancang pengajaran adalah tanggungjawab guru sebelum memulakan kelas pengajaran. Guru yang baik adalah guru yang sentiasa merancang dan membuat persediaan tentang pengajaran mereka (Schemp, 2003). Oleh itu, bagi menjayakan proses pengajaran perlu ada perancangan yang rapi terlebih dahulu. Menurut Wandberg & Rohwer (2003), kejayaan sesuatu pengajaran adalah hasil dari perancangan yang berkesan. Manakala Bailey (2003) pula menyatakan bahawa perancangan yang berkesan adalah faktor yang signifikan terhadap persembahan pengajaran yang berkesan. Ini menunjukkan bahawa perancangan adalah kunci kepada pembentukan pengajaran yang baik (Schempp, 2003). Perancangan melibatkan keputusan yang harus diambil oleh guru sebelum hendak memulakan pengajaran. Keputusan ini merangkumi tentang pemilihan kandungan, matlamat dan objektif, tugasan untuk pelajar, keperluan pelajar, aktiviti pengajaran yang sesuai, penilaian, dan pemilihan dan persediaan bahan pengajaran (Kellough, 2007).

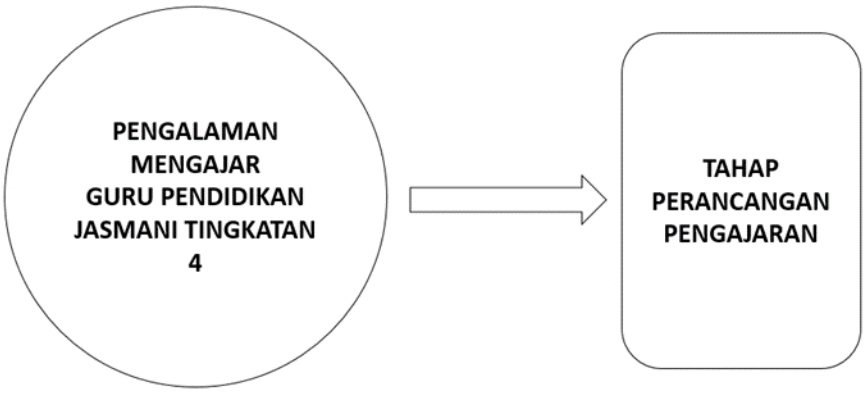
Kauchak & Eggen (2003) pula, telah mengenal pasti bahawa sumber dan bahan, peruntukan waktu pengajaran, kandungan pelajaran dan guru adalah antara pemboleh ubah yang terdapat dalam aspek perancangan pengajaran. Manakala menurut Olivia (2005), merancang untuk pengajaran termasuklah mengkhususkan matlamat dan objektif pengajaran, memilih strategi pengajaran, sumber pengajaran dan teknik untuk menilai pengajaran. Ini menunjukkan bahawa dalam aspek merancang pengajaran selain daripada mengenalpasti sumber dan bahan pengajaran, merancang waktu pengajaran dan kandungan pelajaran, guru Pendidikan Jasmani juga hendaklah menetapkan matlamat dan objektif pengajaran, memilih strategi pengajaran, dan mengenalpasti teknik penilaian yang akan digunakan dalam proses pengajaran dan pembelajaran di dalam kelas.

Seterusnya, berdasarkan kepada kajian yang telah dijalankan oleh Hill & Brodin (2004), aspek pengurusan, kemahiran sukan atau pengetahuan, kaedah mengajar, rancangan pelajaran, merupakan perkara utama dalam membuat persediaan untuk mengajar Pendidikan Jasmani. Kenyataan ini selaras dengan pendapat Seman (2005) yang menegaskan bahawa guru perlu membuat persediaan dari segi perancangan pengajaran. Tambahan pula, perancangan pengajaran adalah salah satu daripada kompetensi yang perlu ada pada seorang tenaga pengajar bagi menghasilkan pengajaran yang efektif (Yusnita Yusof, 2006).

Sehubungan dengan itu terdapat beberapa komponen yang perlu dirancang dan disediakan oleh guru Pendidikan Jasmani dalam melaksanakan kurikulum Pendidikan Jasmani Tingkatan 4 bagi tunjang kecergasan di sekolah. Komponen tersebut ialah kandungan pelajaran, objektif pelajaran, hasil pembelajaran, rancangan pengajaran dan pembelajaran, waktu pengajaran, sumber dan bahan pengajaran, kemudahan dan peralatan.

Kerangka Konsep Kajian

Kerangka konsep penting dalam penyelidikan. Kerangka konsep akan dapat memberikan gambaran yang jelas tentang keadaan sebenar kajian yang akan dijalankan. Rajah 1 dibawah menunjukkan kerangka konsep kajian tentang hubungan antara pengalaman mengajar dan tahap pengajaran guru Pendidikan Jasmani tingkatan 4. Pengalaman mengajar merupakan pembolehubah tidak bersandar manakala tahap perancangan pengajaran merupakan pembolehubah bersandar.



Rajah 1 : Kerangka Konsep Kajian Hubungan Pengalaman Mengajar dan Tahap Perancangan Pengajaran Guru Pendidikan Jasmani Tingkatan 4

Kerangka Teori

Kajian ini berdasarkan kepada teori yang dikemukakan oleh Tschannen-Moran & Hoy (2002). Menurut Tschannen-Moran & Hoy (2002), guru yang berpengalaman berefekasi tinggi kerana telah melalui peluang demi peluang menerusi tugas pengajaran harian untuk tempoh yang lama berbanding dengan guru novis untuk mengembangkan kemahiran dalam pengurusan kelas dan strategi pengajaran. Bagi mengembangkan kemahiran tersebut guru juga perlu terlebih dahulu membuat perancangan tentang pengajaran mereka. Melalui perancangan pengajaran yang rapi, ianya akan dapat membantu guru melaksana proses pengajaran dengan teratur. Oleh yang demikian bagi guru yang telah lama mengajar sudah pasti telah membuat perancangan tentang pengajaran mereka sebelum mereka meneruskan pelaksanaan proses pengajaran dan pembelajaran mereka di dalam kelas ataupun di gelanggang permainan. Ini kerana mereka telah melalui peluang demi peluang menerusi tugas pengajaran harian untuk tempoh yang lama terutama dalam tugas merancang pengajaran mereka. Sehubungan dengan teori tersebut, penyelidik ingin membuat satu penyelidikan bagi melihat adakah terdapat hubungan antara pengalaman mengajar dengan tahap perancangan pengajaran dalam kalangan guru Pendidikan Jasmani Tingkatan 4 di salah sebuah daerah di negeri Selangor.

Metodologi

Kajian ini mengkaji tentang hubungan antara dua pembolehubah iaitu pengalaman mengajar dan tahap perancangan pengajaran dalam kalangan guru Pendidikan Jasmani Tingkatan 4. Perhubungan antara kedua-dua pembolehubah tersebut dinamakan korelasi, dan kekuatan sesuatu korelasi diwakili oleh pekali korelasi dalam ujian korelasi. Menurut Pallant (2011), jika nilai korelasi r = .10 hingga .29 hubungan yang lemah, korelasi r = .30 hingga .49 hubungan yang sederhana, dan korelasi r=.50 hingga r = 1.0 hubungan yang kuat. Responden yang terlibat dalam kajian ini adalah 50 orang guru opsyen Pendidikan Jasmani Tingkatan 4 yang mengajar di salah sebuah daerah di negeri Selangor. Responden dipilih menggunakan kaedah persampelan bertujuan, iaitu sampel dipilih berdasarkan pengetahuan khususnya tentang bidang Pendidikan Jasmani Tingkatan 4. Bagi menjawab instrument soal selidik, sampel yang terlibat dalam kajian ini perlu mempunyai pengetahuan tentang Pendidikan Jasmani Tingkatan 4. Instrumen soal selidik telah diuji kebolehpercayaan dan nilai alfa Cronbach adalah seperti di Jadual 1. Menurut Chua Yan Piaw (2006) jika nilai alfa antara 0.65 hingga 0.95 bermakna instrument tersebut mempunyai kebolehpercayaan yang tinggi.

Jadual 1: Nilai Kebolehpercayaan Soal Selidik.

Bil	Instrumen Temubual Berstruktur	Nilai Alfa
1.	Kandungan pelajaran	0.930
2.	Objektif pelajaran	0.864
3.	Hasil pembelajaran	0.922
4.	Rancangan pengajaran	0.801
5.	Waktu pengajaran	0.872
6.	Sumber dan bahan pengajaran	0.833
7.	Kemudahan dan peralatan	0.686

Bagi menganalisis makna nilai min untuk markat skala kadar (*rating scale*) seperti 5-'Sangat memuaskan', 4-'Memuaskan', 3-'Agak Memuaskan', 2-'Tidak Memuaskan', dan 1-'Sangat Tidak Memuaskan', penyelidik membahagikan kepada tiga aras iaitu Tinggi, Sederhana dan Rendah (rujuk Jadual 2). Kaedah seperti ini telah digunakan oleh Rudzi (2003), Nik Mohd Rahimi (2004), serta Mohamad Aderi & Rohani (2009) dalam penyelidikan mereka.

Contoh pengiraan :
Skor Maksimum = 5
Skor Minimum = 1
Perbezaan skor = 5 - 1 = 4
Perbezaan skor dibahagi kepada 3 tahap iaitu 4 ÷ 3 = 1.33

Jadual 2. Kategori Tahap Pelaksanaan

Tahap Pelaksanaan	Jumlah Skor
Rendah	1.00 – 2.33
Sederhana	2.34 – 3.66
Tinggi	3.67 – 5.00

Dapatan Kajian

Hasil daripada pengumpulan data melalui soal selidik, penyelidik telah membuat analisis secara deskriptif dan inferensi. Analisis deskriptif menggunakan min, sp, dan peratus, manakala analisis inferensi menggunakan korelasi Pearson *r*. Data yang diperolehi adalah data tentang faktor demografi dan data tentang perancangan pengajaran dalam kalangan guru Pendidikan Jasmani Tingkatan 4.

Demografi

Jadual 3 menunjukkan dapatan yang berkaitan dengan pengalaman mengajar guru yang mengajar Pendidikan Jasmani Tingkatan 4. Jadual tersebut menjelaskan tentang kekerapan dan peratusan pengalaman mengajar 1 hingga 2 tahun, 3 hingga 4 tahun, 5 hingga 6 tahun, 7 hingga 8 tahun, dan 9 tahun ke atas.

Jadual 3 : Pengalaman Mengajar Guru Pendidikan Jasmani Tingkatan 4

Pengalaman Mengajar (tahun)	Kekerapan	Peratusan(%)
< 1-2 tahun	16	32
3-4 tahun	13	26
5-6 tahun	9	18
7-8 tahun	2	4
9 tahun ke atas	10	20
Jumlah	50	100

Berdasarkan kepada Jadual 3 di atas, di dapati 32% guru Pendidikan Jasmani mempunyai pengalaman mengajar antara 1 hingga 2 tahun, 26% mempunyai pengalaman mengajar 3 hingga 4 tahun, 18% mempunyai pengalaman mengajar antara 5 hingga 6 tahun, dan 4% sahaja yang mempunyai pengalaman mengajar antara 7 hingga 8 tahun. Secara keseluruhannya guru Pendidikan Jasmani yang mempunyai pengalaman mengajar lebih dari 3 tahun adalah sebanyak 68%, berbanding yang mengajar kurang dari 3 tahun iaitu sebanyak 32% sahaja.

Perancangan Pengajaran

Jadual 4 menunjukkan skor min dan sisihan piawai tentang tahap perancangan pengajaran dalam kalangan guru Pendidikan Jasmani Tingkatan 4. Perancangan pengajaran adalah berkaitan dengan kandungan pelajaran, objektif pelajaran, hasil pembelajaran, rancangan pengajaran, waktu pengajaran, sumber dan bahan pengajaran, kemudahan dan peralatan. Tahap perancangan pengajaran dapat dijelaskan melalui tiga tahap iaitu Tinggi, Sederhana dan Rendah.

Jadual 4: Tahap perancangan pengajaran guru Pendidikan Jasmani Tingkatan 4

Komponen Perancangan Pengajaran	M	SP	Tahap
Kandungan pelajaran	4.33	0.79	Tinggi
Objektif pelajaran	4.00	0.70	Tinggi
Hasil pembelajaran	3.61	0.76	Sederhana
Rancangan pengajaran	4.13	0.79	Tinggi
Waktu pengajaran	3.95	0.82	Tinggi
Sumber dan bahan pengajaran	3.70	0.84	Tinggi
Kemudahan dan Peralatan	4.05	0.94	Tinggi

M=Min; SP= Sisihan Piawai

Berdasarkan kepada Jadual 4, didapati tahap perancangan pengajaran yang tinggi adalah berkenaan dengan kandungan pelajaran (M=4.33;SP=0.79), Objektif pelajaran (M=4.00;SP=0.70), , rancangan pengajaran (M=4.13;SP=0.79), waktu pengajaran (M=3.95;SP=0.82), Sumber dan bahan pengajaran (M=3.70;SP=0.84), dan Kemudahan dan peralatan (M=4.05;SP=0.94). Manakala tahap perancangan pengajaran yang sederhana adalah berkenaan dengan hasil pembelajaran (M=3.61,SP=0.76).

Hubungan antara Pengalaman Mengajar dan Perancangan Pengajaran

Jadual 5 menunjukkan korelasi *Pearson* hubungan antara pengalaman mengajar dan perancangan pengajaran dalam kalangan guru Pendidikan Jasmani Tingkatan 4. Sebelum

dianalisis menggunakan statistik korelasi pearson, data telah diuji normaliti sama ada data bertaburan normal ataupun tidak. Hasil daripada analisis normaliti, didapati nilai skewness adalah -0.399 dan nilai kurtosis adalah 0.211. Kedua-dua nilai tersebut berada didantara -2.00 hingga 2.00 dan ini menunjukkan data tersebut adalah normal.

Jadual 5: Korelasi *Pearson* Antara Pengalaman Mengajar dan Perancangan Pengajaran

Pembolehubah	Perancangan Pengajaran		Interpretasi
	r	Sig.	
Pengalaman Mengajar	0.2	.15	Tidak Signifikan

Berdasarkan kepada Jadual 5, hasil analisis kajian korelasi menunjukkan tidak terdapat hubungan yang signifikan antara pengalaman mengajar dan perancangan pengajaran dalam kalangan guru Pendidikan Jasmani Tingkatan 4. Pengalaman mengajar dalam kalangan guru Pendidikan Jasmani Tingkatan 4 menunjukkan nilai r = 0.20 dan sig =.15 (P>0.05). Hasil dapatan ini menunjukkan bahawa dengan pengalaman mengajar tidak mempunyai kaitan dengan tahap perancangan pengajaran dalam kalangan guru Pendidikan Jasmani Tingkatan 4. Walaupun guru tersebut mempunyai pengalaman mengajar yang lama, tidak semestinya mereka telah membuat perancangan pengajaran dengan memuaskan.

Perbincangan

Hasil kajian mendapati guru Pendidikan Jasmani Tingkatan 4 yang mempunyai pengalaman mengajar lebih dari 3 tahun adalah sebanyak 68%, berbanding dengan yang mengajar kurang dari 3 tahun iaitu sebanyak 32% sahaja. Ini menunjukkan bahawa guru Pendidikan Jasmani Tingkatan 4 di daerah tersebut mempunyai ramai guru Pendidikan Jasmani Tingkatan 4 yang berpengalaman dalam mengajar. Guru yang berpengalaman mengajar mempunyai efikasi yang tinggi dalam melaksana proses pengajaran dan pembelajaran. Menurut Tschannen-Moran & Hoy (2002), guru yang berpengalaman berefekasi tinggi kerana telah melalui peluang demi peluang menerusi tugas pengajaran harian untuk tempoh yang lama berbanding dengan guru novis untuk mengembangkan kemahiran dalam pengurusan kelas dan strategi pengajaran.

Selain daripada mengajar mata pelajaran Pendidikan Jasmani, mereka juga dikehendaki membuat perancangan pengajaran. Perancangan pengajaran yang telah dibuat meliputi aspek kandungan pelajaran, objektif pelajaran, hasil pembelajaran, rancangan pengajaran, waktu pengajaran, sumber dan bahan pengajaran, kemudahan dan peralatan. Guru Pendidikan Jasmani telah membuat perancangan pengajaran tentang kandungan pelajaran, objektif pelajaran, rancangan pengajaran, waktu pengajaran, sumber dan bahan pengajaran pada tahap yang tinggi atau sangat memuaskan. Hanya aspek hasil pembelajaran sahaja dirancang pada tahap sederhana.

Seterusnya, hasil analisis mendapati tahap perancangan pengajaran tidak mempunyai kaitan dengan pengalaman mengajar dalam kalangan guru Pendidikan Jasmani Tingkatan 4. Walaupun guru tersebut mempunyai atau tidak mempunyai pengalaman mengajar ianya tidak ada kaitan dengan tahap perancangan pengajaran guru Pendidikan Jasmani sebelum melaksanakan aktiviti pengajaran dan pembelajaran Pendidikan Jasmani Tingkatan 4 di sekolah. Ini juga menunjukkan bahawa samada guru lama ataupun baru bukanlah factor kepada tahap perancangan pengajaran guru di sekolah.

Kesimpulan

Berdasarkan kepada arahan yang dikeluarkan oleh pihak Kementerian Pendidikan, mata pelajaran Pendidikan Jasmani hendaklah diajar kepada semua murid tingkatan 1 hinggalah ke tingkatan 5 di sekolah menengah. Setiap guru Pendidikan Jasmani pula perlu melaksanakan dengan berkesan supaya objektif pengajaran tercapai. Untuk memastikan supaya proses pengajaran dan pembelajaran mencapai objektifnya, guru hendaklah membuat perancangan pengajaran dengan baik. Hasil dapatan kajian ini didapati ramai guru Pendidikan Jasmani Tingkatan 4 yang telah lama mengajar di sekolah menengah di dalam daerah yang dikaji. Seterusnya semua responden yang dikaji telah membuat perancangan yang baik dalam perancangan pengajaran mereka. Manakala hasil dari analisis korelasi *Pearson* pula didapati tidak terdapat hubungan antara pengalaman mengajar guru dengan tahap perancangan pengajaran dalam kalangan guru Pendidikan Jasmani di sekolah menengah di daerah yang di kaji. Ini menunjukkan tidak ada kaitan antara pengalaman mengajar dengan tahap perancangan pengajaran guru-guru Pendidikan Jasmani Tingkatan 4. Hal ini juga boleh dijelaskan bahawa walaupun guru tersebut mempunyai pengalaman mengajar yang lama namun demikian tahap perancangan pengajaran mereka masih tidak memuaskan.

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DNA SEBAGAI *QARINAH* DI MAHKAMAH SYARIAH: ANALISIS TERHADAP ENAKMEN KETERANGAN MAHKAMAH SYARIAH PERLIS 2006

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Abstrak: *Ujian DNA adalah salah satu hasil daripada kemajuan sains dan teknologi yang telah digunakan sebagai satu bentuk pembuktian dalam undang-undang Sivil mahupun undang-undang Islam. Ujian DNA telah diterima sebagai satu keterangan di Mahkamah Sivil dan Mahkamah Syariah di bawah keterangan pakar. Kajian ini adalah berbentuk sosio-perundangan berbentuk kualitatif dan kajian lapangan berasaskan temubual. Bidang kuasa Mahkamah Syariah di Malaysia yang terhad sekadar hukuman ta'zir dilihat membolehkan ujian DNA ini diterima pakai sebagai satu keterangan pembuktian yang kukuh. Kesahan hasil ujian DNA itu sendiri sudah cukup untuk menjadikan keterangan tersebut sebagai bukti yang boleh diterima di Mahkamah untuk pensabitan kes. Tujuan kajian ini adalah untuk mengkaji tentang kebolehterimaan undang-undang keterangan di Mahkamah Syariah khususnya peruntukan undang-undang, prosedur keterangan dan penerimaan keterangan DNA di Mahkamah Syariah Negeri Perlis. Hasil kajian mendapati ujian DNA diterima di Mahkamah Syariah Perlis sebagai pembuktian dalam bentuk qarinah yang berfungsi untuk menguatkan bukti. Sebagai bukti yang berbentuk qarinah pembuktian melalui ujian DNA ini tidak boleh digunakan sebagai bukti utama untuk mensabitkan kes-kes jenayah yang melibatkan hukuman hudud dan qisas ynag memerlukan pembuktian mencapai tahap al-Yakin. Untuk mengelakkan ketidakpastian peneriman ujian DNA yang lebih baik di Mahkamah Syariah, usaha harus dilakukan dengan memasukkan peruntukan berkenaan penerimaan DNA di dalam enakmen dan undang-undang keterangan mahkamah syariah.*

Kata kunci: *Undang-undang Keterangan, DNA, Qarinah, Mahkamah Syariah, Pembuktian*

Pendahuluan

Qarinah dari segi bahasa bermaksud tanda atau perkara-perkara yang menunjukkan sesuatu (Ahmad Fathi Bahnasi, 1989). Al-Sayyid Sabiq (1999) menyatakan *qarinah* adalah tanda yang sampai ke tahap keyakinan yang boleh menjadi bukti untuk dijadikan asas hukum. Abdul Karim Zaydan (1998) mentakrifkan *qarinah* sebagai tanda-tanda atau alamat yang boleh menjadi bukti atau keterangan bagi mensabitkan tentang adanya sesuatu atau menafikannya. Menurut Wahbah al-Zuhayli (1989) pula *qarinah* sebagai segala tanda zahir yang mempunyai hubungan dengan

sesuatu yang tersembunyiyang mana tanda zahir ini mempunyai hubungan dengan sesuatu fakta yang tidak diketahui dan ia menjelaskan fakta berkenaan . Menurut Wahbah Zuhaili (1989) lagi, melalui bukti atau maklumat ini, kebenaran atau kepalsuan sesuatu fakta yang dipertikaikan dapat dipastikan kedudukannya. Ini bermakna *qarinah* adalah satu tanda yang jelas untuk membuktikan sesuatu fakta yang tersembunyi.

Daripada pengertian yang diberi dapat difahami bahawa *qarinah* adalah segala yang boleh dijadikan alasan untuk mensabitkan kesalahan. Perkataan *"sesuatu yang boleh dijadikan bukti"* digunakan di dalam takrifan membawa erti yang umum samaada sesuatu bukti itu boleh dilihat, dirasai, didengar, dipegang dan sebagainya (Mahmud Saedon Awang Othman, 2003).

Di Malaysia, penggunaan DNA telah digunakan secara meluas di Mahkamah Sivil manakala di Mahkamah Syariah, Hakim Mahkamah Syariah telah mula menggunapakai DNA sebagai *bayyinah* atau pembuktian kes bagi sabitan pengesahan status nasab bagi kes Harta Pusaka, Hak Penjagaan Anak (*Hadhanah*) dan Jenayah Syariah dalam kes persetubuhan haram. Antara kes awal yang menggunakan ujian DNA di Mahkamah Syariah sebagai *qarinah* ialah Kes *Pendakwa Syarie Negeri Sabah* lwn *Rosli bin Abdul Japar* (23/2 JH 237, 2007).

Artikel ini membincangkan peruntukan undang-undang berkaitan *qarinah* seperti yang terdapat di dalam Enakmen Keterangan Mahkamah Syariah (Perlis) 2006, pemakaian DNA sebagai *qarinah* di Mahkamah Syariah Perlis dan analisis hubungan antara keterangan pakar dan penerimaan bukti ujian DNA di Mahkamah Syariah Perlis.

Metodologi Kajian

Kajian ini berbentuk sosio-perundangan iaitu satu kaedah penyelidikan yang menyatukan dua bidang utama dalam penyelidikan iaitu sains sosial dan undang-undang. Oleh kerana undang-undang dibentuk sebagai mekanisme untuk mengurus hal ehwal dan konflik yang timbul dalam masyarakat sosial, undang-undang mempunyai hubungan yang rapat dan sukar dipisahkan dengan masyarakat (Rohani Abdul Rahim, 2002). Kajian ini juga turut melibatkan penyelidikan secara sistematik ke atas isu-isu perundangan yang baru dan terkini dengan menggunakan keaslian dan kreativiti yang tinggi melalui kaedah perundangan tradisional atau konvensional yakni melibatkan proses menyatakan *(stating)*, menginterpretasi *(interpreting)* dan menerangkan undang-undang sedia ada *(clarifying the existing law)* di dalam sesuatu bidang perundangan (Mahdi Zahraa, 1998).

Bentuk kajian lapangan berasaskan temubual merupakan salah satu bentuk penyelidikan sosial (Anwarul Yaqin, 2007) yang merupakan satu interaksi sosial bertujuan mengumpul maklumat bagi tujuan kajian. Justeru, kajian ini tertumpu ke arah pengutipan maklumat dan penyelidik tentang kategori keterangan berdasarkan Enakmen Keterangan Mahkamah Syariah (Perlis) 2006.

Kajian ini menggunakan data primer dan data sekunder. Enakmen Keterangan Mahkamah Syariah(Perlis) 2006 sebagai data primer yang merupakan data daripada sumber terus, berautoriti dan tidak dipengaruhi oleh mana-mana pandangan atau pendapat seseorang (Chatterjee, 2000). Di samping temubual berstruktur dan tidak berstruktur dengan pihak-pihak yang pakar dalam bidang yang berkenaan untuk mendapatkan maklumat yang dikehendaki (Anwarul Yaqin, 2007).

DNA Dan Aplikasi Dalam Sains Forensik

DNA atau maksud sebenarnya asid deoksiribonukleik adalah satu komponen utama kehidupan. Ia mengandungi set-set arahan biologi yang membentuk keperibadian individu. Maklumat-maklumat ini pula diperturunkan dari satu generasi ke generasi yang lain melalui perkembangan pembiakan (National Institute of Health, 2016). Semua kehidupan di muka bumi ini memiliki corak DNA yang unik; untuk menjadikan seorang manusia itu manusia dan seekor harimau itu harimau. Sumber DNA seorang manusia atau seekor arnab mahupun sepohon pokok diwarisi daripada ibu dan bapanya atau dikenali sebagai induk.

Seorang manusia akan memiliki satu set lengkap DNA kromosom yang diperoleh hasil perkongsian ibu dan bapanya. Ia adalah sebanyak 23 pasang set dengan setiap satunya adalah daripada ibu dan bapa menjadikan bilangan mutlak sebanyak 46 set kromosom (American Prosecutors Research Institute, 2015). Set-set kromosom inilah yang dibarisi oleh jutaan maklumat tentang hidupnya sebagai manusia. Maklumat-maklumat inilah yang dikenali sebagai gen. Contoh gen adalah seperti warna mata atau bentuk hidungnya (American Prosecutors Research Institute, 2015).

DNA boleh didapati di dalam nukleus. Nukleus pula terletak di dalam sel yang membentuk tisu dan seterusnya organ tubuh. Selain daripada sel, DNA juga ada terdapat di dalam mitokondria. DNA terletak di dalam sel-sel seperti Sel darah putih (white blood cell), Sperma, Rembesan vagina, Cecair mukosa, Peluh, Air liur, Tahi telinga, Akar rambut, Tulang, Gigi dan Organ-organ seperti jantung dan hati, daripada tisu otot dan juga kulit.

Dalam situasi biasa, DNA akan diekstrak daripada nukleus dan diuji untuk mendapatkan susunannya sebagai data perbandingan. Namun, dalam kes-kes seperti sampel mayat yang telah reput atau sel-sel yang telah mati, DNA mitokondria lebih sesuai digunapakai berbanding DNA nukleus.

Setelah manusia berjaya memecahkan rahsia misteri susunan kromosom DNA dan keunikannya sebagai salah satu ciri variasi kehidupan, ia diaplikasikan dalam penyiasatan forensik. Kebanyakan kes yang mengguna pakai profil DNA adalah untuk memastikan identiti individu sama ada bagi kes mayat reput, kematian akibat bencana ramai mangsa dan mengenalpasti identiti ibu bapa sebenar bagi seorang bayi atau anak yang ditinggalkan atau dibuang. Ia juga berguna bagi menyelesaikan isu pertikaian nasab seorang anak sebagaimana dalam kes perebutan harta pusaka, anak luar nikah mahupun untuk mengenalpasti bapa sebenar si anak (Mawarni Abdul Rahman, 2015).

Bagi kes pendakwaan di mahkamah, ada beberapa langkah utama yang dilakukan oleh ahli sains dalam mengaplikasikan DNA. Langkah-langkah tersebut adalah seperti berikut (American Prosecutors Research Institute, 2015):

a) Mengenalpasti profil genetik daripada sampel biologi yang diperolehi di tempat kejadian sesuatu kes (sebagai contoh, tinggalan sperma dalam kejadian rogol).
b) Mengenalpasti profil genetik daripada sampel orang kena tuduh atau suspek.
c) Membandingkan antara kedua-dua profil ini untuk mendapatkan persamaan atau perbezaan.
d) Mengira kebarangkalian statistik bagi seseorang individu secara rawak memiliki profil genetik yang sama dengan profil genetik yang diperolehi daripada tempat kejadian kes.
e) Seterusnya, pihak pendakwaan boleh menggunakan maklumat-maklumat ini semasa perbicaraan di mahkamah. Maklumat sebegini membantu mahkamah dalam menentukan pesalah bagi kes-kes yang berkaitan.

Selain daripada mengenalpasti kebarangkalian kesamaan profil DNA seseorang suspek atau orang kena tuduh dengan yang ditemui di tempat kejadian mahu pun pada mangsa, ia turut dapat menjawab beberapa persoalan lain. Persoalan bagi 'di manakah sampel DNA itu ditemui' dan 'apakah jenis sampel DNA yang ditemui itu' dapat membantu pihak penyiasat melakukan silangkait antara suspek dan mangsa (American Prosecutors Research Institute, 2015).

Di Malaysia ujian DNA dijalankan oleh Jabatan KIMIA Malaysia di bawah Kementerian Sains, Teknologi & Inovasi (MOSTI). Analisis pemprofilan DNA hanya ditawarkan di Ibu Pejabat Jabatan Kimia Malaysia, Petaling Jaya, di Makmal Cawangan Kuching, Sarawak dan semenjak 1hb Julai 2009 di makmal cawangan Pulau Pinang (Mawarni Abdul Rahman,2015).

Bahagian Forensik Kimia Malaysia telah diakreditasi kepada ASCLD-LAB ® ("American Society of Crime Laboratory Directors/Laboratory Accreditation Board") sejak 19 Oktober 2005. Bahagian ini telah diakreditasi dan diiktiraf dalam bidang "Controlled Substances, Toxicology, Biology (Serology and DNA), Firearms/Toolmarks and Questioned Documents".

Makmal KIMIA Malaysia merupakan makmal kesepuluh di luar Amerika Syarikat untuk mendapat pengiktirafan persijilan ASCLD-LAB, pencapaian ini menunjukkan bahawa perkhidmatan sains forensik yang ditawarkan oleh Jabatan KIMIA Malaysia telah memenuhi syarat-syarat akreditasi ASCLD-LAB dan merupakan makmal yang setanding dengan makmal-makmal forensik antarabangsa (http://www.kimia.gov.my).Pengiktirafan ini adalah amat penting kerana melalui pengiktirafan dan akreditasi ini membuktikan bahawa hasil ujian makmal yang dilakukan oleh makmal Jabatan KIMIA diiktiraf kesahan hasil kajiannya.

Konsep utama ujian DNA adalah untuk mencari persamaan antara profil DNA yang dijumpai di tempat kejadian dengan profil DNA dari sumber yang diketahui. Persamaan antara dua profil DNA tersebut semata-mata, tidak boleh membuktikan seseorang itu bersalah atau tidak ke atas jenayah tersebut. Walau bagaimana pun, ianya boleh digunakan bersama-sama bukti-bukti yang lain (http://www.kimia.gov.my/). Tujuan penggunaan ujian DNA adalah untuk mengenal pasti seseorang individu daripada sampel biologi yang ditinggalkan pada sesuatu permukaan. Antara lain kegunaan DNA adalah seperti berikut iaitu menguji kebarangkalian orang yang dituduh adalah penjenayah, ujian paterniti dan materniti, siasatan tulang atau tinggalan manusia dan bencana yang melibatkan ramai mangsa (Mawarni Abdul Rahman, 2015).

Antara jenis-jenis ujian DNA yang dijalankan oleh Jabatan KIMIA Malaysia adalah(http://www.kimia.gov.my/):

a) Ujian Paterniti DNA. Ujian Paterniti bermaksud ujian yang mengesahkan hubungan antara bapa dan anak. Ujian paterniti DNA biasanya dijalankan untuk memastikan atau mengecualikan bapa biologikal seseorang anak. Paterniti adalah ujian yang tepat, cepat serta memerlukan kos yang berpatutan dengan kuasa diskriminasi (atau ketepatan) 99.9999%.
b) Ujian Materniti. Ujian Materniti merupakan Ujian DNA yang dapat memberi kesimpulan berkaitan dengan ibu.
c) Ujian Penentuan Keturunan adalah ujian yang dapat menentukan sama ada seseorang itu adalah datuk/nenek sebenar kepada seseorang kanak-kanak.
d) Ujian Hubungan Adik-Beradik. Ujian ini dapat menentukan perhubungan antara adik-beradik.

e) Pengenalan Identiti. Ujian ini bertujuan Menentukan identiti seseorang individu/mayat (yang tidak dikenal pasti).

Dalam proses ujian DNA ini prosedur prosesnya adalah terkawal untuk menjamin keputusan, antaranya adalah dengan penetapan prosedur untuk mengambil sampel bagi ujian 'Paterniti DNA'. Menurut prosedur sekurang-kurangnya 2ml sampel darah atau swab mulut (Dua sampel dari setiap individu)mesti diambil. Seterusnya sampel darah tadi mestilah disimpan dalam tiub EDTA. Sampel-sampel mestilah dilabel dengan jelas dengan menyatakan nama/nombor dan tarikh sampel diambil. Semua sampel yang diserah untuk analisis mestilah disertakan dengan surat permohonan ujian paterniti dan bayaran untuk analisis. Sampel mesti dihantar menggunakan syarikat penghantar ('*courier*') atau diserahkan dengan segera ke makmal Jabatan KIMIA Malaysia yang mengendalikan ujian DNA (Mawarni Abdul Rahman, 2015).

Prosedur persampelan ujian DNA yang ketat serta hasil ujiannya yang hampir 100% tepat meyakinkan pengkaji, walaupun kedudukan ujian DNA tidak sampai darjah pembuktiannya sama seperti *syahadah* (kesaksian) dan *iqrar* tetapi ia dapat membantu untuk mendapatkan tahap pembuktian sekurang-kurangnya di peringkat "*ghalabah al-zan*" (*beyond reasonable doubt*).

Fatwa Tentang DNA (*e-fatwa.gov.my/fatwa-kebangsaan/hukum-menggunakan-dna-untuk-menentukan-status-nasab-anak-dan-tempoh-melaksanakan-li*).

Muzakarah Jawatankuasa Fatwa Majlis Kebangsaan Bagi Hal Ehwal Ugama Islam Malaysia Kali Ke-101 yang bersidang pada 27 September 2012 telah membincangkan Hukum Menggunakan DNA untuk menentukan status nasab anak dan tempoh melaksanakan *li'an* untuk menafikan nasab anak. Muzakarah telah membuat keputusan seperti berikut:

> Setelah meneliti keterangan, hujah-hujah dan pandangan yang dikemukakan, Muzakarah menegaskan bahawa Islam sangat menitik beratkan persoalan nasab dan apabila telah ada dalil yang mengisbatkan nasab, maka penafiannya tidak boleh diterima melainkan dengan kaedah li'an keranali'an telah sabit melalui al-Quran, al-Sunnah dan al-Ijma' dan merupakan suatu amalan taabudiah.

Muzakarah juga menjelaskan bahawa *Majma' Fiqh al Islami* yang bersidang pada 21-26 Syawal 1422 bersamaan 5-10 Januari 2002 telah memutuskan bahawa untuk mengisbatkan nasab, penggunaan DNA dibenarkan dan dilakukan atas perintah mahkamah hanya dalam kes pertelingkahan ketidaktahuan nasab anak atas pelbagai sebab, kes kekeliruan atau pertukaran anak di hospital atau pusat jagaan, kes bayi tabung uji serta dalam kes anak-anak yang hilang atas sebab bencana alam dan sebagainya. Walau bagaimanapun, *Majma' al-Fiqh al-Islami* menetapkan bahawa DNA tidak boleh digunakan untuk menafikan nasab anak apalagi digunakannya mendahului kaedah *li`an*.

Muzakarah menegaskan bahawa para *Fuqaha'* telah bersepakat bahawa penafian nasab anak melalui kaedah *li'an* perlu dilakukan dengan kadar segera dan jika penafian nasab tidak dilakukan dalam tempoh yang ditetapkan, maka gugurlah hak penafian nasab tersebut.

Muzakarah turut menegaskan bahawa merujuk kepada mazhab Shafie, terdapat dua pandangan iaitu dalam *qaul qadim* dan *qaul jadid*. Dalam *qaul qadim*, Imam Shafie menetapkan bahawa penafian hendaklah berlaku sejurus diketahui kelahiran bayi tersebut. Sekiranya penafian tidak dibuat, bermakna seseorang itu telah mengakui bahawa bayi tersebut adalah anaknya. Namun begitu, dalam *qaul jadid*, penafian tidak semestinya secara terus. Penafian memerlukan masa sebelum sesuatu keputusan diambil memandangkan penafian merupakan satu perkara yang penting. Penafian boleh

ditangguhkan sehingga tiga hari dan penangguhan hanya boleh berlaku atas sebab-sebab keuzuran.

Sehubungan itu, berdasarkan penegasan dan pandangan para ulama' mengenai tempoh segera bagi melakukan *li'an* untuk menafikan nasab anak, Muzakarah berpandangan bahawa seseorang yang hendak melakukan *li'an* bagi penafian nasab anaknya perlu mempunyai tempoh waktu yang munasabah sebelum membuat keputusan demi mengelakkan sebarang kemudaratan yang mungkin berlaku.

Oleh yang demikian, Muzakarah bersetuju memutuskan bahawa tempoh segera bagi seseorang bapa yang hendak melakukan *li'an* bagi menafikan nasab anaknya adalah bermula daripada tarikh isterinya disahkan mengandung sehinggalah tiga (3) hari selepas bersalin. Penafian setelah tempoh munasabah tersebut adalah tertolak dan anak tersebut adalah sah dan sabit sebagai anaknya.

Muzakarah juga bersetuju memutuskan supaya garis panduan untuk menjalankan ujian DNA oleh pihak berkuasa berkaitan hendaklah diperketatkan lebih-lebih lagi dalam isu untuk menafikan nasab kerana DNA hanya sekadar *qarinah* atau sokongan semata-mata dan tidak boleh dijadikan bukti utama.

Peruntukan Qarinah Di Mahkamah Syariah Perlis.

Di dalam Enakmen Keterangan Mahkamah Syariah (Perlis) 2006 terdapat peruntukan khas berkenaan *qarinah*. Secara amnya *qarinah* di dalam enakmen dinyatakan melalui tujuh perkara iaitu pertama, *qarinah* dalam bentuk Am, kedua *qarinah* di dalam bentuk pernyataan oleh orang yang tidak dapat dipanggil sebagai saksi, ketiga *qarinah* dalam bentuk pernyataan yang dibuat di bawah hal keadaan khas, keempat *qarinah* dalam bentuk sebanyak mana pernyataan dikehendaki dibuktikan, kelima bila penghakiman mahkamah menjadi *qarinah*, keenam bila pendapat orang ketiga menjadi *qarinah* dan ketujuh bila watak menjadi *qarinah*.

Qarinah Am diperincikan dalam Enakmen Keterangan Mahkamah Syariah (Perlis) 2006 melalui Seksyen 5 hingga Seksyen 19 yang terkandung dalam 12 aspek seperti berikut;

a) Keterangan boleh diberikan mengenai fakta persoalan dan qarinah.
b) Fakta yang menjadi sebahagian daripada transaksi yang sama adalah qarinah.
c) Fakta yang menjadi punca, sebab atau kesan bagi fakta persoalan atau fakta releven.
d) Motif, persediaan dan kelakuan yang dahulu atau kemudian.
e) Fakta yang perlu untuk menghuraikan atau mengemukakan fakta persoalan atau fakta releven.
f) Apa-apa yang dikatakan atau dilakukan oleh pekomplot berkenaan dengan rancangan bersama.
g) Bila fakta boleh menjadi qarinah.
h) Dalam guaman mendapatkan ganti rugi, fakta yang cenderung membolehkan Mahkamah menentukan amaun ialah qarinah.
i) Fakta yang menjadi qarinah apabila hak atau'urf, dipersoalkan
j) Fakta yang menunjukkan kewujudan keadaan akal fikiran atau keadaan tubuh atau perasaan tubuh ialah qarinah.
k) Fakta berkenaan dengan soal sama ada perbuatan dilakukan dengan tak sengaja atau dengan sengaja.
l) Bila perjalanan urusan menjadi Qarinah.

Pernyataan Oleh Orang Yang Tidak Dapat Dipanggil Sebagai Saksi.

a) Hal yang dalamnya pernyataan mengenai fakta releven oleh orang yang telah mati atau tidak dapat dijumpai dan sebagainya adalah qarinah.
b) Kerelevan keterangan tertentu bagi membuktikan dalam prosiding kemudiannya kebenaran fakta yang dinyatakan dalamnya.

Pernyataan Yang Dibuat Di Bawah Hal Keadaan Khas

Ada masanya pernyataan yang dibuat di bawah hal keadaan khas menjadi qarinah .iaitu:

a) Bila catatan dalam buku akaun ialah qarinah.
b) Bila catatan dalam rekod awam yang dibuat pada melaksanakan kewajipan ialah qarinah.
c) Pernyataan dalam peta, carta dan pelan ialah qarinah
d) Pernyataan tentang fakta daripada jenis awam yang terkandung dalam perundangan atau pemberitahuan tertentu ialah qarinah.
e) Pernyataan tentang mana-mana undang-undang yang terkandung dalam buku undang-undang ialah qarinah.

Sebanyak Mana Pernyataan Dikehendaki Dibuktikan

Qarinah juga merupakan fakta sebanyak mana pernyataan dikehendaki dibuktikan. Enakmen Keterangan Jenayah Syariah (Perlis) 2006 menyatakan keterangan apa dikehendaki diberikan apabila pernyataan menjadi sebahagian daripada percakapan, dokumen, buku atau siri surat atau kertas.

Bila Penghakiman Mahkamah Menjadi Qarinah.

a) Penghakiman dahulu adalah releven bagi menghalang guaman atau perbicaraan yang kedua.
b) Bila penghakiman tertentu dalam bidang kuasa probet dan sebagainya, ialah qarinah.
c) Bila penghakiman, perintah atau dekri ialah qarinah
d) Fraud atau pakatan sulit dalam mendapatkan penghakiman atau ketakkompetenan Mahkamah boleh dibuktikan.

Bila Pendapat Orang Kedua Menjadi Qarinah.

Pendapat orang kedua boleh menjadi qarinah sekiranya:

a) Pendapat pakar.
b) Fakta berkenaan pendapat pakar.
c) Bila pendapat tentang tulisan ialah qarinah.
d) Bila pendapat tentang kewujudan hak atau ‘urf ialah qarinah.
e) Bila pendapat tentang kelaziman, rukun, dan sebagainya ialah qarinah.
f) Bila pendapat mengenai hubungan ialah qarinah.
g) Bila alasan pendapat ialah qarinah.

Bila Watak Menjadi Qarinah.

a) Dalam kes mal, watak bagi membuktikan kelakuan yang ditohmahkan tidaklah qarinah.
b) Dalam prosiding jenayah, watak baik dahulu adalah qarinah.
c) Watak buruk dahulu tidaklah qarinah kecuali bagi menjawab.

Walaupun penggunaan pembuktian pakar DNA makin diterima pakai oleh Mahkamah Syariah namun dicadangkan dalam kes-kes seperti *li'an* Mahkamah perlu juga perhatikan kepada kemaslahatan pihak-pihak yang terlibat. Hakim bicara perlu melihat kepada persetujuan pihak-pihak sebelum sampeling DNA diambil dari diri masing-masing. Kemudian hakim perlu memastikan kedua-dua belah pihak-pihak bersetuju dengan keputusan yang akan dikeluarkan oleh pakar DNA hasil daripada kajian tersebut kerana hasil yang akan dikeluarkan akan mempengaruhi keputusan Mahkamah. Walaupun Mahkamah Syariah tidak terikat dengan keputusan ujian DNA yang berada pada tahap *qarinah* sahaja, namun keaiban salah satu pihak hendaklah dijaga (Mohamad Ridzuan bin Zainudin, 2012)

Menurut Mohd Zaidi (2015) penerimaan hasil analisis DNA adalah bergantung kepada penilaian hakim yang mendengar sesuatu kes. Selepas mendengar keterangan pakar hakim secara keseluruhan akan membuat keputusan sama ada terdapat keraguan dalam hasil kajian apabila terbukti hasil kajian adalah tepat dan tidak timbul sebarang kesangsian hasil kajian tersebut barulah hakim bicara akan menerima keterangan tersebut sebagai *bayinah.*

Hubung Kait Prosedur Pemakaian Keterangan Pakar Dan Penerimaan Bukti Ujian DNA Di Mahkamah Syariah.

Pendapat pakar merujuk kepada keterangan pakar atau kesaksian pakar ialah sesuatu pendapat yang diberikan oleh seseorang yang mempunyai kepakaran dalam sesuatu bidang atau persoalan (Ahmah Fathi Bahnasi, 1989). Bukan itu sahaja, testimoni yang diberikan berkaitan dengan perkara saintifik, teknikal atau professional oleh pakar yang berkelayakan dan berautoriti untuk bercakap mengenai perkara tersebut boleh dikategorikan sebagai keterangan pakar. Keterangan pakar ini biasanya dikeluarkan oleh mereka yang telah melalui latihan, kemahiran yang khusus atau kebiasaan seseorang mengenai sesuatu perkara tersebut (Mahmud Saedon, 1996).

Namun, pemakaiannya di mahkamah syariah dilihat kurang efisien berbanding dengan mahkamah sivil rentetan daripada peruntukan terhadapnya yang terhad serta kes di mahkamah syariah yang tidak begitu kompleks berbanding dengan mahkamah sivil.

Prosedur ringkas saksi pakar memberi keterangan di mahkamah dinyatakan dalam kes *Wong Chop Saow lw Pendakwaraya* 1995 MLJ 247 iaitu "sebelum seorang pakar meneruskan memberi keterangan dia hendaklah mula-mula menyatakan kelayakannya (seperti akademik, professional, pengalaman, penyelidikan, penulisan) seseorang yang pakar akan menyatakan bahawa dia telah memberi keterangan dalam kes-kes yang lain dan telah diterima oleh Mahkamah-mahkamah kemudiannya meneruskan memberi keterangan dan pendapatnya".

Keterangan pakar seperti doktor dan ahli perubatan jika terdapat percanggahan antara keterangan pakar, tidak boleh membawa kepada hukuman hudud, sebaliknya hukuman *ta'zir* sahaja boleh dikenakan (Anwarullah,1999). Pada amnya keterangan pendapat tidak diterima sebagai keterangan di dalam Mahkamah kecuali dalam keadaan seperti yang dinyatakan di dalam Seksyen 33 dan 34 Enakmen Keterangan Mahkamah Syariah (Perlis) 2006 iaitu:

> *33.* (1) Apabila Mahkamah perlu membuat sesuatu pendapat atas sesuatu perkara mengenai undang-undang Negara asing atau mengenai sains atau seni, atau tentang identiti atau ketulenan tulisan tangan atau cap jari atau berhubungan dengan penentuan nasab, ialah qarinah.
>
> (2) Orang sedemikian itu dipanggil pakar.

(3) Dua orang pakar atau lebih hendaklah dipanggil untuk memberikan keterangan jika boleh tetapi jika tidak terdapat dua orang pakar, maka keterangan seorang pakar adalah memadai. Jika dua orang pakar memberikan pendapat yang berlainan, maka pakar yang ketiga hendaklah dipanggil untuk memberi keterangan

34. Fakta yang selainnya tiada qarinah ialah qarinah jika ia menyokong atau adalah tak konsisten dengan pendapat pakar apabila pendapat itu ialah qarinah.

Keterangan pakar boleh diberi dalam bentuk keterangan berkenaan kaedah saintifik, ujian DNA, atau forensik. Seksyen 33 Enakmen Keterangan Mahkamah Syariah (Perlis) 2006 dengan jelas membuka ruang untuk pihak terbabit mengemukakan pandangan dari pakar atau lebih berdasarkan ujian sains termasuklah ujian DNA ini. Sebagai contoh analisa daripada pakar genetik dapat merungkaikan isu perwarisan atau berhubung kait dengan isu anak tak sah taraf. Pembuktian berdasarkan analisis daripada pakar perubatan mengenai sesuatu kecederaan atau pembunuhan dapat menyelesaikan kes jenayah atau tuntutan pampasan terhadap kecederaan yang dialami. Hasil ujian DNA dapat digunapakai dalam membuktikan sesuatu kesalahan yang dilakukan atau menjadi bukti untuk menafikan penglibatan seseorang dalam sesuatu kesalahan yang didakwa.

Melalui Enakmen Keterangan Jenayah Syariah (Perlis) 2006, didapati keterangan DNA tidak dinyatakan secara khusus sebagai *qarinah* di dalam enakmen. Namun sebenarnya keterangan DNA ini boleh dikategorikan sebagai keterangan berbentuk sains. Menurut Puan Nabisha Ibrahim (2015) istilah 'sains' di dalam statut adalah istilah yang digunakan di dalam bentuk yang umum, difahami daripada terma ini adalah segala bentuk kajian berkaitan sains. Penggunaan istilah yang bersifat umum di dalam statut adalah amat penting sebagai contohnya penggunaan istilah 'sains' di dalam statut akan merangkumi seluruh istilah-istilah yang terhasil daripada teknologi sains ini termasuklah istilah ujian DNA yang merupakan salah satu elemen daripada kajian sains.

Istilah DNA ini mungkin akan berubah atau sudah tidak lagi releven pada masa akan datang atau mungkin terdapat istilah lain berdasarkan penemuan sains menggantikan istilah DNA. Istilah "sains" dikekalkan secara umum akan memberi kebebasan dan membuka ruang kepada Mahkamah untuk mentafsirkan istilah sains dengan lebih efisyen berdasarkan perkembangan semasa.

Apabila seseorang pakar mengemukakan hasil kajiannya maka keterangan berkenaan ujian-ujian yang telah dilaksanakannya berkenaan dengan kajian tersebut adalah juga menjadi *qarinah*. Ini adalah diperuntukkan di bawah Seksyen 39 Enakmen Keterangan Mahkamah Syariah (Perlis) 2006 yang menyatakan "bilamana pendapat mana-mana orang yang masih hidup ialah qarinah, maka alasan yang atasnya pendapat itu diasaskan ialah qarinah juga misalnya seseorang pakar boleh memberi keterangan mengenai ujian yang telah dilaksanakan olehnya bagi maksud menyediakan pendapatnya".

Akta ini tidak menentukan kepakaran seseorang itu berdasarkan agama atau tahap keadilannya (credibleness). Apa yang penting ialah orang tersebut mestilah "mempunyai kemahiran khusus" dalam perkara-perkara tersebut. Dengan ini seorang doktor Islam tetapi *fasik* boleh memberi pendapatnya. Begitu juga seorang doktor yang bukan Islam boleh memberi pendapatnya di dalam Mahkamah Syariah. Walaupun pendapat mereka ini dianggap sebagai *qarinah* tetapi ianya masih dikira sebahagian dari

al-bayyinah.Ini juga ditegaskan di bawah seksyen 83(2): "Huraian- Bayyinah seorang pakar bukan Islam terhadap seorang Islam boleh diterima, jika dikehendaki."

Keterangan berbentuk ujian DNA adalah termasuk di bawah keterangan saksi pakar. Keterangan DNA ini adalah merupakan pendapat pakar yang diminta oleh mahkamah dalam bentuk pengesahan keterangan tanpa batasan agama seseorang pakar tersebut.

Penutup

Penerimaan ujian DNA sebagai bukti dilihat sudah di terima sepenuhnya oleh Mahkamah Sivil sebagai bukti sokongan yang utama untuk pensabitan sesuatu kes seperti kes *Ahmad Najib Aris lwn PP (2007) 2CLJ229* . Ujian DNA ini sudah menjadi satu keterangan yang bersifat '*urf*' untuk membuktikan sesuatu berdasarkan kajian sains saintifik berdasarkan hujah ini pembuktian DNA seharusnya dinyatakan secara khusus dalam enakmen.

Dalam undang-undang keterangan jenayah Syariah terdapat peruntukan tentang *qarinah* yang menerima pendapat pakar sebagai salah satu keterangan penting dalam pembuktian. Namun pembuktian melalui ujian DNA tidak diperuntukkan secara khusus di dalam Enakmen Keterangan Mahkamah Syariah(Perlis) 2006 walaupun DNA adalah salah satu penemuan keterangan yang akan digunakan oleh pakar dalam memberi pandangan atau pendapat berdasarkan penemuan saintifik.

Keputusan ujian DNA ini pada pendapat penulis adalah fakta yang terhasil daripada satu kajian saintifik yang perlu diperakui kesahannya. Terma ujian DNA perlu dinyatakan secara khusus di dalam enakmen bagi menjelaskan kedudukan dan otoriti ujian DNA diterima sebagai *qarinah*. Selain itu, fakta tentang ujian DNA ini boleh diletakkan bersama di bawah *Qarinah* Am. Penambahbaikan perlu dilakukan di dalam enakmen keterangan berkaitan *qarinah* dengan menambah fakta DNA ataupun meletakkan fakta saintifik sebagai salah satu sumber keterangan *qarinah*.

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HOUSEHOLDS' PREFERENCES AND WILLINGNESS TO PAY FOR SOLID WASTE COLLECTION SERVICES IMPROVEMENT IN KANO METROPOLIS, NORTH-WESTERN, NIGERIA

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Abstract: *This study employed a choice experiment (CE) technique to estimate the households' willingness to pay (WTP) for improved solid waste collection services (SWC) in Kano metropolis, Nigeria. A multinomial logit (MNL) model was developed for deriving the households' preferences of SWC service attributes and their marginal value on the non-market values among households. The trade-off between five different SWC service attributes revealed that improvement in waste collection frequency (CF) is the most preferred service attribute. The total value for SWC services is estimated at ₦3341 76935.44 ($1696329.6215). This indicates households are willing to pay for improved SWC services to ensure environmental sustainability. Our results reported here have imperative policy implications for effective SWC services in minimising environmental degradation via pollution and to safeguards public health against filthy environmentally related public health threats.*

Keywords: *Choice Experiment, Households' Preferences, Multinomial Logit Model, Marginal Value, Service Attributes, Solid Waste Collection, Willingness to Pay.*

Introduction

Solid waste management (SWM) issue is perceived as one of most serious environmental worries particularly in most of the Nigerian major cities and urban centers. It has been observed that there was a remarkable increase in daily solid waste generation in Nigeria (Nabegu, 2010; Olanrewaju & Ilemobade, 2009). Following Ogwueleka (2009), In Nigeria there about 25 million metric tonnes of annual solid waste were generated. The consequence of waste mismanagement could be devastating when a country is having population growth, whereby waste generated cannot be effectively and adequately handled (Aliu et al., 2014). Thus, most streets in Nigerian

major cities experience the persistent presence of indiscriminate dumps of wastes from the households or commercial activities (Babayemi & Dauda, 2009).

As reported by Hoornweg and Bhada-Tata (2012) that the global annual was collection of solid wastes is about 1.3 billion tonnes, contributing to about 5% emission of greenhouse gases (GHGs) of the organic component decayed. By 2025, waste generation is anticipated to increase considerably to about 2.2 billion tonnes. Futile waste management, which consists of a poor collection system and inefficient disposal method, may result in enviromental pollutions, and therefore contribute to the contamination of drinking water sources, and pose serious threats to public health. Nabegu (2008) opined that, the per capita generation of waste ranges from 0.75 kg/day in the suburban areas, with 1.2 to 1.7kg/day in the city and government reserved areas (GRA) in the Kano metropolis respectively, perhaps due to variations in the socio-economic status of the residential zones.

In the recent past, solid waste collection (SWC) services used to be the sole responsibility of municipal authorities (Yusuf et al., 2007). This obligation is not mutually exclusive because none of the local governments in the Nigeria meets the expense of the enormous financial, technical, administrative and human resource requirements to effectively carry out this specific constitutional obligation (Alabi, 2004). An account of the inability of the government at both local and state levels to manage SWC efficiently arose conceivably from the misconception of this task as a public good.

The capability to address the problems of waste collection denigrates with time due to the increase in capital for plant, equipment, operation and maintenance costs, combined with the rapid population and spatial growth, as well as the increase in waste generation and decrease in collection levels, confronted by the growing public demand for improved SWC services (Sule, 1979; Solomon, 2009; Oyeniyi, 2011). So, there is a need for the involvement of private service providers in the provision of SWC services in Kano metropolis. In relation to this, it is deemed feasible to estimate households' WTP for improved SWC services in the metropolis.

Literature Review

Economic valuation is an important part of environmental economics as an area of study, focused on assigning values quantitatively on non-market environmental goods and services in absence of actual market prices. The ordinary market placement, economic valuation method is developed from economic theory to assign or allocate values for those environmental goods and services associated with pragmatic approaches empirically developed by economists (Bockstael, and McConnell, 1993). For example, such environmental goods (like watersheds, wetland, and forest reserves) and environmental services such as (pollution and flood control system, climate regulation system, and water supply) are common examples of both environmental goods and services. However, non- traded elements of these environmental goods and services greatly involve indirect systems for non-market valuation technique that handle these environmental goods and services as quality features of privately consumed environmental goods and services. Thus, price allocation for these environmental goods and services utilize empirical methods as a way of economic valuation (Haab, and McConnell, 2002).

The economic value of non-market environmental goods and services are measured in terms of "willingness to pay" (WTP), though, non-market environmental

goods and services are virtually not traded in a real market, indeed, WTP is often been used by environmental economists to describe the value of environmental goods and services, when they actually make any payment or not (Barbier, et al., 1997).

However, the elicitation of WTP is further sub-divided into two categories of empirical methods as revealed preference (RP) and stated preference (SP) methods. The dissimilarities between these empirical methods are the dependence of the former methods on the prices of other goods, whereas, the other is exclusively dependable on WTP elicitation. The categories of economic valuation methods for non-market environmental goods and services is depicted in figure 1 below;

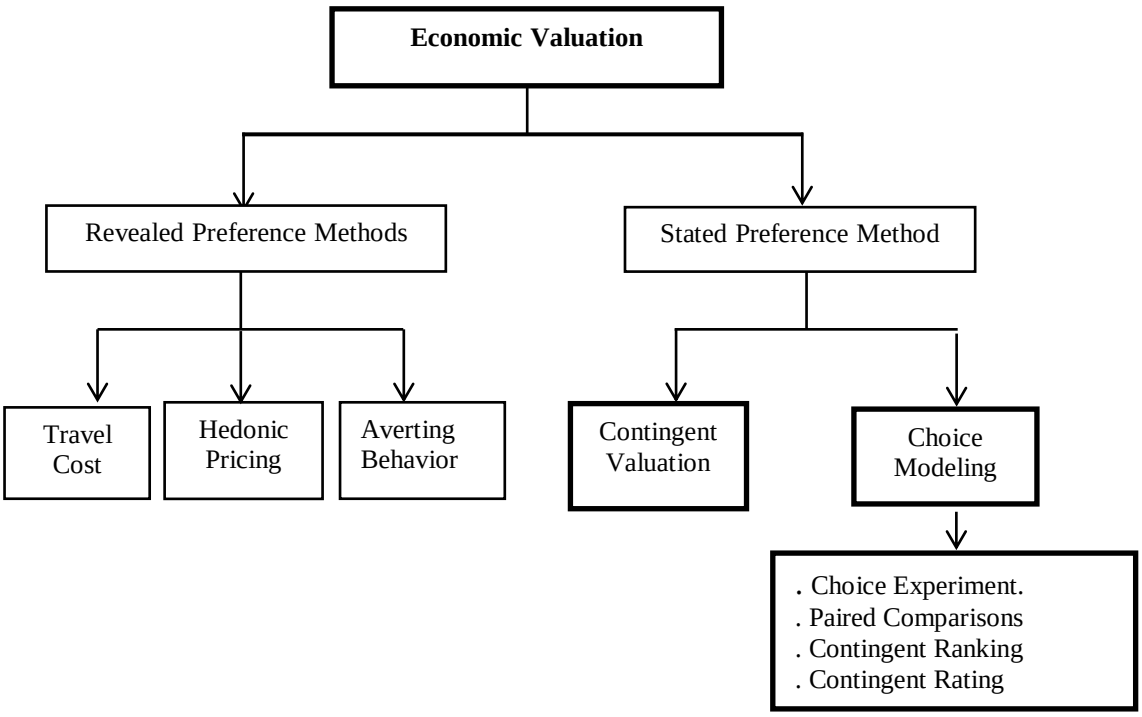

Figure 1: Economic Valuation Technique Model

Source: Bateman et al., (2002)

The applicability of choice modelling (CM) approach has widely been employed in estimating improvement value of the environmental quality, also in valuing environmental natural resources. Adamowicz, et al., (1998) urged that the CM technique originated from conjoining analysis, which was primarily established in the transport and marketing studies by Louviere & Hensher, (1982). Ryan, & Hughes, (1997) bewailed that over the years the CM has been used in many disciplines. Then, of recent CM procedure has been used in the non-market valuation of environmental goods and services (Bennett, & Blamey 2001; Blamey et al., 2000; Hanley et al., 1998; Adamowicz, et al., 1994). The CM technique has been widely used in several types of research of non-market valuations areas. For instance, such studies among others includes; landscape management (de Ayala, et al., 2015), solid waste management (Das et al., 2010), wetland conservation (Kaffashi, et al., 2013); water quality improvement (Barton, & Bergland, 2010), preferences on wetland attributes (Birol, et al., 2006),

valuing cultural sites (Navrud, & Ready, 2002), forest conservation (Rolfe, Bennett, & Louviere, 2002). Hence, Adamowicz, et al., (1998) opined that CM technique could be used to measure both used and non-use environmental values. Additionally, this procedure has been gaining more ground due to its accessibility to the provision of additional information, as well as its capability in generating attributes value for resources as opposed to CVM (Bennett, & Blamey, 2001).

However, random utility theory (RUT), is the fundamental basis of the choice modelling technique, primarily centred on Lancaster's characteristics theory of value, in which environmental goods and/or services could be valuated based on their specific attributes and their levels (de Ayala, et al.,2015; Mogas, Riera, & Bennett, 2006; Hanley, et al., 2001; Ruto, & Garrod, 2009). Accordingly, Hanley, et al., (2001) opined that consumers' utility for good can be disintegrated into utility for composting characteristics. Thus, Bateman, et al., (2002), argued that good(s) can be described based on the attributes and their corresponding levels. For example, the automobile could just be simply described based on its mechanisms such as capacity, speed, gear-type, and colour. However, in the case of estimating solid waste management economic value, attributes could aesthetic, public health and environmental quality. Thus, in the CM studies, respondents are asked to choose their highest preferred option, out of the sequence of alternative resource use choices prompted to them. Such that a choice set containing a set of multiple options with associated alternative and each alternative having attributes and their levels. An important variable that could be involved as an attribute is the monetary value or price. A baseline alternative usually termed as status–quo designates the current situation is equally an essential part of the choice set. Set of attributes and their levels usually assigned to attributes are described as options from which potential respondents are asked to a choice between the "status- quo" which is a constant situation and multiple "proposed" situation, usually, minimum of three and maximum six of choice sets are incorporated in the questionnaire. The trade-off of respondents depends on the multiple proposed alternative options and the status-quo situation. The advanced statistical technique would then be employed to quantify the value of selected options or alternatives. The results of trade-offs can then be utilized for the estimation of value to each of the environmental attributes, while one of the attributes is the monetary value (Bateman, et al., 2002; Rolfe, et al.,2002; Hanley, et al., 2001).

Also, choice modelling uses a questionnaire for data collection. The configuration of the questionnaire in CM is like that of CVM questionnaire, that is, it consists of the socio-economic level of the respondents, background information on the non-market good, attitude and elicitation questions(Alvarez-Farizo, et al., 2007; Mazzanti, 2003). Invariably, the major differences between choice modelling and CVM techniques are with regard to the elicitation questions. In the present method, in the CM questionnaire, respondents are prompts with a series of multiple choice sets and each set consists of about three or more choices describing environmental good or services together with the monetary value attribute, respondents are asked to make the best option among others. The options in the choice sets are distinct centred on the characteristics of the good or services for valuation with a set of varying levels of each of the distinctive attribute to distinguish one alternative from another (de Bekker-Grob, et al., 2012; Huhtala, 2000; Fowkes, & Wardman, 1988).

Materials and Methods

Generating Attributes for the Choice Experiments

It involves some steps; the first stage entails choosing attributes and their corresponding levels for improvement of the problem for an adequate understanding of the researcher's point of the current condition in choice experiment (CE) study. The second stage is to define possible alternatives based on Hensher et al. (2005). The selected choices in this work are labesled as Collection Frequency, Storage Facilities, Disposal Method, Pre-collection Services, and Monthly Charges, whereas these alternatives are dubbed as Management option 1, Management option 2, and Status quo. The decision for choosing the labelled alternatives is an basic part of the CE design for its impact on the number of parameters to be estimated (Rose & Bliemer, 2009). Thus, the attributes and their levels must be determined right after identifying the number of alternatives to be included in the survey (Hensher et al., 2005; Rose & Bliemer, 2009).

Selection of the Attributes and their Levels

Defining the attributes of SWM may be valuable at the initial step of identifying the most relevant attributes of non-market goods undervaluation in the development of a CE study. In this step, the relevant attributes and their levels in the choice decisions were identified through an intensive literature review of economic evaluation studies on SWM. Focus group discussions (FGD) was done with stakeholders including public officials, experts or professionals, private service providers in waste management and households' heads in order to determine the number of attributes and their levels, and the values given to the attributes. The task of FGD is to offer information on reliable minimum and maximum attribute levels. Identifying any possible interactions between the defined attributes is also essential. According to Bateman et al., (2002); Hanley & Barbier, (2009), If the researcher's aim is to estimate welfare measures, then the cost attribute must be included too. This study involves of five main survey attributes specified in each choice alternative, as indicated in Table 1 below.

Table 1: Service attributes and their levels used in the survey

Attribute	Definitions	Attribute levels
Collection Frequency	The rate at which waste is been collected at periodic intervals.	**Irregular***
		Regular 3x a week
		Regular 4x a week
Storage Facilities	This service attribute refers to the type of the container for which waste is collected in it.	**Any Container***
		Nylon Bags
		Wheel Waste Bins
Disposal Method	This service attribute refers to the technique that is used to dispose of waste.	**Open Dumps***
		Control Landfills
		Incinerator
Pre-Collection Service	This attribute refers to pre-collection service provision that entails waste collection from tenements either by using carts or light-weight trucks for final transportation.	**Cart Pre-collection***
		Motorized Pre-collection
		Cart and Motorized Pre-collection

Monthly Charge	This service attribute refers to the fees payable for improvement in solid waste management services.	**N 0000***
		N 1000
		N 1500
		N 2000
		N 2500

*** Status quo (current condition) of SWC in Kano Metropolis.**

The Experimental Design

One common problem with CE approach is the complication regarding the number of choice sets and attributes. Thus, each choice set may affect the quality of response in a survey. There is a trade-off between the complexity in CE survey and the quality of responses (List et al., 2006; Alpizar et al., 2003). The orthogonal design was obtained using SPSS software based on the attributes and levels selected for the experiment design approach in this survey.

The final design in the CE part contains 12 options in 6 choice sets, each choice set haves two purposed options and a status quo. Three distinct options were presented, distinguished by their attributes and related cost. Option 1 and option 2 comprise various combinations of SWC services and monthly cost, whereas option 3 is the baseline with no cost. The choice of options 1, 2, or 3 to each question yields information as to the rank of each scenario for a respondent. Analysis of some of the responses, although sets of options change between questions, permits statistical calculation of the value for each attribute level. All the responses from a respondent are presumed to be independent, hence the sample size for regression in the model will simply reflect not the number of persons sampled, rather the total number of valid choice question responses of the respondents. Table 2 is an example of a choice card used in the survey.

"*Suppose service option 1 and option 2 are service options for SWC as below, which option do you prefer*?"

Table 2: Example of the Choice Card

Attributes	Option 1	Option 2
Collection frequency	Regular 3x a week	Regular 3x a week
Storage facilities	Nylon Bags	Wheel waste bin
Disposal Method	Sanitary landfills	Open Dump
Pre-collection services	Motorised pre-collection	Cart pre-collection
Monthly charge	N1000	N2500
Options	**X**	

OR would you prefer NO CHANGES with the CURRENT SERVICE in the solid waste collection with IRREGULAR waste collection frequency, ANY CONTAINER for waste storage and OPEN DUMP waste disposal method, CART Pre-collection and with NO additional cost to improve SWM?	

Analytical Framework

Utility function is the basis of random utility theory which is not directly observable, but categorised into deterministic and random components. Which is

established on the hypothesis that the individual choices depend on the characteristics of goods together with some degree of randomness. Though individuals know their utility function, due to unmeasured attributes of the goods undervaluation, the random component can be endorsed to the element of randomness in their preferences. However, the individual utility function (for individual i), where the respondent is fronting a set of K choices (j =1… K), can be expressed as:

$$U_{ij} = V_{ij} + \varepsilon_{ij} \qquad [1]$$

Where U_{ij} is the utility individual i obtain from alternative set j, V_{ij} is a not stochastic utility function, and ε_{ij} is a random component.

This function can also be expressed in another way by decomposing the indirect utility function for each respondent i (U) into two: deterministic and stochastic elements, thus, a deterministic element (V), which would typically be specified as a linear index of the attributes (X) of the jth alternative in the choice set, and a stochastic element (e) which represents the error term; viz:

$$Ui\ j = Vij(Xij) + \varepsilon ij = bXij + \varepsilon ij \qquad [2]$$

The purpose of equation (2) is to show the socio-economic variables. It can be incorporated alongside with the choice set attributes (the X term). As the socio-economic variables are constant for the choice sets for individuals and as long as individuals' income does not change from the first to the other choices, these variables can simply be entered as interaction terms by main attributes or splitting the data set (Hanley et al., 2001).

At this instant, suppose an individual is being asked to choose among two alternative goods, which are presumed to be distinguished by their attributes and levels. For instance, for the case of this study, this two could be the two alternatives of waste collection services, with different attributes such as collection frequency, storage facilities, disposal method, etc. These alternatives were termed, j and k. To choose between them, a respondent was assumed to compare the utility he/she could get with either choice, for selecting the alternative with the highest utility. The respondents were asked to make a choice from them and assumed that they were the only available choices. The list of all available options was termed as choice set.

Though an error component is used in the utility function, estimates cannot be made with certainty. Thus, the analysis becomes a probabilistic choice. The probability of a respondent (individual i) prefers option j in the choice set to any other alternative, if Uij > Uik, (this utility is known only to the individual). This means that the utility correlated with option j exceeds that associated with all other options:

$$P_{ij} = (V_{ij}+\varepsilon_{ij}) > (V_{ik}+\varepsilon_{ik})$$

$$= P\ [(V_{ij}-V_{ik}) > (\varepsilon_{ij}-\varepsilon_{ik})] \qquad [3]$$

Therefore, it can be expressed that the probability of choosing alternative j over k is simply that the differences between deterministic parts of their utility beat the differences in error parts. If the error terms are assumed to be independently and

identically distributed (IID), and if this distribution can be assumed to be Gumbel, the above can be expressed in terms of the logistic distribution (McFadden, 1973). Then, the probability of choosing option j by respondent i is:

$$P_{ij} = \frac{\exp(\mu V_{ij})}{\sum_j^i \exp(\mu Vik)} \qquad [4]$$

The assumption of (IID) error terms implies to the independence of irrelevant attributes (IIA). This means that the ratio of choice probabilities for any two alternatives is unaffected by adding or removing other unchosen alternatives (Bennett & Blamey, 2001). While "μ" is a scale parameter, an appropriate value for which may be chosen without upsetting evaluation results, if the marginal utility of income is presumed to be linear. Following Yacob et al. (2009), if it is assumed that the vector V_{ij} is linear, the utility function of the respondents' components can therefore be:

$$Vij = \beta 1Xij + \beta 2X2in\ j + \ldots + \beta nXnij \qquad [5]$$

Where, Xs variables in the utility function, βs coefficient to the estimates. If a single vector of coefficient βs applies to the whole, and the associated utility functions and scale parameter μ are assumed to be equal to 1, equation 5 can then be rewritten as:

$$Pij = \frac{exp(\beta Vji)}{\sum_j^i exp(\beta\beta Vik)} \qquad [6]$$

Where P_{ij} = probability of respondent i choices alternative j
X_{ij} and X_{ik} = vectors of attributes i and j, while,
B = vector of coefficient

The LIMDEP, Nlogit 4.0 econometrics software was applied to estimate the multinomial logit model (MNL) by conventional maximum likelihood procedure:

$$\log L = \sum_{i=1}^{N} \sum_{j=1}^{J} Yij\ log \left[\frac{exp(Vij)}{\sum_{j=1}^{J} exp(Vij)} \right] \qquad [7]$$

Where:
Y_{ij} is an indicator variable that takes the value of one if the respondent i chooses option j and zero otherwise, and N is the number of samples.
The last step of CE technique was to compute WTP estimate, based on β values. Refer to Equation (5) to clarify the meaning of β values; it can be seen that the model estimates the value β, which indicates the effect on the utility of a change in the level of each attribute. For instance, β_1 shows the effect on the utility of change in attribute X_1 (Hanley et al., 2009).
The price or cost attribute must be included for WTP estimation. WTP value is typically derived by dividing the β value of each non-monetary attribute by β value of the price attribute, for marginal change in an attribute. Thus:

$$MWTP = \beta_{X1}/\beta_C \qquad [8]$$

The implicit price or marginal rate of substitution (MRS) is the value for any attributes other than price (Hanley et al., 2009).

Results and Discussion

Respondents' Socioeconomic Profiles

Table 3 presented a summary of the households' socioeconomic profiles. The respondents' disproportion across gender indicated that the males (n=234) represented 59.8 percent, while females (n=157) accounted for a relatively smaller size of 40.2 percent. The average age of the respondents was 36 years. This Showed that majority of the respondents were within their active or productive age. Among these age cohorts, 9.7 percent disclosed to have attended informal educational system, while 90.3 percent of the samples have formal education. The average household size was 6 members per household. The mean households' income was approximately ₦38,000, in which 46.8 percent of the surveyed respondents earned a monthly income of ₦40, 000 and below ($203 and below).

Table 3: Respondents' Socioeconomic Profiles

Variable(s)	Freq.	%	Mean±SD	Min.	Max.
Gender					
Male	234	59.8			
Female	157	40.2			
Age/Age Group			**36.14±11.95**	**18**	**68**
Below 30	146	37.3			
31-40	114	29.2			
41-50	76	19.4			
51 and Above	55	14.1			
Educational Level					
Informal	38	9.7			
Primary	25	6.4			
Secondary	110	28.1			
Tertiary	218	55.8			
Household Size			**6.13±2.30**	**2**	**13**
2-3 Persons	40	10.2			
4-6 Persons	200	51.2			
7-9 Persons	117	29.9			
10 and Above	34	8.7			
Household Monthly Income			**37692.33±11834.00**	**₦18000**	**₦85000**
₦40000 and Below	183	46.8			
₦41000-60000	131	33.5			

₦61000-80000	52	13.3
₦81000 and Above	25	6.4

Note: *1 USD = ₦197*

The Basic Multinomial Logit (MNL) Model

The estimated Multinomial Logit Model (MNL) for waste collection services is presented in Table 4 shows. Three models were estimated, thus, the basic model and the interactive model, as well as the marginality model using maximum likelihood procedure. However, the difference between the basic and the interactive MNL models lies in the coefficients.

an the models the coefficients of the attributes in the survey for CF2, CF3, SF2, SF3, DM2, DM3, as well as, the PCS2 and PCS3 at all levels were all positive and statistically significant at 1%. Except for PRICE which has a negative sign, but, also statistically significant at 1% confidence level. All the variables have the correct expected sign. This means that as waste collection price increases, respondents are less likely to pay because of a decrease in the utility level.

Table 0: Basic Multinomial Logit (MNL) Model

Variable	Coefficient	Standard Error	b/St.Er.	P[|Z|>z]
CF2	2.86261178	.19502696	14.678	.0000
CF3	7.33167968	.44634290	16.426	.0000
SF2	.95543966	.14971649	6.382	.0000
SF3	4.82814929	.25482233	18.947	.0000
DM2	2.19546065	.12164976	18.047	.0000
DM3	5.81229719	.32986728	17.620	.0000
PCS2	.60021625	.10437612	5.751	.0000
PCS3	4.60954038	.28573130	16.132	.0000
PRICE	-.00301247	.00013679	-22.022	.0000

Number of observations 2346
Log likelihood function -1493.917
R-sqrd 0.26568

All parameters significant at 1% level

Multinomial Logit Model with Interaction

According Rolfe, et al., (2000) and McConnell, & Tseng, (2000), the inclusion of socio-economic attributes is an important step for estimating more accurate models of choice. As socio-demographic variables are the same for a given respondent, apart from selecting options 1, 2, or 3, for each choice question, so these variables are entered into the model with the interaction of the attributes variables. Subsequently, the socio-demographic characteristics of respondents enter the model as intercept shifters. Status quo was selected as a base level in the model. The interaction models is presented in Table 5 below.

Table 5: Multinomial Logit Model with Interactions

Variable	Coefficient	Standard Error	b/St.Er.	P[|Z|>z]
CF2	3.31053381	.25002737	13.241	.0000***
CF3	8.03945719	.51890811	15.493	.0000***

SF2	.95480305	.14944054	6.389	.0000***
SF3	4.89468341	.25619908	19.105	.0000***
DM2	2.40777985	.16260192	14.808	.0000***
DM3	5.85285749	.32825083	17.830	.0000***
PCS2	.81138295	.13102950	6.192	.0000***
PCS3	4.04182676	.40234594	10.046	.0000***
PRICE	-.00304306	.00013740	-22.147	.0000***
PCS3_AGE	.01732559	.00811284	2.136	.0327*
PCS2_EDU	-.37873129	.14210732	-2.665	.0077**
CF2_GEN	-.63515130	.21283274	-2.984	.0028**
CF3_GEN	-.99639877	.36024804	-2.766	.0057**
DM2_GEN|	-.31888000	.16257366	-1.961	.0498*

Number of observations 2346
Log likelihood function -1481.735
R-sqrd 0.27167

Note: *Variables significant at 1% level is indicated by '***', at 5% by '**' and at 10% by '*'.*

The socio-economic variables included in the model such as age, gender, income and education as interactive attributes in the model has a positive effect on the model fit. There are means to improve the model fitness, and to observe where the sources of inaccuracy in the choice model might be occurring; this will of course assists in rich data sets generation. Thus, one of such possibilities is by incorporating the socio-demographic variables of the respondents, since heterogeneity of preferences may be accounted (Radam, et al., 2008). Hence, in this study information on respondents' socio-demographic characteristics were employed to interact with the main survey attributes to determine the effects of these variables on the choice behaviour of the survey respondents, hence, the interactive model shows that age, gender, and education have a significant influence on choice in this survey.

The inclusion of the socio-economic parameters from the log likelihood ratio of the model with the interaction has improved relatively compared to the basic model, Table 5 where the Pseudo R^2 was also improved from 0.26568 in the basic model compared to 0.27167 in the interactive model Table 5 and the log likelihood from -1493.917 to -1481.735. This shows that the statistics indicators, log likelihood ratio and the Pseudo R^2 improved in the MNL interactive model and therefore, indicates a more accurate model specification is achieved.

However, households prefer those solid waste collection services, which do not have proposed additional cost to them. Thus, the sign of the payment coefficient that indicates the effect on the utility of choosing a choice set with a high payment level is negative, as expected. The economic function of the model is provided as below:

Consequently, the economic function of the model is provided as follows:

$$U = \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 9X1Y1 + \beta 10X2Y2 + \beta 11X3Y3 + \beta 12X4Y4 + \beta 13X5Y5 \ldots + \varepsilon$$

Where X1 is CF2, X2 is CF3, X3 is SF2, X4 is SF3, X5 is DM2, X6 is DM3, X7 is PCS2, and X8 is PCS3.

While, Y1 is Age, Y2 is Edu, and Y3 is Gen, as the parameters interacting with main

attributes.
β = the coefficient
ε = the error term, thus:

$$U = \beta_1 CF2 + \beta_2 CF3 + \beta_3 SF2 + \beta_4 SF3 + \beta_5 DM2 + \beta_6 DM3 + \beta_7 PCS2 + \beta_8 PCS3 + \beta_9$$

$$PCS3_AGE + \beta_{10}\ PCS2_EDU + \beta_{11}\ CF2_GEN + \beta_{12}\ CF3_GEN + \beta_{13}\ DM2_GEN + \varepsilon$$

T he positive function of all the attributes in both levels 2 and 3 means that higher improvement of solid waste collection services is preferred more than the baseline or status quo. However, the increase in Pseudo R^2 implies that in the expanded model, the proportion of choice has increased compared to that of the basic model. All the attributes are statistically significant at 1% confidence level.

All the coefficients of the non-monetary parameters in the extended model were expected to positively correlate with utility. The Wald test indicates that all the coefficients are significant at 1% confidence level. This implies that improvements in all the non-monetary parameters can lead to positive utility among the respondents. The coefficient of the parameters of CF2, CF3, SF2, SF3, DM2, DM3, as well as PCS2 and PCS3, are positive with a prior positive sign expectations to the parameters, and similar to that of the simple or basic model, with both levels 2 and 3 in the models are significant at 1% confidence level. In fact, the positive signs, as a theoretical expectation in all the models, imply that increasing improvement of solid waste collection brings more utility to the respondents. Hanley et al. (2002) observed that the respondents prefer moving away from status quo situation and this rationally contributes in a high level of environmental improvement even if they would have to pay for it.

The variable CF (Waste Collection Frequency) was significant at 1% for both level 2 and 3. Both of these levels had correct positive signs. The finding showed that the coefficient for CF was positive, and it seemed that waste collection frequency was much more familiar than other attributes, and people were more concerned about it. Positive sign means that improvement in waste collection frequency results in higher level of utility for individuals. Thus, the positive sign of the variable coefficient for waste collection frequency denotes that households derive positive utility by the improvement of waste collection frequency and may be deduced as the net increase in utility (benefits) accrued to the households towards a sustainable SWM. In a nutshell, the coefficient for waste collection frequency is very high compared to other attributes in magnitude. The result can be described in the fact that, even though the residents generally recognise the need to improve on environmental quality, however, because the waste collection frequency is more noticeable, the households are especially concerned about waste collection frequency improvement to a higher level as much as possible. The results revealed that the households acknowledge that environmental quality also depends on the improvement in the cleanness via effective and efficient waste collection frequency, the high improvement of waste collections may therefore have implications on the public health and environmental risks. Previous studies have found that respondents pay (or WTP) for improving waste collection frequency increases from their income (Othman, 2007; Othman, 2002; Das et al., 2010).

In both the basic and the extended MNL models, the PRICE (i.e., monthly charges, or MC) was found to be significant at 1%. The research finding shows that the coefficient for PRICE, which is the monetary attribute, was a negative sign, and it

indicates that the respondents prefer improvement in solid waste collection services that are less costly for them. In all the samples, the monetary attribute had a negative sign and was significant at the 1% level. This entails that the higher the cost (PRICE) associated with an alternative (option), the lower the probability that alternative (option) was chosen, given the fact that all other attributes are equal. Comparing the results obtained (especially in term of attribute signs) with those of the previous studies showed that our results are consistent with some past studies (Othman, 2007; Othman, 2002; Das et al., 2010).

The significant positive sign on the age variable in interaction with pre-collection service level 3 in PCS3_AGE variable implies that the older household heads have more interests than young age to improve solid waste collection services to a higher level than the status quo. Education variable was significant at the 1% level, and negative sign, in interaction with level 2 in PCS2_EDU. It indicated that the respondents with low educational level prefer pre-collection service at the second level of improvement via motorised pre-collection service that entails waste collection using either push-carts or light-weight trucks for final transportation. In Kano, this is done by using motorised tricycle trucks which can access roads in urban poor settlements, or urban slum areas in which roads are often narrow and with no asphalt (untarred roads). This makes urban slums inaccessible to heavy compactor trucks. However, most respondents with low education levels reside in such urban slums (i.e. regarded as urban poor settlements) characterised by high population density, and mostly dominated by the low-income earners.

In the final model, the significant negative sign on the gender variable at 1% in interaction with waste collection frequency levels 2 and 3 in CF2_GEN and CF3_GEN variables implies that women have more interests than men to improve waste collection services to a higher level than the status quo. This is perhaps, women at the domestic level are the ones managing solid wastes. Likewise, there was significant negative sign on the gender variable at 1% in interaction with waste disposal method level 2 in DM2_GEN variable. However, the negative sign might suggest that the female respondents also had the tendency to go for the higher improvement options in SWM than the baseline. These findings are also in conformity with the similar results obtained in Malaysia by Othman (2002; 2007) who stated that women were generally more willing to opt for SWM improvement compared to men.

Conclusively, from the results obtained in the models, it can therefore be deduced that households in Kano metropolis support improvement in SWM for solid waste collection services in terms of collection frequency, storage facilities, disposal method and pre-collection services.

Estimation of Households' Marginal Willingness to Pay

The marginal willingness to pay (MWTP) was computed by calculating the marginal rate of substitution between the attribute of interest and the cost factor, thus, by taking the total derivative of the utility index. The "value ratio" is identifiable between non-monetary elements of a utility called the implicit price (IP) (Hanley et al., 2009). For example, in this study, one of the attributes was collection frequency; dividing the β value of this attribute by the β value of price would show the respondents' average willingness to pay to improve collection frequency from the current level. For the dummy coded, the marginal value of solid waste collection attributes was estimated using the following formula:

MV = - βattribute / β monetary variable

The results reported in Table 6 using Wald test procedure in Limdep 8, Nlogit 4, was employed to estimate the WTP values of the attributes, it showed that the mean values range from ₦950 ($4.8) for pre-collection services to ₦1530 ($7.7) for improvement in waste collection frequency. Thus, waste collection frequency (CF3) has the highest marginal value of ₦2433 ($12.4), followed by waste disposal method (DM3), waste collection frequency (CF2), pre-collection services (PCS3), waste storing facilities (SF3), waste disposal method (DM2), storing facilities (SF2), and finally the pre-collection service (PCS2) in the LCM model class2 respectively, while both improvement levels of options 2 and 3 have a positive sign which means increased utility.

Table 6: Marginal Values for Attributes

Variable	Coefficient	Standard Error	b/St.Er.	P[|Z|>z]
CF2	950.254807	68.3376799	13.905	.0000
CF3	2433.77880	80.9302678	30.073	.0000
SF2	317.161809	51.7132174	6.133	.0000
SF3	1602.72242	41.8391355	38.307	.0000
DM2	728.791468	41.7069274	17.474	.0000
DM3	1929.41404	65.7356516	29.351	.0000
PCS2	199.244053	35.1453191	5.669	.0000
PCS3	1530.15436	56.8686702	26.907	.0000

Number of observations 2346
Wald Statistics 6340.09752
Prob. from Chi-squared [8] .00000

Source: Author's Computation

The marginal value of CF3 (four times a week) of regular waste collection frequency was found to be higher than that of CF2 (three times a week) regular waste collection frequency. This means that CF3 is the most preferred choice attribute with the highest improvement level for waste collection frequency in this survey and it has a positive effect on the utility. For waste storage facilities, the statistic for the probability of SF2 and SF3 shows that the marginal value of SF3 (wheel waste bin) for waste storage facilities was higher than SF2 in the CLM Class2; thus, the survey respondents preferred choice attribute SF3 to SF2, since SF3 is also the highest improvement level here.

For the waste disposal method, however, the result revealed that the marginal value of DM3 is higher than that of DM2, this means that the survey respondents prefer DM3 over DM2 improvement level. Meanwhile, the marginal value for the pre-collection services of PCS2 and PCS3 showed that PCS3 is also higher than PCS2, which means PCS3 is preferred over the PCS2 level of improvement in all the models.

Aggregate annual SWC services benefit measured from the improvement in management options in the marginality model, where CF3 has the highest coefficient and indicates respondent choose improvement in the waste collection frequency as the most preferred waste management attribute followed by DM3 and SF3. The marginality

accordingly are ₦950 ($4.8), ₦2433 ($12.3), ₦317 ($1.6), ₦1602 ($8.1), ₦728 ($3.7), ₦1929 ($9.8), ₦199 ($1.0) and ₦1530 ($7.8). By taking the average, it shows that the mean WTP for SWC services benefit is ₦1211.44 ($6.1). From the mean WTP obtained from the households ₦1211.44 ($6.1) the expected SWC service value can therefore be estimated base on the result from the logit model and the households population of Kano Metropolis (275,851). Computing this figure with the mean WTP, the total SWC services value is estimate at ₦3341 76935.44 ($1696329.6215). This indicates households are willing to pay for waste collection services improvement to ensure sustainable waste management and improve on the enviromental quality.

Conclusions

A disaggregate relative importance for attribute levels' pair indicates that CF3, DM3, SF3, and PCS3 are the most preferred improvements of attributes combination levels, while CF2, DM2, SF2, and PCS2 are considered as least preferred by the households. This indicates the utility people acquire from improvement in waste collection services and the situational change from status quo, which is viable.

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MINDFULNESS AND INTERPRETIVE OUTCOME: A CASE OF GEORGE TOWN, PENANG, WORLD HERITAGE CITY

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Abstract: *The primary objective of this study is to further understand the concept of mindfulness and its contribution towards interpretation at the heritage sites. Mindfulness refers to psychological awareness based on experiencing the current environment by steering the careful attention through a non-critical state. Past research works have suggested that mindfulness is capable to contribute in creating effective interpretation among visitors. Although mindfulness has been acknowledged as important, there are gaps in understanding mindfulness and its contribution towards interpretation. The current research focuses on examining the contribution of mindfulness towards interpretation. This research is conducted in Penang, a destination listed under the UNESCO World Heritage. A self-administered questionnaire was prepared with 390 usable responses from both local and international tourists were gathered to empirically test the measurement and structural model by using Partial Least Square path modelling approach. The results illustrate the significant positive direct effects and path coefficients. Likewise, significant relationship exists between mindfulness and interpretation. Above all, this research contributes to the mindfulness literature and provides evidence on its contribution towards interpretation.*

Keywords: Mindfulness, Interpretive Outcome, Heritage Sites, Penang and UNESCO

Introduction

Originated from the Buddhist perspective, mindfulness has been applied into various disciplines such as psychology, pedagogy, medical health, tourism, business and communication (Langer & Moldoveanu, 2000). Mindfulness has been studied in tourism as a cognitive trait recognised by actively processing knowledge, attached to an individual's environment and exposed to new information. Simply put, according to the tourism literature, mindfulness could be described as actively processing novel information gathered from the surrounding environment (Langer, 1989; Langer & Moldoveanu, 2000).

The concept of mindfulness was introduced in the tourism industry to develop a better understanding on tourist interpretation which in turn will help enhance quality satisfaction in this sector. The concept of "mindfulness" provides useful insight in terms of learning from interpretive material (Moscardo, 1996). Effective interpretation will facilitate in offering greater knowledge and better understanding about the destination. According to several academic commentators (Frauman & Norman, 2004; Moscardo, 1999; 2017) visitors who are mindful may cherish and understand the information of the place dissimilarly from those who

are mindless despite they have visited similar tourism spots of natural, cultural or historical based setting. An outcome of a mindful tourist with effective interpretation is to learn something novel such as the culture, lifestyle and history, which will inject a fresh view into their lives.

Generally, mindfulness refers to psychological awareness based on experiencing the current environment by steering the careful attention through a non-critical state. It is regarded as an emotional state that dictates information process, adaptability and responsiveness of acquired knowledge from the external surroundings. Ironically, it has been applied in social humanities and tourism studies to comprehend how visitors' experience can be made more appealing. Paradoxically, it has been proposed that in the process of interpretation the information, visitors tend to gain new insights (Larsen et al., 2009; Moscardo et al., 2004) and try to infuse the derived facts impulsively. Effective interpretation plays an important role in learning and understanding the information provided at the heritage sites. On top of that, practical interpretation would help tourists in gaining more knowledge and at the same time enjoying their visit. In the present study, effective interpretation is measured based on several dimensions of interpretive outcomes, namely cognitive, affective, behavioural and value dimensions. Therefore, it is imperative to investigate the components of mindfulness which contribute to the desirable interpretive outcome.

This paper is organised as follows. Section 2 offers a succinct review of literatures regarding the connection between mindfulness and interpretation. Section 3 presents the theoretical model used in this study. Next, in Section 4, we delineate the adopted research method. In the penultimate section, we discuss the results of the analysed data, while the last section provides the conclusion of this paper.

Mindfulness and Interpretation

Several researchers (Langer & Moldoveanu, 2000; Moscardo, 2008) hypothesise that mindfulness theory has espoused a cognitive dual information-processing model based on opposite mental states of mindfulness or mindlessness. This model assumes that a mindful tourist is more thoughtful to what they are listening and observing, while a mindless tourist responds spontaneously with lack of novelty and stimuli to be readily distinguished. In order to achieve visitors' satisfaction, Moscardo (1999) postulates that interpretation should integrate differences into interpretative experiences, offer personal connections to visitors, implement mutual participation, create vivid contents and allow for alternative audiences. Providing diversity in the interpretative experiences would promote mindfulness as it is the best tool for visitors to learn from the destination.

Indeed, the role of interpretation is to ultimately generate mindful visitors that are capable of reassessing their perspectives. Hence, Markwell and Weiler (1998) propose that interpretive experiences must be intellectually inspiring and emotionally encouraging, with the incitement of arousing reaction. To that extent, mindful tourists will be imbued with superior appreciation and understanding towards the site value, which subsequently provide full support for its conservation. By participating throughout the tour, Moscardo (1996) believes that visitors will be able to recognise the consequences of their actions and therefore behave in ways that diminish the impacts on a site. That aside, active questioning by the visitors is demanded as an essential instrument for them to better interpret the locational attributes. Thus, it can be advocated that improving the mindfulness quality of an interpretative material would undoubtedly amplify its effectiveness.

Conceptual Research Framework

In this research, we examine the effects of mindfulness in influencing interpretive outcome. Past studies (Frauman & Norman, 2004; Moscardo, 1996; 1999; 2008; Woods & Moscardo, 2003) have not clearly established the relationship between mindfulness and interpretive outcome. Therefore, the key objective of this study is to examine the relationship between mindfulness and interpretive outcome accordingly. Therefore, the hypothesis observed in this study is:

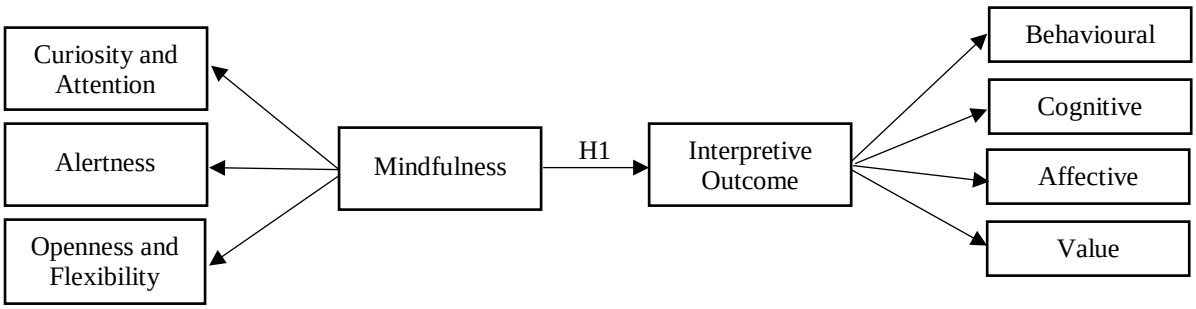

Figure 1: Proposed Conceptual Model

Based on the extant voluminous literature, it is posited that mindfulness contributes to better understanding of tourism destinations and renders strong attitude to support conservation (Moscardo, 1996; 1999; Moscardo & Ballantyne, 2008; Moscardo et al., 2004). However, a myriad of studies (cf. Frauman & Norman, 2004; Van Winkle & Backman, 2009; Woods & Moscardo, 2003) that dwell on mindfulness have focused on either visitors' satisfaction and/or changes in behaviour as the outcome measures while the actual change based on the interpretive outcome was rarely examined. Hence, in the current research, mindfulness is tested to ensure that it influences the interpretive outcome.

H1: Mindfulness influence interpretive outcome.

Methodology

This study embraced a quantitative research method through the adoption of survey questionnaire. Questions were generated and validated based on the factor analysis using Statistical Package for Social Sciences (SPSS) on the measure of mindfulness and interpretive outcome. A raft of data were collected from 400 local and international tourists. The targeted sample population for this research is 400 visitors who visited Penang Heritage Site after considering the sampling error and also the sample size population suggested by Krejie and Morgan (1970) and Cohen et al. (2007). The target sample population is slightly higher than the suggested number of 380 to reduce the possibility of insufficient data due to missing value and incomplete questionnaire. Respondents were asked to rate each indicator according to their experience at the heritage sites based on a 5-point Likert scale (1 = strongly disagree, 3 = neutral, 5 = strongly agree). SmartPLS was used to perform the Partial Least-Squares Structural Equation Modelling (PLS-SEM) data analysis. PLS-SEM was selected for data analysis due to its comprehensive statistical approach that allows simultaneous evaluation and modification of

a conceptual model, including the relationships among the latent variables (LV) (Anderson & Gerbing, 1991).

Results

Respondents' Profile

The analysis of the sample profile showed that the respondents comprised almost equal gender of both Male (N=196) and Female (N=194), representing a ratio of 50.3% and 49.7% respectively. The highest percentage for educational level is at College or University level with 56.9%. This followed by Postgraduate which consisted of 21.5% of the total. Next is the Secondary School level with 20%. On the other hand, there are the Non-formal educational level which encompassed 1% of the respondents. While the lowest percentage was Primary School (0.5%). Majority of the respondents are International tourists (57.4%) and there are only 42.6% of local respondents. Most of the respondents have arranged their own trip (87.4%) while there are only 49% of them engaged with tour package. Within all the respondents, only 27.7% of them came to Penang repeatedly compared to 72.3% of first timer to Penang. As for Respondent's Job, the respondents were mainly Professionals (35.6%), followed by Students with 19.7%. A total of 13.1% are Businessman and next is Clerical level with 7.9%. The subsequent group is the Retiree with 4.6% and 3.3% of Housewife. There are a total of 1.8% of Expatriate. The lowest percentage is the Unemployed with 5% of the total. Additionally, there are a total of 5.4% with Other's job description such as Store Owner, Freelancer and Self-Employed. Majority of the respondents visit the heritage site with their Friends (31%) as their companion. This is followed by Family with Children (25.1%) and Spouse (16.4%). Besides that, there are also tourists who visit the sites with Relatives at 12.2% while another 8.2% of the respondents are considerably Alone. 4.6% of the respondents come in a Group and 2.1% of them visit the place with their Business Associate. The lowest percentage is the Others with 0.5% for are those who suddenly came across this place or visited the site without an earlier plan.

Assessment of the Measurement Model

The VB-SEM Smart-PLS was used for 390 samples to test the hypothesis. The measurement model assessed the reliability and validity of the constructs. Composite reliability (CR) and average variance extracted (AVE) must be determined in the course of such evaluation (Chin, 2010; Hair et al., 2014). In this particular study, composite reliability of all construct variables were above 0.70 which is indicative of good scale reliability as per the rule of thumb suggested by Hair et al. (2014). All constructs have AVE above 0.5, which illustrates an acceptable degree of convergent validity (CV) as recommended by Fornell and Larcker (1981). As from Table 1, all the values were above the recommended value points, thus ensuring the achievement of CV. Furthermore, B6, VL1, OF1 and CA1 were deleted due to main loading < 0.5. Table 1 reveals the final results of the measurement model.

Table 1: Measurement model of PLS (n=390)

First-order constructs	Second order construct	Items	Loadings	AVE	Composite Reliability

Alertness		AL1	0.574	0.610	0.902
		AL2	0.823		
		AL3	0.844		
		AL4	0.870		
		AL5	0.800		
		AL6	0.736		
Curiosity and Attention		CA2	0.796	0.658	0.931
		CA3	0.827		
		CA4	0.825		
		CA5	0.836		
		CA6	0.761		
		CA7	0.856		
		CA8	0.775		
Openness and Flexibility		OF2	0.833	0.682	0.865
		OF3	0.865		
		OF4	0.777		
	Mindfulness	Alertness	0.606	0.548	0.780
		Curiosity and Attention	0.886		
		Openness and Flexibility	0.702		
Behavioural		B1	0.778	0.556	0.862
		B2	0.738		
		B3	0.800		
		B4	0.742		
		B5	0.662		
Cognitive		C1	0.753	0.699	0.920
		C2	0.863		
		C3	0.835		
		C4	0.890		
		C5	0.833		
Affective		AF1	0.831	0.681	0.895
		AF2	0.782		
		AF3	0.834		
		AF4	0.851		
Value		VL2	0.783	0.667	0.857
		VL3	0.868		
		VL4	0.796		

Interpretive outcome	Behavioural	0.872	0.706	0.905
	Cognitive	0.811		
	Affective	0.895		
	Value	0.777		

Note: B6, VL1, OF1 and CA1 were deleted due to main loading; AVE=average variance extracted

Discriminant Validity of Measurement Model

Recent research claims that the Fornell-Larcker criterion is not effective under certain circumstances (Henseler et al., 2014; Rönkkö & Evermann, 2013), pointing to a potential weakness in the most commonly used discriminant validity criterion. Hence, the Heterotrait-Monotrait (HTMT) ratio has been set up recently as an exceptional criterion in comparison to the more traditional assessment proposed by Fornell and Larcker (1981). Previous research efforts have indicated construct thresholds of 0.85 and 0.90 for HTMT to establish discriminant validity (Henseler et al., 2015). The present study utilises the HTMT of 0.85 to evaluate discriminant validity. Thus, the HTMT ratio criterion is fulfilled in the present study. This thumb rule is also supported by Kline's (2011) thresholds of 0.85 in order for HTMT 0.85 to confirm the discriminant validity (Henseler et al., 2015). In view of that, Table 2 displays the results of the discriminant validity assessment of the measurement model Heterotrait-Monotrait.

Table 2: Discriminant Validity of Measurement Model-Heterotrait-Monotrait Ratio (HTMT)

Constructs	Interpretive Outcome	Mindfulness
Interpretive Outcome		
Mindfulness	**0.519**	

Assessment of Structural Model

Utilising the SmartPLS algorithm output, the relationship between both the dependent and independent variables was examined. The path coefficients of the structural model were measured and bootstrap analysis with 5000 resamples was utilized to evaluate the structural model of significance of direct effects-path coefficients. Subsequently, the path coefficient, t-statistics output and the significant level of each relationship were tested. By utilising the findings from the path assessment, the acceptance or rejection of the proposed hypothesis is decided. The path from mindfulness towards interpretive outcome were tested. H_1 is supported. The results show that the mindfulness has significant relationship on interpretive outcome. Mindfulness with the path coefficient of $\beta = 0.485$ at $p < 0.01$ level and t-value = 9.597, shows that this hypothesis is supported.

Table 3: Significance of direct effects- Path coefficients (n=390)

Path	Beta value	SE	t-value	P Values	Result

H1: Mindfulness→Interpretive Outcome	0.485	0.051	9.597*	0.000	Supported

Note: *p<0.001, t>3.33(one tailed); SE: Standard Error

Discussion

The findings indicate a significant relationship between mindfulness and interpretive outcome with path coefficient of $\beta = 0.485$ at $p < 0.01$ significant level and t-value = 9.597. Also, the results specify that mindfulness is capable to facilitate the effective interpretation as it evokes the interpretive outcome among the visitors. A mindful individual is more attentive towards his/her surroundings, resulting better interpretation compared to those who are mindless. The products of this research provide strong empirical evidence towards the proposed link between mindfulness and interpretation in the past (Moscardo, 1996; 1999; Moscardo & Pearce, 1986; Moscardo et al., 2004) which were measured as interpretative outcome in this research. Moreover, the findings also suggest mindfulness as an essential instrument in affecting interpretive experience (Van Winkle & Backman, 2009) and management of the experience among visitors (Frauman & Norman, 2004) at the setting. Again, this study reinforces the arguments of mindfulness in supporting the interpretive outcome.

Conclusions

Past research findings are incapable to conclusively show how mindfulness had contributed towards effective interpretation. Interestingly, the results of this study suggest mindfulness as a vital device in influencing interpretive experience (Van Winkle & Backman, 2009) and a key element that moulds the management of experience among visitors (Frauman & Norman, 2004) at the tourism destination. This study strengthens the arguments of mindfulness in supporting interpretive outcome. Overall, the findings of this study contribute to the existing literature in terms of providing evidence on the ability of mindfulness in supporting interpretive outcome. In conclusion, mindfulness is in a position to assist in creating desirable interpretive outcome among visitors at the heritage sites. Having effective interpretation will lead to attitude change which in turn will warrant the behavioural change. Additionally, interpretation also would be able to facilitate the rewarding visitation experience besides further encouraging participation and positive behaviour at attractions. On a larger scale, the successful application of interpretation is deemed plausible in directing the visitors to conservation and sustainable tourism.

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LEAN MANUFACTURING PRACTICES AND SUSTAINABILITY: MEDIATES BY MANUFACTURING PERFORMANCE

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Abstract: *Lean manufacturing practices (LMP) can lead to competitive advantage by enhanced the productivity and quality and as well as reducing the cost. LMP also considered as a manufacturing philosophy that engaged to global manufacturing excellence by adopting in the organizations. Nevertheless, several studies found that some challenging relating the orientation of lean manufacturing operations system with sustainability goals and practices. As yet, sustainability has turned out to be the most essential strategic of the new millennium in the manufacturing organizations. Sustainability is not merely to sustain present operational levels and break through the new markets but it is very wide-ranging. Contrariwise, it will go advance than that by getting growth so that a company remains in business thriving into the future and keep on sustain the competitive advantages of business. Past literature stated that the process through which organizations go to embrace sustainability so that can increase the development of the business. For now, numerous researchers found that manufacturing performance can stimulate sustainability in the long term. Therefore, manufacturing performance (MP) is proposed as potential mediator on LMP and sustainability in the present study.*

Keywords: *Lean Manufacturing Practices, Manufacturing Performance, Sustainability*

Introduction

The role of Manufacturing Performance as potential mediator between LMP and sustainability has been explored in manufacturing organizations in Malaysia. Stoughton & Ludema (2012) stated that based on previous literature on the process through which organizations go to embrace sustainability so that can raise the growth of the business. In fact, sustainability is becoming an important element and a key business imperative in an organization (Longoni, Golini, & Cagliano, 2014). Moreover, referring to Abdul-Rashid, Sakundarini, Raja Ghazilla, & Thurasamy (2017) the manufacturers need to take proactive steps by incorporating sustainability concepts into their company's strategy and actions. Sustainability is gradually more vital component of most company strategies in the organizations. However, the invention and employment of operations strategies that embrace sustainability still ambiguous and become remain open issues. For instance, King & Lenox (2001); Hasle, Bojesen, Jensen, & Bramming (2012) stated that it was obviously can see that

the challenging relating the orientation of a traditional lean manufacturing operations system with environmental and social sustainability goals and practices in the current manufacturing organizations. Most of the past studies are concentrating on some of the aspects of sustainability and fewer studies present a simultaneous approach which takes into account the economic, environmental and social aspects of sustainability (Abdul-Rashid et al., 2017). According to King & Lenox (2001); Hasle et al. (2012); Longoni, Pagell, Johnston, & Veltri (2013) the connection between lean manufacturing and environmental and social sustainability is currently under discussion and both interactions and trade-offs between these factors have been suggested. Ferro, Padin, Svensson, Carlos, Varela, Wagner and Hogevold (2017) mentioned that the impact of companies activities on the physical environment, society and economy is inarguable and most of the companies are being driven by the profit objective rather than concern about sustainability holistically (three pillar model).

In addition, according to Bulgacov et al., (2015), stakeholder theory highlighted that the common of stakeholders (clients, suppliers, governments, employees, etc.) are drive for sustainability. This study will employ MP to mediate the relationship between LM and sustainability in the manufacturing organizations as proposed by Nawanir, Teong, & Othman (2013) and Fullerton & Wempe (2009). Study by Karim & Arif-Uz-Zaman (2013) defines and evaluates the manufacturing performance indicators based on production quality, processing time and cost. The indicators that had been used were able to measure performance of the company. Performance measurement can help public organizations to establish organizational efficiency. Besides, according to Narkhede (2017), the capabilities of manufacturing performance can be improved by reducing manufacturing outputs such as the cost, quality, delivery time and delivery time reliability, flexibility and innovativeness. Therefore, the proposing MP as mediator variable would have significant implications on sustainability.

Literature Review

The term "sustainability" is referred as the growth of the corporate perspective which considers environmental, social and economic (Abdul-Rashid et al., 2017). While the most accepted definitions of sustainability offer accessible dimensions, such as the triple bottom line, the applicable domains of human activity are subject to interpretation. As a result, professions differ in their conceptualization and application of sustainability depending on how they approach the question of what is sustained. A major motive for divergence is found in the different levels of analysis. For example, management thinkers are focused on variables that deal with sustaining organizational systems, sociologists on individuals or groups, and political scientists on even broader populations, defined around geopolitical borders. At the same time, it is telling that the environmental movement was initiated in close connection with the sciences, specifically, biology, also the study of life (Ratiu & Anderson, 2015).

Sustainability has turn into the strategic vital of the twenty-first century. While most of the organizations have set their strategic course in order to lead to sustainable, the successful employment of these strategies requires making an infrastructure that reflects and reinforces these initiatives. Sustainability is considered continuing or long-term aim that should be planned in nature. Various companies only contemplate sustainable business practices to improve their worth over a shorter term. In fact, the long-term perspective that sustainability should be approach from must be much considered (Ferro et al., 2017). According to Barron & Chou (2017), the triple bottom line can be viewed as a measurement tool that concurrently accounts for a firm's economic, ecological and social performance. There were lot of research regarding sustainability and the articles in literature have been maturing for the past two decades and very rapidly in the past decade (John & Narayanamurthy, 2015). However, there

seems to be very little literature available which identifies manufacturing industry's engagement in the application and implementation of manufacturing resiliency and sustainability models, tools and techniques (Thomas, Byard, Francis, Fisher, & White, 2016).

LMP and Sustainability

Lean is a term invented by Krafcik (1988) who a chief researcher in the International Motor Vehicle Program (IMVP) executed at the Massachusetts Institute of Technology (MIT). In his landmark paper Krafcik introduced the term "Lean" in order to portray a production system that uses fewer resources of the whole thing compared to mass production. Nonetheless, many researchers define lean differently. Consequently, Bhamu & Sangwan (2014) has reviewed on the lean studies and summarized the term that had been used to define lean. The result from the review shows that lean had been define as a way; a process; a set of principles; a set of tools and techniques; an approach; a concept; a philosophy; a practice; a system; a program; a manufacturing paradigm; a model. Nevertheless, even though there are many definition of lean but there were one aim which is to eliminate waste (Shah & Ward, 2007). In fact, the frequent cited list of lean principles found in the literature was suggested by Womack & Jones (1996). However, Liker (2004) extended the principles that created by Womack and Jones (1996) by highlight on the 'matters of people' in his principles.

LMP is the most important practice in an organization. It is important driving force for conserving the environment and sustainability (Ho, 2010). Furthermore, according to King & Lenox, (2001); Rothenberg, Pil, & Maxwell, (2001), lean practices are managerial actions that reduce or remove wastes in all forms. Hence, lean practices are supportive for particular organization to eliminate pollutant and dangerous emissions by means of decrease in logistic and as a result reduce non-value added activities. In addition, lean practices also play the role in order to sustain the environmental performance (King & Lenox, 2001; Shah & Ward, 2003). Consequently, Langenwalter (2006) mentioned that lean leads in the direction of sustainability initiatives. Lean tools apply to any kind of problem, including environmental ones. Meanwhile, lean manufacturing can also have an impact on environmental and social sustainability practices (Longoni & Cagliano, 2015). In addition, sustainability is about not only concerning about to sustain current operational levels and penetrating new markets in order to replace lost ones, likewise attempt to achieving development so that organization can be well growth. Hence, the organization must be able to support the manufacturing operations by lean implementation. The present study hypothesizes that:

H1: Lean Manufacturing Practices positively relates to Sustainability.

Manufacturing Performance as a potential mediator on the relationship beween LMP and Sustainability

Manufacturing performance usually discussed in multi facet base on particular research. Operational performance and manufacturing performance using the same metrics in order to monitor and measure the performance and efficiency in the particular organization (Tan & Wong, 2015; Hon, 2005). Furthermore, Voss, Ahlstrom, & Blackmon (1997) also using the term manufacturing performance in order to describe about operational performance. Alaskari et al., (2016) mentioned that LMP and manufacturing performance are interlinked each other. Most of the manufacturing company implemented LMP in order to boost the performance. In fact, a set of lean tools used to improve manufacturing performance thereby it is respond to market demands in various dimensions, such as enhanced product quality, faster delivery and lower cost. On the other hand, Melton (2005) highlighted the key tools and techniques within the lean. In the meantime, study by Karim & Arif-Uz-Zaman (2013) defines

and evaluates the manufacturing performance indicators based on production quality, processing time and cost. The indicators that had been used were able to measure performance of the company. In addition, according to Narkhede (2017), the capabilities of manufacturing performance can be improved by reducing manufacturing outputs such as the cost, quality, delivery time and delivery time reliability, flexibility and innovativeness.

It is common to adopt third variable such as moderator perspective or mediator perspective when hypothesizing the effect of one variable on another variable is contingent on a third variable (Xu, Cavusgil, & White, 2006). Study conducted by Nawanir, Teong, & Othman (2013) in the manufacturing organization found that there is positive relationship between lean practices, operational performance and business performance. Likewise, it indicated that operational performance was partially mediated the relationship between lean practices and business performance. Furthermore, study lead by Fullerton & Wempe (2009) initiated that utilization of manufacturing performance measures mediates the relationship between lean manufacturing and financial performance. In addition, the mediation finding may give a clear view on the consistent result of prior studies that examine the associations between financial performance and lean practices. Consequently, on the part of manufacturing executives, tends to strengthen the relationships between the selected model of business, targeted competitive strategy and the manufacturing performance need to sustain the competitive market (Gomes, Yasin, & Lisboa, 2011). Hence, it shows that manufacturing performance plays the important role as a mediating effect. Likewise, Leachman, Pegels, & Shin (2005), mentioned that the greater manufacturing performance leads to competitive advantage. Moreover, in order to sustain manufacturing strength, the particular companies need to understand the critical manufacturing practices. The present study hypothesizes that:

H2: Manufacturing Performance relates to the LMP

H3: Manufacturing Performance mediates the relationship between LMP and Sustainability.

Underpinning Theory

The proponents of a "stakeholder model" is explain that businesses are accountable to everyone who has a stake in their activity (Kakabadse & Rozuel, 2006). The roots of stakeholder theory attract on four main academic fields for example sociology, economics, politics and ethics. Stakeholder theory draw the literature on corporate planning, systems theory, corporate social responsibility and organizational theory (Wagner et al., 2011). The book entitled Strategic Management: a Stakeholder Approach by Freeman (1984) commonly recognized as launching the stakeholder theory concepts it also describes how stakeholders with alike interests or rights form a group. He was seeking to describe the association between the company and its external environment and its behavior within this environment. The author set out his model as if a chart in which the company is located at the center and is involved with stakeholders associated with the company. The conception of stakeholder management was developed so that organizations could identify, evaluate and examine the characteristics of individuals or groups influencing or being influenced by organizational behavior (Wagner et al., 2011). The main query related to this study is the connection between organization and stakeholder interests, especially regarding sustainability, and in what way this connection affects the way company conducts business. For the common of stakeholders (clients, suppliers, governments, employees, etc.), the drive for sustainability continues to be tough to reconcile with their interests, and this places a burden on the company to reconcile them all (Bulgacov et al., 2015). Hence, based on the literature from the previous studies, the stakeholder theory is suitable to use in this study and will be used to explain the research theoretical framework.

Proposed Theoretical Framework

The research framework will be framed to examine the mediating effect of Manufacturing performance on the relationship between LMP and sustainability that to be tested in Manufacturing Organization in Malaysia. Stakeholder theory highlighted that the common of stakeholders (clients, suppliers, governments, employees, etc.) are drive for sustainability (Bulgacov et al., 2015). Based on the above stated justification the researcher intended to employ LMP as Independent variables and Sustainability as Dependant Variable whereas the MP as the mediating variable as depicted in Figure 1.

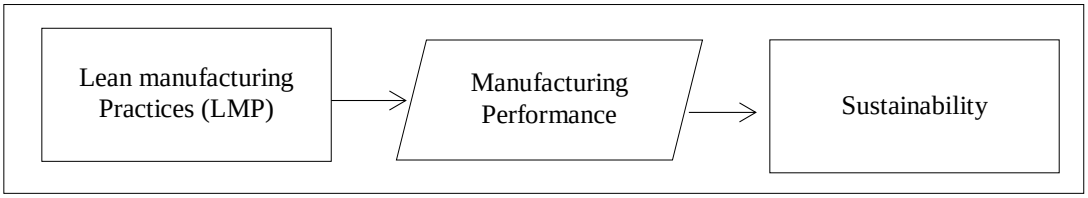

Figure 1: Proposed Framework

Proposed Methodology

The present paper intends to use quantitative method which is a primary data will be collected using questionnaire. The focus of this study is among Manufacturing organizations in Malaysia. The sample to be use is 335 from the total population of 2368 based on Krejcie & Morgan (1970). Meanwhile, PLS SEM will be use in the data analysis.

Conclusion

This paper has proposed MP as the role of mediating effect on the relationship between LMP and sustainability as depicted in Figure 1. Finding will provide useful and vital input to the Manufacturing organizations, academics and practitioner into the significant direct effect of LMP on sustainability and also the direct effect of MP on the relationship between LMP and Manufacturing Performance in Malaysia.

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EDUCATION AND TALENT MANAGEMENT IN HOSPITALITY: A MODEL FOR UNIVERSITY-INDUSTRY COLLABORATION

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Abstract: *Previous studies highlight that many students who graduate with a hospitality degree are not entering the industry due to their unrealistic career expectations. In the context of Malaysia, graduates are disinterested in a hospitality career mainly because of the low pay, unsocial working hours and unsuitable job positions. They perceive themselves to be overqualified for the operational jobs being offered to them. To date, most research focus on why students are leaving the industry and not how such problems could be solved. No study has highlighted how these students could be better influenced to take on a hospitality career. This research proposes that hospitality educators and industry should work together to expose students to the reality of hospitality work that would inform their career expectations. Managing the talent of hospitality students is important as this will prepare them with the necessary attitudes and skills to embark on a career in hospitality. It is suggested that besides offering internship programmes, collaborations through mentoring, industry-sponsored class projects and active participation of industry players as advisory boards for the undergraduate programme would prepare industry-ready graduates who excel in technical and leadership skills. The main objective of this research is to examine university-industry collaboration activities currently in place in Malaysian universities offering undergraduate degrees in Hospitality Management. In order to carry out this research, a combination of qualitative and quantitative methods is proposed. Semi-structured interviews and survey research are to be conducted among faculty members and undergraduates. It is expected that the findings of this research will provide a model demonstrating how universities could collaborate with the industry to develop undergraduate talent and prepare them for careers in the hospitality industry.*

Keywords*: Talent Management, Hospitality Careers, University-Industry Collaboration*

Introduction

A strong talent pool is a key economic driver for the country. Talent management has been identified as a critical enabler for the Government Transformation Programme (GTP). Initiatives to develop and manage talent are in line with the government's aim of achieving competitive status of high-income economy and Vision 2020. Currently, graduate unemployment poses a serious problem to Malaysia. The lack of soft skills and technical skills among fresh graduates combined with their limited industry experience, have been the main source of criticism among employers. Therefore, it is important that educators have insight into

how university-industry collaboration helps to develop quality workforce, enhances graduate employability, and at the same time addresses the issue of graduate unemployment.

The Malaysian hospitality industry is facing the problem of labour shortages as hospitality graduates, who are skilled and well-trained for hospitality-related jobs are choosing to take a different career path. Research by Richardson and Butler (2012) concluded that Malaysian students are not attracted to careers in the hospitality industry because the industry is not offering high levels of salary and a fair working schedule that permits for work-life balance. Furthermore, in Zahari et al's (2010) study involving Malaysian undergraduates, it was reported that a majority of the students were excited and enthusiastic about entering the hospitality industry when they first began their degree programme but nearing graduation, students lost interest in hospitality careers. One of the reasons could be due to their internship experiences that portrayed a negative image of working in the hospitality industry (Ahmad, Rashid & Mohd Shariff, 2014).

Research that has been conducted outside of Malaysia by Brown et al. (2015) shows that graduates with a hospitality degree are often perceived as overqualified and under-experienced for the job that they are applying for. This could be due to their unrealistic expectation of what the industry has to offer in terms of career progression (Jauhari, 2006; Gannon & Maher, 2012). Furthermore, the hospitality industry has always faced problems in attracting qualified employees that are well-trained and have a service-oriented attitude. Hospitality-related jobs are always negatively perceived as most employees are offered low pay, anti-social working hours and limited opportunities for career progression (Baum 2002; Lashley, 2011; Ahmad, Rashid & Mohd Shariff, 2014). Hence, it comes as no surprise that university graduates who take up hospitality management programmes lose interest, and look at other non-hospitality sectors for career opportunities. Past research suggests that a better understanding of hospitality graduates' career choices, expectations and commitment to the profession could provide insight into how this talented pool of employees could best be convinced to stay in the hospitality industry upon graduation (Brown et al., 2015). Therefore, the aim of this study is to examine how universities collaborate with the industry to manage graduate talent through enhancing the student learning experience and providing them the necessary skills to embark on a career in hospitality.

Literature review

Conceptualising Talent Management within the Hospitality context

The management of talent within the hospitality industry is important because is it a driver of competitive advantage. High quality service could not be offered by hospitality businesses if investments in people are not carried out. Furthermore, a holistic talent management strategy will allow hospitality businesses to be more proactive in developing and rewarding talented employees (Scott & Revis, 2008). Previous research in hospitality has so far neglected the area of talent management in terms of developing a clear and concise talent management conceptual framework (Kichuk et al., 2014). Such a framework is important as it provides a guideline for employers as well as educators in nurturing and retaining talented workforce for the industry. Problems in defining the term talent management extend beyond the hospitality sector. Lewis and Heckman (2006) argue that there is lack of clarity concerning its definition, citing three main conceptions of the term. The first is that talent management is a collection of human resource practices, secondly talent management is seen as workforce planning and thirdly, talent management is considered as the practice of sourcing, developing and rewarding employee talent.

In terms of graduate employment, Scott and Revis (2008) conducted a study that looks at the notions of talent from both the organisational and graduate perspective. Their study focused on the hospitality industry, whereby talent management is viewed in terms of identifying acceptable, tangible characteristics of talented individuals and how they are best managed to benefit themselves as well as the organisation. However, they argued that because talent management is defined differently depending on individual organisations and the type of industry, organisations often formulate their own meaning of what talent is, rather than accepting a universal or prescribe definition (Scott & Revis, 2008). The complexity of the concept and the characteristics of the hospitality industry make it difficult for the industry to identify the requirements to be recognised as talent for the industry. For the purpose of this study, talent management refers to providing students with high levels of competence for managerial and professional vacancies.

Graduate employment in the Hospitality Industry

The hospitality industry has always been confronted with the problem of attracting and retaining quality employees. This problem is often caused by industry-specific characteristics such as of low levels of pay and formal qualifications, a high proportion of low-skilled jobs and high levels of labour turnover. In the context of Malaysia, research conducted by Richardson and Butler (2012) concluded that students are not attracted to careers in the industry because the industry is not offering them the factors (eg. High earnings, good starting salary, work-life balance) that they find important in choosing a future career. In another study involving Malaysian undergraduates, it was reported that a majority of the students were excited and enthusiastic about entering the hospitality industry when they first began their degree programme (Zahari et al., 2010). However, in the same study, findings show that nearing graduation, students felt disappointed with their career choice and were less committed to a hospitality career. In addition, internship experiences which form part of the undergraduate programme also contribute towards a negative image of working in the hospitality industry (Ahmad, Rashid & Mohd Shariff, 2014).

To alleviate the problems of graduates not entering the industry, several recommendations have been made. Both educators and the industry must work together to attract and retain recent graduates of hospitality programmes. Firstly, educators have a role to play in ensuring students are given realistic expectations of the job positions available as well as the working conditions in the industry (Richardson & Butler, 2012; Zahari et al., 2010). Secondly, the industry should develop a more systematic career path for graduates entering the industry (Richardson & Butler, 2012). Information about and this career path should be easily accessible for prospective employees, such as university students, so they can start planning their careers earlier on.

Collaborative Efforts Between Universities And The Industry

Collaboration between university educators and industrial practitioners are important to ensure that programmes of study are relevant to industry. Upon leaving university, graduates should not only have the necessary skill set desired by the industry, but also a realistic view of what the industry can offer. By working closely with the industry, educators have access to a pool of resources that enrich the student learning experience. Additionally, university-industry links could be used to facilitate student exposure to the realities of hospitality industry, which would better inform their career decisions.

Previous research focusing on the career aspirations, expectations and experiences of hospitality graduates points to the problem of graduates leaving/not entering the industry upon graduation (Richardson & Butler, 2012; Zahari et al., 2010; Ahmad, Rashid & Mohd Shariff, 2014; Brown et al., 2015). One of the main reasons for their disinterest embarking on a

hospitality career is that their expectations are not met by the industry (Richardson & Butler, 2012). So how could educators and industry practitioners work together to assist graduates into employment that is appropriate to their interests and skills?

A model for university-industry collaboration will be developed to answer this question. Although most universities have linkages with industry in varying scales and intensity, the impact of these linkages on graduate career destinations have not been investigated. Research by Gannon and Maher (2011) demonstrated that a mentoring programme which engages the hospitality industry in a distinctive way effectively help students with their transition into the workplace. Other collaborative efforts include industry-sponsored class projects, participation of industry players as advisory boards for the programme, industry guest speakers, field trips, networking events and structured internships (Brown et al., 2015).

Research design

It is proposed that a research design which combines both qualitative and quantitative methods is appropriate for this study. A preliminary study will adopt the qualitative method whereas the main fieldwork will adopt the quantitative method. The advantages of using multi-methods in a single study have been highlighted by Saunders, Lewis and Thornhill (2003) and Auerbach and Silverstein (2003) who view qualitative and quantitative research as complementary strategies. The aim to unite qualitative and quantitative methods is to provide a more comprehensive understanding of the research phenomena under examination. The qualitative preliminary study will take an exploratory approach with the purpose of obtaining insights into what is going on in the field. Specifically, semi-structured interviews will be conducted to obtain an understanding of the research topic from the perspectives of the university students and the educators. This method is appropriate due to the deficiency in research on university-industry collaborations, especially in the Malaysian context. Furthermore, findings from the interviews may be used to clarify and validate the variables discussed in the literature review, as well as possibly introduce new variables that have not been considered in past research. Responses from the interviews may also help in the development of the items for the quantitative instrument. The flexibility of the qualitative research methods also permits the exploration of research issues that may arise as the research progresses.

Next, the quantitative method will be applied in the main study. A pilot test questionnaire will be developed, built from existing theory from the literature and information found in the preliminary study. As mentioned earlier on, it is believed that the exploratory qualitative research could facilitate the ensuing quantitative research by providing substantive data for the development of the survey instrument. After testing the pilot questionnaire, the next phase of the research will include the administration of a highly structured, self-administered questionnaire to hospitality graduates. Results from the statistical analysis of data collected through these questionnaires will be used to provide answers to the research question presented in this study.

Sampling

The first phase of the study will involve interviewing hospitality educators. Semi-structured questions related to engagement with the hospitality industry will be directed at the educators to gauge the extent of university-collaborative efforts already under place. Therefore the population for the sample will consist of educators teaching hospitality undergraduate courses in both public and private universities in Malaysia. Purposive judgement sampling will be used to recruit participants to be interviewed. This is a non-probability sampling technique that conforms to a certain criteria set by the researcher and is reported to be most appropriate, especially when used in the early stages of an exploratory study (Cooper & Schindler, 2003).

The criteria being set by the researcher is that hospitality educators to be recruited have to be involved in the teaching of hospitality courses at undergraduate level. Therefore, the sampling procedure involves selecting a number of Malaysian universities who offer the Bachelor of Hospitality Management programme. To gain access to the educators, administrators of the hospitality departments/faculties will be contacted. Once contacted, an explanation will be given about the purpose of the study and a request will be made for the university to participate in the study.

For the second phase of the study, final year hospitality undergraduates will be recruited. The undergraduates will be asked about their learning experiences at university, their career aspirations, expectations, as well as how the university is preparing them to enter the labour market. The population will therefore consist of undergraduate students taking Hospitality Management degree courses. University administrators will be contacted to request the permission to conduct interviews with students.

All interviews will be audio-recorded and transcribed verbatim before coding and analysis begin. Respondents' narratives will be repeatedly examined in order to discover common themes and potential categories. Data from the interviews will be analysed to determine aspects of university-industry collaboration that have an influence on students' career aspirations and decisions.

Having conducted the interviews with educators and final year students, a survey to follow up on the undergraduate experiences in the labour market will be carried out six months after they had graduated. This third phase of this study will involve the design of a self-administered questionnaire that will provide insight of how these students have progressed into the graduate labour market. The relevant literature and survey instruments developed by past studies, together with information gathered from the preliminary study will provide the basis for developing a self-administered questionnaire.

Questions to be asked are based on the research objectives and will focus on identifying the relationships between university-industry collaboration and the career paths of the university graduates. The questionnaire will also gather information about respondents' demographic information (age, gender, employment status, income level, workplace) as well as questions assessing whether graduates had followed up with their intended career destinations and if/how their future plans had changed. In terms of providing the model for university-industry collaboration, this research will present competing theoretical models, based on literature and interviews, that will be tested using SEM procedures.

Conclusion

The present study has highlighted the need for universities to work closely with the industry to prepare students to be industry-ready when they graduate. As previously mentioned, the industry demands graduates who have the necessary skills and attitudes that meet the needs of the industry. Since universities are involved in the training and development of the skills and talents of their students, they have a crucial role to play in the future of the hospitality industry. Further research should include empirical studies to examine the university-industry collaborative efforts currently in place and their influence on student career intentions.

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REKA BENTUK GERAKAN JARI PADA SKRIN SESENTUH UNTUK APLIKASI KANK-KANAK

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Abstract: *Penggunaan skrin sesentuh pada telefon pintar dan tablet adalah merupakan perkara yang tidak asing lagi untuk kanak-kanak . Kertas kerja ini membincangkan tentang reka bentuk gerakan jari yang digunakan pada skrin sesentuh dalam pembangunan aplikasi kanak-kanak. Kajian ini menggunakan 4 aplikasi dan menguji gerakan jari yang digunakan dalam aplikasi berplatform android kepada kanak-kanak yang berusia 5 ke 6 tahun. Hasil kajian ini boleh dijadikan panduan untuk reka bentuk pembangunan aplikasi kanak-kanak yang menggunakan gerakan jari untuk skrin sesentuh.*

Keywords: Telefon Pintar Dan *Tablet*, Aplikasi Kanak-Kanak, Skrin Sesentuh, Gerakan Jari

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Pengenalan

Penggunaan skrin sesentuh seperti pada *tablet* dan telefon pintar adalah perkara yang tidak asing bagi kanak-kanak dewasa ini. Interaksi kanak-kanak dengan *tablet* dan telefon pintar semakin popular dan mendapat tempat di hati kanak-akank. Jika dilihat di persekitaran kita kanak-kanak kecil seawal setahun sudah dibenarkan oleh ibu bapa untuk bermain telefon pintar ataupun *tablet* kepunyaan ibu bapa. Kanak-kanak yang sentiasa bersikap ingin tahu dan berani mencuba apa sahaja menjadikan teknologi skrin sesentuh begitu popular. Dengan hanya menyentuh dengan jari, kanak-kanak dapat berinteraksi dengan telefon pintar mahupun *tablet*. *Tablet* dan telefon pintar ini adalah mainan yang mahal untuk kanak-kanak, namun harganya menjadi lebih murah dengan perkembangan teknologi yang sangat cepat dan nilai pasaran yang besar. Terdapat pelbagai jenama *tablet* di pasaran seperti iPad, Samsung Galaxy, Toshiba Tablet Android, ARCHOS, Google Nexus dan banyak lagi dari pembekal yang berbeza. Teknologi *tablet* dan telefon pintar ini berkembang begitu pesat di pasaran (Nor Azah, 2015).

Sorotan Kajian

Terdapat ratusan ribu aplikasi atau lebih dikenali sebagai apps di stor Apple untuk pengguna telefon pintar dan *tablet* berjenama Apple dan di stor Google Play untuk telefon pintar atau tablet berplatform android.

Kanak-kanak kecil sekitar umur 2 ke 4 tahun mempunyai limitasi keupayaan gerakan jari atau lebih dikenali sebagi kemahiran motor halus mereka. Keupayaan motor ini juga saling berhubung kait dengan umur dan tahap kognitif kanak-kanak. Kanak-kanak kecil ini mungkin tidak dapat melakukan koordinasi putaran sendi yang sesuai disebabkan oleh kekurangan kematangan kortikal kawasan yang terlibat dalam integrasi sensorimotor mereka. Koordinasi yang dimaksudkan di sini adalah berkaitan dengan pergerakan otot kecil yang terdapat pada

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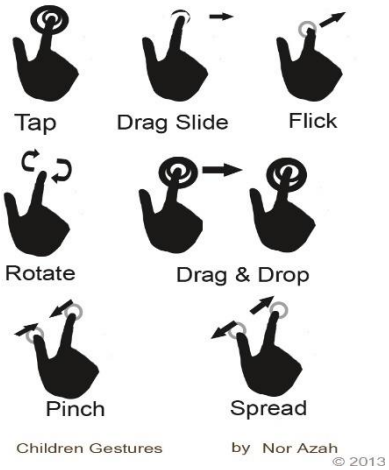
jari-jari kanak-kanak seperti memegang, mengambil dan melepaskan objek dengan betul. Walau bagaimanapun pada umur empat tahun, kanak-kanak sudah mendapat perkadaran yang sama untuk pemanjangan siku (*elbow extension*) seperti orang dewasa untuk mencapai sasaran yang dekat dan jauh. Aktiviti yang dilakukan oleh kanak-kanak kecil dengan menggunakan gerakan jari mereka akan membantu perkembangan otot-otot kecil pada jari kanak-kanak (Nor Azah, 2013).

Kajian Fadhlina et al., (2017) terhadap kanak-kanak berumur 5 ke 6 tahun menunjukkan bahawa gerakan jari *free rotate* pada reka bentuk skrin sesentuh dapat meningkatkan pengalaman kanak-kanak prasekolah dalam mempelajari topik "bentuk". Dengan pengalaman dalam menggunakan aplikasi mudah alih, kanak-kanak dapat mengalami pembelajaran yang bermakna kerana mereka berinteraksi dengan kandungan pembelajaran dengan hanya menggunakan gerakan jari pada skrin sesentuh dengan mudah. Interaksi sebegini bukan sahaja semulajadi tetapi juga menyeronokkan kanak-kanak di mana kesannya menjadikan kanak-kanak lebih bermotivasi tinggi.

Kanak-kanak berumur 5 ke 6 tahun sewajarnya tidak mempunyai masalah dengan penggunaan gerakan jari pada aplikasi yang menggunakan skrin sesentuh seperti yang dinyatakan dalam kajian Nor Azah (2014). Ini kerana kanak-kanak berumur 4 tahun tidak mempunyai masalah dalam penggunaan *tap*, *drag/slide*, *drag* & *drop*, *free rotate*, *pinch*, *flick* dan *spread* seperti yang dipaparkan pada rajah 1.



Rajah 1: 7 Jenis gerakan jari yang biasa digunakan dalam aplikasi kanak-kanak
Sumber: Nor Azah (2013)

Kajian ini bertujuan untuk memperkukuhkan jangkaan bahawa kanak-kanak berumur berumur 4 tahun ke atas tidak mempunyai masalah dalam penggunaan 7 gerakan jari tersebut.

Eksperimen

Kajian ini menggunakan 4 aplikasi dan menguji 7 gerakan jari yang digunakan dalam aplikasi berplatform android kepada 15 orang kanak-kanak yang berusia 5 ke 6 tahun seperti yang dipaparkan pada Jadual 1.

Jadual 1: Jenis Gerakan Jari Yang Digunakan untuk Eksperimen Kanak-Kanak 4 ke 5 Tahun

Jenis Gerakan jari
Tap
Drag/Slide
Free Rotate
Drag & Drop
Pinch
Spread
Flick

Seramai 15 orang kanak-kanak berusia 5 ke 6 tahun telah diuji dengan menggunakan aplikasi yang sama seperti kajian Nor Azah (2014). Aplikasi yang digunakan dalam eksperimen ini ialah Montessori Crosswords, AlphaBaby Free, Toca Hair Salon dan Toca Kitchen Monsters .

Kanak-kanak diberikan masa untuk berinteraksi dengan aplikasi dan membiasakan diri dengan 7 gerakan jari yang seperti yang dinyatakan dalam jadual 1. Penyelidik dan guru menunjuk ajar kanak-kanak untuk menggunakan aplikasi tersebut dan diberikan peluang mencuba aplikasi dan gerakan jari sebanyak 3 ke 5 kali sebelum direkodkan dengan menggunakan kamera video.

Perbincangan

Hasil kajian ini menunjukkan 100% kanak-kanak berusia 5 ke 6 tahun boleh menggunakan 7 jenis gerakan jari yang terdapat dalam aplikasi yang diuji seperti yang dipaparkan dalam jadual 2.

Gerakan jari	**4 & 5 Tahun**
Tap	100%
Drag/Slide	
Free Rotate	
Drag & Drop	
Pinch	
Spread	
Flick	

Jadual 2: Gerakan Jari Yang Boleh Digunakan Oleh Kanak-Kanak 4 ke 5 Tahun

Kajian ini menunjukkan bahawa jangkaan tentang kebolehan kanak-kanak berumur 4 tahun ke atas boleh menggunakan 7 jenis gerakan jari *tap, drag/slide, drag* & *drop, free rotate, pinch, flick* dan *spread* dalam kajian Nor Azah (2013 dan 2014) adalah benar.

Berbanding dengan kajian terdahulu kanak-kanak berusia 5 ke 6 tahun memerlukan masa yang singkat untuk memahirkan diri berbanding kanak-kanak berumur 2 ke 4 tahun dalam penggunaan gerakan jari dan aplikasi yang disediakan.

Pemerhatian terhadap eksperimen yang dijalankan juga menunjukkan arahan yang diberikan oleh penyelidik dan guru kepada kanak-kanak berusia 5 ke 6 tahun juga boleh difahami dalam masa yang singkat berbanding dengan kanak-kanak berumur 2 ke 4 tahun.

Pemerhatian juga menunjukkan bahawa kanak-kanak berusia 5 ke 6 tahun juga mudah menggunakan jenis gerakan jari yang unik iaitu penggunaan satu jenis gerakan jari sahaja untuk satu aktiviti.

Pemerhatian juga menunjukkan bahawa kanak-kanak berusia 5 ke 6 tahun turut terganggu dan keliru dengan antara muka yang mengandungi terlalu banyak komponen. Namun mudah memahami jika diberikan panduan dan fokus kepada aktiviti yang perlu dilakukan pada antara muka tersebut.

Kesimpulan

Hasil kajian ini boleh digunakan oleh pembangun aplikasi untuk mereka bentuk aplikasi kanak-kanak yang khusus untuk kanak-kanak berumur 5 ke 6 tahun dengan menggunakan :

a) 7 jenis gerakan jari *tap, drag/slide, drag* & *drop, free rotate, pinch, flick* dan *spread*
b) menggunakan jenis gerakan jari yang unik iaitu penggunaan satu jenis gerakan jari sahaja untuk satu aktiviti
c) menggunakan jenis gerakan jari yang konsisten untuk setiap antara muka
d) tidak menggunakan terlalu banyak komponen (nombor, huruf, objek) dalam satu antara muka skrin

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WORKING AND NON-WORKING GRADUATES: DIFFERENCE IN PERSONALITY AND PERFECTIONISM

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Abstract: *This research was conducted to compare the levels of personality traits and perfectionism dimensions between unemployed graduates and graduates who were permanently employed at the time of the study. A total of 97 respondents [16 males; 81 females], mainly Malays, aged M = 24.51 (SD = 1.66) participated in the study. Apart from the demographic section, respondents completed the International Personality Item Pool and Hewitt Multidimensional Perfectionism Scale via online survey. The results of t-test analyses showed that there were significant differences between working and non-working graduates in one personality dimension and in all the perfectionism dimensions. The working graduates reported higher levels of agreeableness as well as self-oriented, other-oriented, and socially-prescribed perfectionism compared to the non-working graduates. Generally, the findings suggest that high level of perfectionism may be beneficial for graduate employability.*

Keywords: *Unemployed Graduate, Non-Working Graduates, Personality, Perfectionism, Employability*

Introduction

The current national unemployment index is reported at 3.4%, increased by 0.3% of 2015 (Ministry of Human Resource, 2016). This means that the unemployment among graduates remains as a hot issue in the country. Other that the economic downturn and financial problems faced by many working sectors nowadays, the characteristics of the graduates themselves are also often being linked for their failure in getting a stable job at least six months after the graduation.

Among the factors that have been linked with this problem in regards to the graduates' characteristics were their English and ICT proficiency, soft skills as well as attitudes and personality (Hahn, Spinath dan Gottschling, 2015; Ministry of Human Resource, 2016). The society too, might have the tendency to blame the graduates for being too choosy. Graduates are expected to do any kinds of job for their living while being offered for the right job. They cannot just sit back and wait for the job that matches their qualification to come. However, is there really a difference in personality traits between the graduates who are still struggling for a job compared to the graduates who are already employed? Are they being too perfectionist in applying for a job? Since research findings showed that perfectionism has negative relationship with employability (Narimani & Basharpor, 2009; Andrews, Bullock-Yowell, Dahlen &

Nicholson, 2014), can we conclude that non-working graduates will have higher level of perfectionism and therefor they failed to secure a job?

Thus the objective of this research was to compare the levels of personality traits and perfectionism dimensions between unemployed graduates and graduates who were permanently employed at the time of the study. Pertaining to the objective, two main hypotheses were developed as follows:

$H_0$1 There is no significant difference in personality traits between working and non-working graduates.

a) $H_0$1a There is no significant difference in openness personality trait between working and non-working graduates.
b) $H_0$1b There is no significant difference in conscientiousness personality trait between working and non-working graduates.
c) $H_0$1c There is no significant difference in extraversion personality trait between working and non-working graduates.
d) $H_0$1d There is no significant difference in agreeableness personality trait between working and non-working graduates.
e) $H_0$1e There is no significant difference in neuroticism personality trait between working and non-working graduates.

$H_0$2 There is no significant difference in self-oriented perfectionism between working and non-working graduates.

a) $H_0$2a There is no significant difference in self-oriented perfectionism between working and non-working graduates.
b) $H_0$2b There is no significant difference in other-oriented perfectionism between working and non-working graduates.
c) $H_0$2c There is no significant difference in socially-prescribed perfectionism between working and non-working graduates.

Method

A total of 97 respondents [16 males; 81 females], mainly Malays, aged M = 24.51 (SD = 1.66) participated in the study. The data was collected using an online survey.

Apart from the demographic section, respondents completed the International Personality Item Pool (IPIP) and Hewitt Multidimensional Perfectionism Scale (HMPS). The Bahasa Melayu version of the instruments has been used.

IPIP was developed by Goldberg (1998). It was translated by Hazalizah Hamzah (2011) and was found reliable. IPIP has 50 items with five dimensions and it uses the five-point Likert response format with 1 indicates Strongly Disagree. The distribution of IPIP items according to the dimension and type is shown in Table 1.

Table 1: Distribution of IPIP according to dimension and type of item

Dimension of IPIP	Type of Item	
	Positive	Negative
Openness	5, 15, 25, 35, 45	10, 20, 30, 40, 50
Conscientiousness	3, 13, 23, 33, 43	8, 18, 28, 38, 48
Extroversion	1, 11, 21, 26, 31, 41	6, 16, 36, 46
Agreeableness	7, 17, 27, 37, 47	2, 12, 22, 32, 42
Neuroticism	4, 14, 24, 34, 44	9, 19, 29, 39, 49

HMPS, consisted 45 items, was developed by Hewitt and dan Fleet (1990) and was translated into Bahasa Melayu by Zulhazli Elias (2015). HMPS has thre sub-scales, namely self-oriented, other-oriented and socially prescribed perfectionism. The full scale as well as the sub-scales of the Bahasa Melayu version has satisfactory reliability indexes (Zulhazli Elias, 2015). HMPS uses a seven-point Likert scale with 1 indicates Strongly Disagree. The distribution of HMPS items according to the dimension and type is shown in Table 2.

Table 2: Distribution of IPIP according to dimension and type of item

Dimension of HMPS	Type of Item	
	Positive	Negative
Self-Oriented	1, 6, 14, 15, 17, 20, 23, 28, 32, 40, 42	8, 12, 34, 36
Other-Oriented	7, 16, 22, 26, 27, 29	2, 3, 4, 10, 19, 24, 38, 43, 45
Socially-Prescribed	5, 11, 13, 18, 25, 31, 33, 35, 39, 41	9, 21, 30, 37, 44

Result and Discussion

The results of t-test analyses (as summarized in Table 3) showed that there were significant differences between working and non-working graduates in agreeableness personality traits dimension and in all the perfectionism dimensions. Specifically, working graduates reported higher levels of agreeableness as well as self-oriented, other-oriented, and socially-prescribed perfectionism compared to the non-working graduates. Therefore, $H_0$1d and $H_0$2 as well as all its sub-hypotheses, H02c, $H_0$2b and $H_0$2a, were rejected.

The results also showed that there is no significant difference between working and non-working graduates in openness, conscientiousness, agreeableness, and neuroticism personality traits. In other words, working and non-working graduates have the same levels of openness, conscientiousness, agreeableness, and neuroticism Therefore, $H_0$1a, $H_0$1b, $H_0$1c, and $H_0$1e were retained.

Generally, the findings suggested that first, personality traits might have weaker contributions to employability than perfectionism and second, that high level of perfectionism may be beneficial for graduate employability. These findings were

somewhat contradicted with the findings of Narimani and Basharpor (2009) and Andrews, Bullock-Yowell, Dahlen and Nicholson (2014).

In terms of the working context, perhaps it is good to have a high level of perfectionism as it can lead to a good work quality (Hewitt & Flett, 1990). Apart from that, perfectionism also can be a source of work commitment (Stoeber & Damian, 2016). However, it is important to note that too high of perfectionism may create another problem which is procrastination where an individual can never complete a task until he feels it is solidly perfect and that expectation can never be achieved.

Table 3: Summary of t-test analyses

Dimensions of Personality and Perfectionism	Category of Graduates	*n*	*M*	*SD*	*t*	*p*
Openness	Working	50	34.02	4.95	1.38	.172
	Non-Working	47	32.74	4.12		
Conscientiousness	Working	50	35.44	5.17	-.19	.846
	Non-Working	47	35.66	5.94		
Extraversion	Working	50	32.16	6.96	.35	.727
	Non-Working	47	31.66	7.10		
Agreeableness	Working	50	36.84	4.84	2.17	.032**
	Non-Working	47	34.91	3.79		
Neuroticism	Working	50	27.94	7.67	-1.00	.319
	Non-Working	47	29.34	5.92		
Self-oriented Perfectionism	Working	50	83.64	15.36	8.91	.001*
	Non-Working	47	59.02	11.41		
Other-oriented Perfectionism	Working	50	70.26	7.91	4.46	.001*
	Non-Working	47	63.45	7.06		
Socially-prescribed Perfectionism	Working	50	69.24	9.90	7.63	.001*
	Non-Working	47	56.91	5.12		

* $p < .001$
** $p < .05$

Conclusion

This research did not support the assumption that unemployed graduates are being too perfectionist and therefore they failed to get a stable job. On the contrary, findings of this research revealed that the working graduates had higher level of perfectionism than the non-working graduates. This suggested perfectionism may be beneficial for graduate employability.

In addition, it was revealed too that the working and non-working graduates were differ only on one personality traits, which is agreeableness. It seems that other personality dimensions may not be important constructs in graduate employability

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DETERMINING FACTORS OF LOCAL COMMUNITIES WILLINGNESS TO DONATE FOR IMPROVE CONSERVATION OF YANKARI GAME RESERVE, BAUCHI STATE, NIGERIA.

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Abstract: *Funding is one of the major challenged facing the management of game reserves and protected areas. Sufficient financial funding is an important step towards improve conservation for sustainable use and benefit for the future. This study is to examine the factors that will determine the local communities willingness to donate (WTP) for improve conservation of YGR. A design dichotomous choice-contingent valuation method DC-CVM on 422 locals of adjoining communities of YGR, and the logit model was employed to estimate their willingness to donate for the improve conservation of the reserve. The result indicates that 314(74.4%) of the local respondents are willing to pay. From the result, Age, Years of education, income, membership of association and Awareness are the positively significant determinants of the local's willingness to donate. The result outcome will guide policy makers and conservation management to incorporate peoples of reserve adjoining communities in the management and decision and also their donation will serve as additional fund to compliment the funding gap from government for improve and sustainable management.*

Keywords: *Conservation, Local Communities, Willingness to Donate, Dichotomous Choice-Contingent Valuation Method, Management, Policy Makers.*

Introduction

Conservation is an interdisciplinary theme in natural science, social sciences and the exercise of natural resource management. It is term as the studying of the nature of Earth's biodiversity with the aim of protecting the ecosystem and their habitats from extinction and destructions (Sahney and Benton, 2008; Van Dyke, 2008; Soule *et al.*, 1986; Wilcox, *et al.*, 1980). Biodiversity Conservation functions as ecosystem maintenance system such as the recreational, sequestential of carbon, educational services, erosion and flooding mitigation (Jia, Fu, Feng, Hou, Liu & Wang, 2014). Such areas are to serve as poverty reduction, job creation, sustainable community and conservation development (Rogerson, 2012). Therefore, conservation of natural

environment resources is a wealth of life which is found on earth plants, animals, microorganisms and the system that they exist in (Olaleru, & Egonmwan, 2014).

Conserved areas in Africa have historically barred local people assumed that these areas are surrounded by hostile communities and enjoy little, if any, support among local people (Ariya & Momanyi, 2015; Neumann 1998; ; Lusigi 1981). Attitudinal studies in some Africa countries (South Africa, Rwanda, Tanzania, and Nigeria) shows that this assumption is overly simplistic (Oman, Thoresen & McMahon 1999; Infield 1988) and found that majority of people living adjacent to protected areas in these countries settled on the need for the protected area or were opposed to abolishing the parks or making them offered for agriculture with negative or neutral attitudes toward managers of protected areas.. On the other hand, surveys showed that most people living adjacent to protected areas in South Africa (Infield 1988), Moreover, other studies in those countries found that local people's support or hostility to management of protected areas, the protected areas and utilitarian values wildlife (Masud, Kari, Yahaya & Al-Amin, 2014; Newmark et al. 1993). In these countries, local people shows support to protected areas because they are important for hydrological functions, watersheds, revenue generation and maintenance of nature. Likewise, local people support for wildlife primarily is because wildlife is viewed as a source of food. Whereas, those with negative or neutral attitudes toward the management of protected areas did so because they felt that were only provided with few services or benefits to their communities (Otto, Robinson, Donovan, Lavelle, Villarreal & Pearl, 2013).

Major threats to biodiversity and ecosystem survival include climate change, deforestation, pollution, mass agriculture, overgrazing, pesticide use, poaching, slash-and-burn agriculture, urbanization, and wildlife trade (Ezebilo et al., 2010; Longcore and Rich, 2004; Thomas *et al*.,2004; and Landres *et al*., 1988). Habitat fragmentation poses one of the most challenges, because global protected areas net covers 30 million km^2 of the Earth's surface (Deguignet, Juffe-Bignoli, Harrison, MacSharry, Burgess & Kingston, 2014). The consequence of the said threats leads many protected areas into great loss of ecosystem and causes a great exodus migration of many animals' species globally ((Ezebilo et al., 2010).

In addition, deforestation, pollution, mass agriculture, overgrazing, pesticide use, poaching, slash-and-burn agriculture, urbanization and wildlife trade are the major conservation treats that take place and depletes conservation due to lack of awareness or sarcasm of their non-market environmental values in our day-to-day activities. Therefore, determining and estimating their associated benefits of conservation of natural resources can be expedient increase in level of knowledge in relation to importance and associated values of ecosystem and the need for improve conservation management of the associated resources for future generation and sustainability (Kaffashi, 2010; Yacob *et al*., 2008, and Barbier *et al*., 1997). The services rendered by conserve resources are one of the major important components for sustainable growth and development of surrounding communities coupled with the increase in leisure and recreation demand at various rich and endowed ecosystem resources environment in countries like Tanzania, Kenya and Nigeria (Kelley, Rensburg & Jeserich, 2016; Ezebilo, & Mattsson, 2010).

A lot of studies have been conducted in determining and estimating acceptable entrance fees to various protected areas and natural resources reserves. Therefore, this study interest is centered towards determining and estimating the willingness to donate of the local people of adjoining communities for improve conservation of YGR, and the potential effect of such donation.

Conservation

The establishments of conserve reserves and resources parks are aim at ensuring that varieties of plants species are conserved and protected (Jia, Fu, Feng, Hou, Liu & Wang, 2014: An, Li, Guan, Zhou, Wang, Deng & Jiang, 2007). The main aim of ecosystem conservation is to maintain and protects ecological process which is proved to have continuously contributed significantly in the productive capacity of the protected ecosystem resources, biodiversity genetical materials, protection of culture and rural area development as a whole. (Newing, 2010). Due to the rapidly growing ecological resources of the present day society which lead to habitat destruction and fragmentation, extinction of species and the general decline or loss of biodiversity (Frikvist & Erika, 2015; Larby & Patricia, 2009). Globally, the rate at which varieties of species of plants and animals were lost supersedes its natural lost (Chanie & Tesfaye, 2015: Meduna, Ogunjinmu and Onadeko, 2009). The daily increase of human activities is destructing natural resources which necessitate the establishment of conserve and protected environmental resources globally (Grigoroudis, Petridis & Arabatzis, 2014)

Conservation is defined as the activity of guarding plant and animal species and their habitats. Among the goals of wildlife conservation are to ensure that nature will be protected for future generations to enjoy and to recognize the importance of wildlife and wilderness lands to humans (Sahney and Benton 2008). Biodiversity conservation can be seen as avoiding and disregarding any steps that can disturb Yankari Game Reserve ecosystem. Conservation would also be addressed as sacrifice (not hostile to conservation objectives) in some ways by the park authority to the community to achieve mutual cooperation. In wider view, management system for conserving biodiversity comprises a general use. The primary objectives must be to enable local communities to manage the diversity of their local system, to ensure productivity (Abimbola O. A. et al., 2011; McNeely, 1997**).**

However, many conserve environment around the world are financially underfunded, and due to it, quit a number of such programs are either not able to achieve their conservation aims and developmental objectives (Whytock, Buij, Virani & Morgan, 2016). In Africa for example, many endowed conserve environment find it difficult to manage and conserve this resources due the continues human pressure and in adequate funds for management (Adamu, Yacob, Radam & Hashim, 2015). There is the prediction that funding of conserve environment by most federation government of African countries may reduce or is reduced because currently most of these resources management are faced with limited funding from government to maintain the conserve natural environment (Cheung, Fok, & Fang 2014).

This problem of under or poor funding will lead to the failure of many government, policy makers, environmental managers, visitors and peoples of adjoining communities to recognise the market and non-market values of conservation area. These include the generated revenue from visitors and the non-monetary services that can contribute to the improvement of life quality (Yacob, Radam & Shuib 2009; Anderson & Huggins 2008). This unfortunate happening leads to lack of financial independence of such rich conserve area in their sustainable survival (Waldron, Mooers, Miller, Nibbelink, Redding, Kuhn & Gittleman 2013), and virtually most of the conserve biodiversity will only survive or exist only if people choose and are willing to protect and allocate fund for their sustainable conservation (Klein, Hendrix, Lohr, Kaytes, Sayler, Swanson, & Reganold, 2015).

Researchers within the conservation discipline have focused on the way that the financial independence of conserve area could be enhanced or achieved, Emerton, Bishop and Thomas (2006), defined the financially independence of conservation program as the ability to secure a long-term stable and sufficient financial resources, timely and appropriate allocation of funds to cover all cost of the management of the program to ensure its effectively and efficiency in line with conservation management. Therefore, getting enough funding for protecting and enhancement of conserve environment is always a topic of concern for sustainable management of natural resources based conservation (Steckenreuter & Wolf, 2013). Funding is aim towards biodiversity conservation is the major point of conservation to environmentalist and conservationist.

Participation in improve conservation refer to a process whereby community members through can be part of the management and developmental activities within the conserve region (Abdulai, 2008). This because in the perspective of rural development project activities implies involve local people in government policies that affects them. And this implies the same with the participation of the surrounding communities of Yankari game reserve.

Contingent Valuation Method

Contingent valuation method (CVM) is used in estimating economic values for all kinds of environmental goods and services and it is the most widely used in estimating non-use values. CVM is a direct valuation technique in which respondents are asked questions about their willingness to pay (WTP) or willingness to accept (WTA) (Carson, 2005; Emerton and Bos, 2004; Turpie, 2003; Vankatachalam, 2004)

Applying CVM technique of data collection and having standard empirical models of estimating the economic values of natural environmental goods and services. WTP value of a hypothetical change of the environment resources can best be obtained through the questionnaire survey. Responses of WTP questionnaire survey can be used to estimate the net benefit of natural resources to the society using economic analysis technique (Cooper, 1993).

The process of eliciting respondents information of WTP questions is through a survey (face-to-face, mail, telephone), by asking the on whether they agree to pay some amount money to a hypothetical scenario of changes in a particular or sustainable environmental natural goods and services. Then the “Yes or No” responses that backed the offered bidding price. Through this, one could reveal each respondent maximum WTP if is found to be higher or lower than the offered bid.

In obtaining an accurate result, the overall population sample is divided into sub sets samples in which the bidding price will be offered randomly. When DC-CVM technique is compared to other techniques such as bidding game, which requires contemplative analysis based on precise assessment of respondent behaviour in a long adjustment process, it’s found to be clear and easier to understand.

Study Area

According to Ayeni (1988), Yankari Game Reserve occupies an area of about 2244 km^2 and lies between Latitude 9°34’ and 10°00’ N and Longitudes 10°17’ and 10°47’E in the south central part of Bauchi state, north-eastern Nigeria. It covers parts of Duguri, Pali and Gwana with a population of 328,284 at the (NBS, 2012). The inhabitants of the adjoining communities are

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mostly jarawa, bolawa, hausa and Fulani`s and predominantly Muslims and Christians of Alkaleri Local Government.

The predominant activity in rural Bauchi state is small scale Farming, Animal rearing and food processing, with informal trading and micro entrepreneurship activities taking place for livelihood (Haruna et al., 2012). 70% of Bauchi state population are living below $1.00 per day and the rural areas suffer more serious incident of poverty with about 90% of them under the poverty line (punch, 2013; Daily trust, 2012; business Day, 2012; and NBS, 2012).

The Reserve is located in the southern portion of Sudan savannah vegetation and it contributes significantly to the national carbon sequestration system. Is also an important component of river Benue watershed protection system because some rivers from the reserve (e.g. river Gaji, Yashi and Yuli) eventually feed the Benue traverse or border the reserve. There are over 532 vascular plants so far identified in YGR; of which 351 species are dicotyledonous belonging to 81 families, and 181 are monocotyledonous belonging to 23 families (Abalaka & Manu, 2007). There are 52 mammalian species belonging to 29 families in YGR and there are five large mammals of global conservation significance including two that are globally threatened. These are African elephants *Loxodonta Africana* (EN). Lion *oanthera leo (*VU), Afrrican Buffalo *Syncerus caffer* (LR), Roan antelopes *Hippotragus equinus* (LR), *and* wesern Harbeest *Alcelaphus buselaphus major* (LR). The red fronted Gazelle *Gazella rufufrons,* Korrigum Damaliscus *buselaphus korrigum,* western kob kobus *kob kob,* reedbuck *redunca redunca* and giraffe *giraafa camelopardalis* are considered locally extirpated from YGR (Ngoka & Lameed, 2014). There are also over 350 species of bird identified so far in the reserve. Out of which, 130 are resident and may breed in the reserve, 87 are nationally reared, 39 are occasional visitors and 92 migrants of uncertain status (Odunlami, S. S. 2003; Ubaru, J.I., 2000; Olokesusi, F., 1990).

Yankari game reserve also has a large and diverse freshwater ecosystem around its freshwater springs and the Gaji River. Due to underground geothermal activity, Yankari has five water springs – Wikki, Dimil, Gwana, Tunga Maliki and Mawulgo – with constant temperature of 30 to 32 degrees all year round. Wikki is the largest spring and is about 13.0 metres wide and 1.9 metres deep and is the most utilised of the five. Tunga Maliki is the coldest. The fifth spring, Tungan Naliki, is the only cool spring in the park (Obande, Lawal & Ahmed, 2014; Nihotours, 2000).

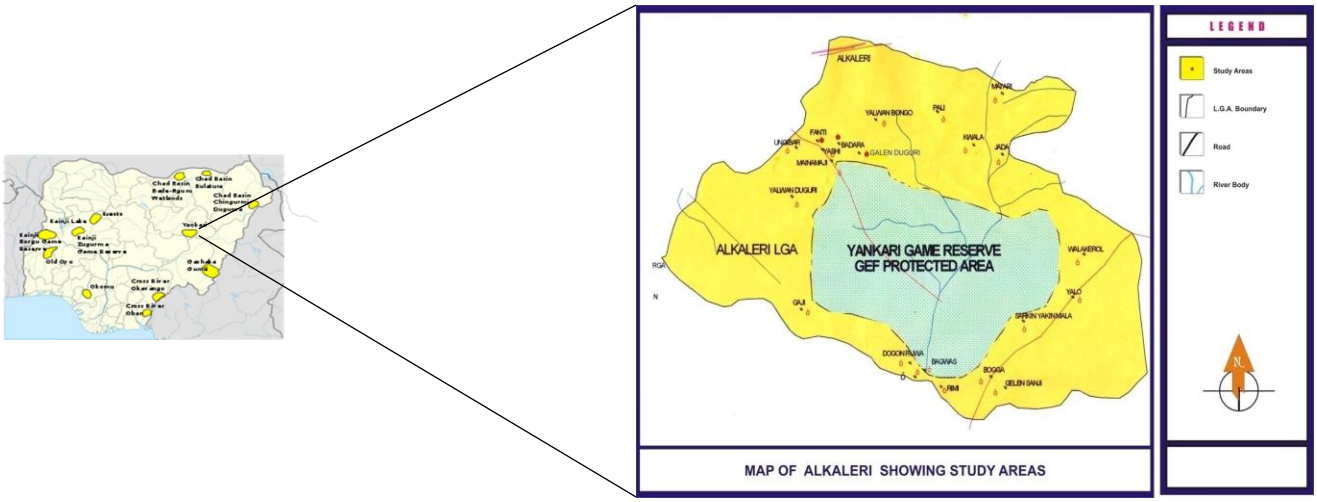

Figure1 Map Nigeria showing Yankari game reserve

Population, Sampling Methods And Collection Of Study Data

Study Population

According to NBS (2012), Alkaleri local government at which Yankari game reserve is located and chosen for this study has a population of 328,284 and 54,714 households. The targeted study populations are all members of the adjoining communities who are above eighteen (18) years of age.

Sample Sixe

As recommended by NOAA panel, face-to-face interview mode is expensive when compared to other survey interview modes. This implies that lower samples are to be collected by using face-to-face method in comparison to other mode with a relatively fixed budget to be employed. For this study, face-to-face mode of survey elicitation with 440 samples was employed to avoid higher sampling error.

The Yamane (1976) formulae of determining sample size was applied as below;

$\mathbf{n= N/1+N(e)^2}$

n- Sample size =?

N- Total number of population of the study =328,284

e- Level of precision =0.05

1 – Constant

Therefore; $n = 328,284/ 1+328,284(0.05)^2$

=328,284/1+821.71

=399.51 =400

However, 40 (10%) additional questionnaires were added to the 400 sample drawn to curtail any problem regarding questionnaire rejection or poor return rate making the total number of the questionnaires to be 440 so as to compensate non-return questionnaires (Ismail, 1992).

Sampling Technique

The surrounding communities were stratified into four (4) based on their direction from the reserve boundry and also re stratified based on distance proximity to the reserve. However, this study utilized the mapping produce by Local Empowerment and Environmental Management Project (LEEMP) and Global Environmental Facility (GEF) (2008), out of which ten (10) communities were strategically selected using Ms excel random number generator and the respondents were randomly selected from the selected communities.

Data Collection

The study data was elicited using the face-to-face questionnaire interview. The study respondents were of both male and female, and due to the cultural and religious constraint of the locality, the enumerators were male and female as well. The female enumerators administer questionnaires to female respondents at their respective houses or working places, while the male enumerators attend to male respondents.

A total of 440 respondents were interviewed and 422 valid responses obtained after treatment of outliers, missing cases of vital information on vital questions.

Instrument Design

The structured Questionnaire survey method of data elicitation has been declared to be the foremost tool used in quantitative studies (Jagsi et al., 2015; Ware et al., 2000). It is a well-structured set of questions that elicit responds from respondents either by writing their views or by selecting from a given alternatives (Coombe & Davidson, 2015; Kerr & Churchill, 2001). Therefore, the instrument applied in the collection of data in this study is the direct face-to-face questionnaire interview method of both the dichotomous choice.

The structured questionnaire survey present a hypothetical scenario on the importance of Yankari game reserve and the need for its conservation, and the DC-CVM format of "take it or leave it (TIOLI)" bid offer consist of only Yes or No option to the respondents and it is adjudge to be the most easier to answer (Yacob et al., 2009) was presented to elicit the respondents willingness to donate towards the reserve improve conservation. CVM was applied to ascertain what the respondents would be willing to donate under the hypothetical market scenario (Adamu, et al., 2015 and Kim et al., 2012).

Model Specification

In DC-CVM respondents are presented with a hypothetical scenario describing the the environment resource followed by a question on whether they are willing to donate. Their elicited "Yes or No" responses entail their Willingness to donate values and through it, their mean WTP could be estimated (Bishop and Heberlein, 1979; and Cameron and Hanemann 1988 & 1984).

In this study whereby the dependent variable take two values, 'Yes' answers to the bid amounts or "No" as otherwise. As such, the WTP may be a dummy variable where the 'Yes' and 'No' responses are to be coded ad 1 and 0. The logit model predict the probabilities of Yes responses as a function of bid amounts B, and other variables such as age, income, educational level, awareness are used in estimating the mean WTP of the respondents using Cameron model.

$P=1/(1+e^{-z})$

Where Y=1 for a Yes response and 0 for otherwise, z is the bids amount and the mean WTP is to be estimated under the probability function. The "Yes" proportion of the respondents that are willing to donate base on the bids amount and the utility function factor is estimated as;

Mean WTP= $[\beta_0+\sum\beta_2X_2\ldots\beta_kX_k]/(\beta_1)$

B_0 = the estimated constant, B_k as the coefficient estimated parameters, X_k as the explanatory variable mean value, and B_1 as the estimated bid coefficient.

Result And Discussion

Socio-Demographic Profile Of The Respondents

The socio demographic characteristics of the respondents is presented in table 1 shows that Male respondents constitutes 76.1% while that of women is 23.9%. The respondents age ranging from 18-25 years constitute 25.4%, 28.3% respondents fall within the range of 26-35 years, 24.4% respondents fall within the range of 36-45 years, while 12.6% and 9.5% fall within the range of 46-55 years and 56 and above years respectively. The marital status of the respondents indicates that 66.1% of the respondents were married while the remaining 33.9% are non-married. The

respondent level of education indicates that 24.9% attended a non-formal education, 19.7% attended primary qualification, 44.3% respondents have secondary school qualification and those that attended tertiary education constitutes 11.1% of the respondents. The occupational status of the respondents shows that 22.5% are employed by government, 30.3% are self-employed, 31.5% are farmers while unemployed and retirees constitute 12.13.6% respondents respectively. Membership to association of respondents shows that 53.6% belong to a particular association that relates to conservation were as those that did not belong to any association constitute 46.4%. The gross monthly income indicates that 39.6% respondents earn between N10,000-N20,000 monthly, 30.6% earn between N21,000-N30,000, 23.0% earn between N31,000-N40,000 while 5.5% earn between N41,000-N50,000 and only 1.4% of the respondents earn N51,000 above.

Table 1 Socio-demographic profile of the Respondents

Element	Mean (n=442)	Freq. (%)
Gender		
Male	321	76
Female	101	23.9
Age		
18-25	107	25.4
26-35	119	28.3
36-45	103	24.4
46-55	53	12.6
56 and above	40	9.5
Marital status		
Non married	143	33.9
Married	279	66.1
Educational level		
Non formal	105	24.9
Primary	83	19.7
Secondary	187	44.3
Tertiary	47	11.1
Occupation		
Government employed	92	22.5
Self-employed	128	30.3
Farmers	133	31.5
Unemployed	51	12.1
Retiree	13	3.6
Membership of Association		
Yes	226	53.6
No	196	46.4
Level of Income		
₦ 10,000-₦ 20,000	167	39.6
₦ 21,000-₦ 30,000	129	30.6
₦ 31,000-₦ 40,000	97	23.0
₦ 41,000-₦ 50,000	23	5.5

₦ 51,000 and above	6	1.6

Logit Regression Model

Based on the model result has been present in table 2. Six (6) variables were both found to be significant and having positive coefficient at varying weights.

Age

Age was found to be having a positive coefficient with weight of .07937426 and found to be significant at 1% confidence level. The study finding indicates that as the age of respondents increase, their WTP also increase. Therefore respondents with higher age have higher WTP than those with younger once. Scholarly, this finding is in line with studies of Bhandari and Heshmati, (2010); Barel et al., (2008), and Le and Mjelde, (2007) were positive and significant relationship between age and WTP exist. And contradicts that of Martín-López, Montes & Benayas, (2008) and Reynisdottir et al., (2008).

Education

Years educational of the respondents, which is coded in dummy (0= non formal education, 1= primary education, 2= secondary education and 3= tertiary (colleges, polytechnic and university) have a positive coefficient value weighting .10712621 and is statistically significant at 1% confidence level. This signifies that respondents with higher years of education are more willing to pay than those with low or lower years of education. The result output is signifying that educated people are believed to have more information and awareness on resource conservation than those with lower years of education. Therefore, influence of education on WTP is been reported by researchers such as Wang and Jia (2012) and Barel et al., (2008).

Income

Another important variable in the WTP model is income of the respondents and it also has a positive coefficient of 860987D-04 and significant at 1% confidence level. The model shows that as the income of the respondent's increase, their willingness to pay also increases. This implies that, respondents with higher income have higher possibility of WTP than those with low or lower income. This is in compliance with many finding and literatures of determining WTP (Wang and Jia, 2012), Bhandiri and Heshmati, 2010; Reyinisdottir et al., 2008; Kim, Wong & Cho, 2007).

Membership Association

Membership of associations that relates to environmental conservation is another important variable with positive coefficient and it is also coded as dummy variable (1= Yes and 2= No. its coefficient weight is 1.23605962 and it is significant at 1% confidence level. This reveals that those respondents that belong to any association that relates to environmental conservation have more willingness to pay than those that are not members to any. These result finding is in line with the findings of Baral et al., (2008) and Messick and Brewer (1983) where members of NGOs are having high WTP.

Awareness

In the study, respondents Awareness is found to be significantly positive with coefficient weight of .03943391 and significant at 5% confidence level. This show a high elasticity of awareness for

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willingness to pay, indicating that those respondents with positive or high level of awareness are more willing to pay for improve conservation of Yankari game reserve. The said result may be associated to factors such as low level of education and income of women. This outcome coincides with Findings of many studies with positive relativity positive awareness and willingness to pay (Brécard et al., 2009; Clark et al., 2003; Messick and Brewer, 1983).

Bids Amount

However, Bid amount caries a negative sign on its co efficient weight at -.00120365 as expected and significance at 1% confidence level. The negative sign is an indication of inverse relationship between the variable and WTP. This implies that as the bid amount increases, the WTP is decreasing. Therefore, the more the bid amount sis increase the lower the possibility of the respondents willingness to pay (Baral et al., 2008; Loomis, et al., 2000).

Table 2 Result of Logit Regression Model

Variable	Coefficient	Standard Error	Marginal effect	P-Value
CONSTANT	-4.29789160	.80355890	-5.415	.0000
AGE	.07937426	.01494674	4.140	.0000
BIDS	-.00120365	.00022487	-5.834	.0000
ASSO	1.23605962	.30444865	2.756	.0000
EDU_YRS	.10712621	.02763805	2.253	.0001
INC	.860987D-04	.162605D-04	7.353	.0000
AWR	.03943391	.01319898	2.442	.0028
Number of observations			422	
Log likelihood function			-152.615	
Mcfadden Pseudo R-squared			.35837	
Percentage correct prediction			85.071	

Note: ***Significance at 1%, **Significance at 5%, *Significance at 10%

Conclusion

a) These study findings revealed that elderly respondent that attained tertiary level of education with a higher income level and higher awareness level constitutes the target market that would contribute to revenue generation for biodiversity conservation in Yankari game reserve.
b) This study provides a useful policy guide by revealing the importance of economic valuation within the context of resources conservation management for the development of a sound environmental policies and strategies that would help to identify the important of local communities in contributing socially, economically as well as ecologically for the sustainability of the conserve resources.
c) In general, this finding will contribute to the growing and existing literature of CVM for conservation of natural resources, especially in developing countries like Nigeria. The amount contributed by the locals will serve in closing the poor funding gap created by the government in management of YGR.
d) This study justify the adjoining communities support from tourists for sustainable management and development of ecotourism resources and related nature conservation projects.

e) The follow up responses of the respondents give an insight about the respondent willingness and non willingness to pay on natural resources conservation, and it also provide useful guides for policy makers for the development of sound environmental policies and management strategies.

Recommendation

Base on the results obtained, the following recommendations were made:

a) It was suggested that to reduce the spate of these illegal activities, there is need for high level of educational and awareness campaign on ecosystem conservation which will be centered towards changing local people's perception and attitude, and also government and reserve management should provide some essential infrastructural facilities that will improve the living standard and wellbeing of the locals.

b) It is also recommended that the management of the game reserve can consider reviewing the existing management strategy so as to incorporate the locals because they shows high degree of willingness to pay for the sustainable management of Yankari game reserve.

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ASSESSING THE FINANCIAL PERFORMANCE OF ASIAN REAL ESATE INVESTMENT TRUST (REITs)

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Abstract: *This study analyses the financial performance of Asian Real Estate Investment Trust (REITs) that was proxy by sustainable growth rate, dividend yield and return on asset. Our data set comprises yearly unbalance data retrieved from Bloomberg's database over the period 2007 until 2016. A sample of 75 listed A-REITs from 4 countries was available for analysis which are Malaysia, Singapore, Japan and Hong Kong. Using Independent Sample Kruskal-Wallis test, findings reveal that the distributions of the financial performance for A-REITs are not equal for Malaysia, Singapore, Japan and Hong Kong. The results indicate that Japan REITS has the lowest mean rank for all the three indicators of financial performance. While Malaysia REITs provide more stable dividend yield and return on asset among the four countries and Hong Kong is the highest in term of sustainable growth performance. The findings of the study will have important implications for investors who intend to use Asian REITs to diversify property type and geographical risks in portfolios.*

Keywords*: Real Estate Investment Trust, Asia, Financial Performance*

Introduction

The field of application for Real Estate Investment trust (henceforth REITs, pronounced "reets") over a decades towards the growing presence of Asian capital in the global marketplace had geared tremendous attention among capital markets participants particularly across Asian region. The Asian REITs (henceforth A-REIT) markets provide a greater insight towards Asian economies growth. Yet, opposed to its potential contribution, a limited research was found in addressing the strategic characteristic of A-REIT which was governed by distinctive regulatory setting. Additionally, listed REITs have historically been used as an alternative against its underlying exposure of real estate investment. Its alternative financial performance in obtaining specific features such as return enhancement, above average and secure dividend stream, inflation hedging and tax efficient cash flows generation (Morri & Romito,2017) could be considered as an attractive investment option. Given its establishment for over the last 50 years, REITs plays a significant roles in facilitating investors securing their wealth in indirect real estate investments. There is an extended standing issues in literature highlighted the evidenced of REITs stock performance across different market context. (See; Myer and Webb (1993); Han and Liang (1995); Oppenheimer and Grissom (1998); Lizieri, Satchell, Worzala, and Dacco' (1998); Newell, Adair and Nguyen, (2013) ;Brounen and De Koning (2014); Haslam, Tsitsianis, Andersson, and Gleadle,(2016); and Daniaand and Dutta(2017) to name few). Specified with unlimited justifications proposed in the literature towards the A-REITs investment given different markets context, there is still an existence of literature gaps. The

exploration of regional REITs market particularly for Asian country is yet need to be discovered.

Historically, REITs emerged in US in the 1960s followed by Australia in the early 1970s, yet, REITs reforms in Asian markets particularly in the early 2000s (Atchison and Yeung, 2014). Over a decades of its establishment in Asian, a remarkable transformation had marks Asian REITs as a choice of investments across investors. In particularly, enhance the efficiency of the real estate markets and bring international capital to Asia. The first Asian REIT was established in Japan in 2001 followed by South Korea and Singapore in 2002, Thailand in 2003, and Taiwan, Malaysia and Hong Kong in 2005. After a decade of development, Japan and Singapore have become the two largest REIT markets in this region with market capitalization of approximately US$38 billion and US$ 30 billion as of 31 Dec 2012 respectively while other REIT markets in this region account for about 10 percent of the total in Asia (Bloomberg, 2014). The excellent performance of Japan(J-REITs) and Singapore (S-REITs) REITs should be highlighted. For the year ended 2012, the one-year rate of return is 17.4% and 21.8% respectively in Japan and Singapore which is higher than 15.3% in the U.S. The dividend yield for J-REITs and S-REITs of 5.8% and 6.8% are also higher than that for the U.S. REITs of 3.7%. Most REITs in Asia are proven to be externally managed in order to avoid potential conflicts of interest between the REIT managers and shareholders (Ma & Michayluk, 2012). Additionally, the prominence of Asian REITs is further reinforced by Japan which rank number 4 globally, and closely followed by Singapore and Hong Kong that marks its own significant establishment of Asian REIT markets across the globe (Newell,2012). Consequently, the rapid growth of Asian REITs was further enhanced given its accounts for US$7 trillion in investable real estate, being 25% of the global market. This was further expected to growth by 2020 significantly to US$17 trillion which increased its composition to 35% of the global market; largely driven by the strong growth in the Asian emerging real estate markets (Newell,2012). The total market capitalisation of 7 A-REITs was recapitulated as in Table 1 below based on authors own calculation grounded on Bloomberg's data.

Table 1: Market capitalisation of REITs by each country as at December 2016

Country	No of listed REITs	Market Capitalisation in millions, USD
Malaysia	17	6510.0513
Singapore	37	45400.1131
Japan	58	103937.887
Taiwan	5	2086.9194
Hong Kong	11	27165.8257
South Korea	3	135.3138
Thailand	13	2104.157

Sources: Authors compilation based on Bloomberg's database

Thus, considering the difference performance of REITs across country, it might be produce a difference impacts in financial performance. The objective of this study is to assess the financial performance of selected Asian REITs by investigating its sustainable growth performance. Given, from country to country REITs might vary considerably, in the way they are regulated, managed and taxed, thus might render difference in its financial performance across country. Which eventually, so far have not been thoroughly explore but these areas tend

to instigate a considerable impact in the manner the literature on REITs performance from Asian perspective is understood.

Literature Review

Even though a growing body of academic studies investigates on REITs performance in many countries around the globe, however there are quite limited literature devotes from Asian perspective. According to Henderson Global Investors (Singapore) (2006), REITs offer a liquid proxy for the physical real estate market which means investors can build regional and diversified portfolios in a cheap and efficient manner without the complexities of buying physical real estate. The tax efficiency means they are high yielding, and the high yield tends to reduce share price volatility which makes REITs relatively low risk compared to other equities. Yu, (2009) review on the well-developed REITs markets in Japan, Singapore and Hong Kong and indicate that the performance and diversification effect of Asian REITs cannot be neglected even though Asia are still in the infant stage. The study also recommended that Asian REITs has the advantage to be added in the portfolio considering the low correlation with other assets which enhance diversification with high dividend yield. While, Ong, (2011) examine the performance of Malaysia REIT based on the Net Asset Value approach (NAV). His study categorizes the NAV into NAV premium and NAV discounts by indicating that REITs which trades in NAV premiums has superior historical and future earning capabilities, organizational and operation efficiencies and quality of management. Whereas NAV discounts when its trade below the current stock prices which reflect a poor current and future prospects for firm earnings and mistakes in financing and operations decision. Anh Khoi (2012) examines the dynamics of return and volatility spillovers across the REIT markets of Japan, Singapore, Hong Kong, Malaysia, Taiwan, Thailand, and South Korea from June 2006 to May 2011.The study evidence that emerging markets offer lower returns than the developed markets but lower risk as well. Loo, Ahmad Anuar & Ramakrishnan, (2016) revealed that certain of the emerging Asian REIT markets show a higher degree of integration with macroeconomic variables in the long run. Their study implies that the emerging REIT markets are more sensitive towards the change in macroeconomic environment in relative to the developed REIT markets.

Research Methodology

This study focuses on financial performance analysis of listed A-REITs from year 2007 to year 2016. This study utilised sample of 131 of listed REITs from seven Asian country are chosen based on the list obtained from Bloomberg's database. However only a final of 75 listed A-REITs from 4 countries was available for analysis which are Malaysia (M), Singapore(S), Japan (J) and Hong Kong (H) with full information within 10 years of observation. All listed REITs from South Korea, Taiwan and Thailand was excluded due to lack of data. The data were retrieved from their own respective board of trading and the currency was change to USD for standardization purposes.

There are several alternative in measuring the financial performance of a REITs such as in terms of profitability, dividend growth, sales turnover, asset base, and capital employed among others. One of the most important measure used in accounting to proxy for firm performance and value is Return on Asset (ROA) (Feng, Price& Sirmans,2011) since it measures the efficiency of assets in producing income (Stanwick and Stanwick, 2000; Clarkson et al., 2008). In addition, the sustainable growth rate (SGR) was used as it represents the company's growth strategy and its resources to facilitate it (Hartono & Utami, 2016). Rahim

(2017) defines SGR as a maximum firm growth without borrowing more money and selling new equity. While, Higgins (2003) indicates that SGR represents the maximum rate at which a firm can expand its sales or revenues without depleting its financial resources The attribute of SGR as the percentage of the maximum growth in sales composed with the target of the operation, debt, and the dividend ratio (Van Horne, 1998) signify the indicators for A-REITs financial performance. The SGR model itself does able to determine the coherent of REIT's sales growth in consistent with the operating characteristics and financial goals. Rahim & Mohd Saad (2014) indicates that firm's profitability is positively influence by sustainable growth rate. They evidence the tendency of higher level of profitability was drove by an increase in the sustainable growth. Another indicator used to represents A-REITs financial performance are dividend yield (DY)((Michael, Sumner& Packer, 2006;Mohamad & Zolkifli,2014) which could be denotes as indicators towards investors interest towards REITs investment. The DY of a REITs stock can be consider as a good indicator REITs value and performance since it could also be a sign of the stability of a REITs company in providing relatively stable positive returns in uncertain and stagnating markets (Henne, Ostrowski, & Reichling,2009). The selected variables to proxy A-REITs financial performance was presented in Table 2.

Table 2: A-REITs Financial Performance Measurement

Variables	Measures	Nomenclature
Sustainable Growth Rate *((Pandit,& Tejani,(2011), Rahim and Mohd Saad (2014),Rahim (2017), Hartono & Utami,(2016)*	ROE (1 – DPR) ROE = Return on equity, DPR = Dividend payout ratio	SGR
Return on Asset *(Stanwick and Stanwick, (2000); Clarkson et al., (2008), (Feng, Price& Sirmans,(2011))*	Net income / Total assets	ROA
Dividend Yield *(Michael, Sumner& Packer, (2006); (Henne, Ostrowski, & Reichling,2009; Mohamad & Zolkifli,(2014))*	Annualised Dividend/Stock Price	DY

Then, the analysis of data applied using an Independent Sample Kruskal-Wallis test (KWt) using Statistical Package for the Social Sciences (SPSS) was used to identify the significant difference of A-REITs financial performance across country. However, to run the KWt, the four assumptions of this test must be met. The first three assumption was related to the choice of study design, whilst the fourth reflects the nature of the data. Given this study used continuous dependent variable that consists of four categorical group with independence of observations, the assumption one, two and three for Independent Sample Kruskal-Wallis test was hold for this current study. Acknowledged the KWt as a test for stochastic equality (Vargha & Delaney, 1998), thus the null and alternative hypotheses for assumption four of KWt as per below:

H0: the distribution of financial performance for the A-REITs are equal.

HA: the distribution of financial performance for the A-REITs are not equal.

Findings

The results of the KWt in determining the existence of significant differences in financial performance between the A-REITs was presented in Table 3 and Table 4 between each country

with observation of : M(n=129),S (n=176), J (n=307), H (n=75). Distributions of DY,SGR, and ROA were not similar for all groups, and results for the assumption four of similarly shaped distributions was met in the KWt test based on the Table 1. The significant results of KWt support the hypothesis HA indicates the distributions of the financial performance for A-REITs are not equal for Malaysia (M), Singapore(S), Japan (J) and Hong Kong (H) . The distribution of KWt for DY,SGR, and ROA were statistically significantly different between groups, $\chi2$ (3) = 175.318, p = 0.000; $\chi2$ (3) = 564.428, p = 0.000; and $\chi2$ (3) = 267.290, p = 0.000 respectively.

Table 3: Results Summary

Null Hypothesis		Test	Sig	Decision	Test Statistic	Degree of Freedom
1	The distribution of DY is the same across categories of A-REITs	Independent Sample Kruskal-Wallis Test	0.000***	Reject the null hypothesis	175.318	3
2	The distribution of SGR is the same across categories of A-REITs	Independent Sample Kruskal-Wallis Test	0.000***	Reject the null hypothesis	564.428	3
3	The distribution of ROA is the same across categories of A-REITs	Independent Sample Kruskal-Wallis Test	0.000***	Reject the null hypothesis	267.290	3

Notes: The symbols of '*' represent the significant level, where *** Significant at 1%, ** significant at 5% and * significant at 10%.

Table 4: Statistic for A-REITs across Country

Variables	Country	N	Mean Rank	Median
DY	Malaysia	129	459.5	7.2603
	Singapore	176	422.82	6.6893
	Japan	307	233.6	4.6068
	Hong Kong	75	412.27	6.6682
	Total	687		
SGR	Malaysia	129	433.32	1.9872
	Singapore	176	420.95	2.90595
	Japan	307	221.65	0
	Hong Kong	75	510.59	7.88105
	Total	687		
ROA	Malaysia	129	471.54	5.9043
	Singapore	176	437.78	5.6412
	Japan	307	206.9	2.473
	Hong Kong	75	465.75	7.0726
	Total	687		

Considering the KWt's mean rank of DY (Mμ=459.50; Sμ=422.8; Jμ=233.6;and Hμ=412.27). The mean rank value indicating that Malaysia REITs generally has higher mean rank value with highest median value of 7.2603 while Japan REITs has the lowest rank value with a median of 4.6068. Thus its shows that Malaysia REITs has highest DY among the four country while Japan is the lowest rank among all in term of DY analysis. The DY of each

REITS provide a better comparative term for investors in judging the value of the dividends in each investment since it indicates the ability in generating dividend income as a percent of investment. Typically higher dividend yields are associated with more stable and mature firms (Henne, Ostrowski, & Reichling,2009) which could indicates a better financial performance of REITs firm. Moreover, from investors viewpoints DY can be considered as return for an investment for a stock in the absence of any capital gains. Investors who which to maximize the income return especially those who depend on income from their investments might prefer higher dividend yield REITs.

The mean rank analysis for SG indicates (Mμ=433.32; Sμ=420.95; Jμ=221.65; and Hμ=510.59) that Hong Kong REITs has the highest ROA with a median of 7.88105 while Japan is the least with median of 0.000 compared to the others. Given that the sustainable growth rate is one of the valuable financial tools used to gauge financial and operating decision (Rahim ,2017), the results evidenced Hong Kong REITs are more attractive for investors looking at sustainable growth performance. The Sustainable growth rate model can provide an excellent structure to describe the growth path of REITs firm (Pandit,& Tejani,2011). Thus support by long standing definition of SGR model by Higgins (1977) that SGR was used in mainstream finance to analyze the maximum growth rate in sales achieved by firms while maintaining a relatively stable set of financial policies.

The mean rank analysis for ROA indicates (Mμ=471.54; Sμ=437.78; Jμ=206.9; and Hμ=465.75) Malaysia has the highest mean rank for ROA while Japan is the least among others country. The ROA explicitly takes into account the assets used to support REITs business activities which denotes management's effectiveness in utilizing all available assets to create profit (Tang & Jang, 2008). It's important in determining REITs firm ability in generating adequate return on assets. REITs could be considered as an asset-heavy companies thus its need higher level of net income to support their operation. Thus the maximum utilization of assets thus able to recapitulate the strong financial performance of REITs that might influence investor's investment decision.

Conclusions

The main driving force for this research is to assess the financial performance of REITs in Asia market since 2007. The study investigated the sustainable growth, dividend yield and return on asset differences based on listed REITs across four selected Asia country namely Malaysia, Singapore, Japan and Hong Kong. The KWt analysis indicates that for all the three selected variable proxy for financial performance are having a statistically significant distribution of mean. The significant results of KWt support the hypothesis HA indicates the distributions of the financial performance for A-REITs are not equal for Malaysia, Singapore, Japan and Hong Kong. Surprisingly, the results indicate that Japan REITS has the lowest mean rank for all the three indicators of financial performance. While Malaysia REITs provide more stable dividend yield and return on asset performance among the four countries and Hong Kong is the highest in term of sustainable growth performance. The findings of the study will have important implications for investors who intend to use Asian REITs to diversify property type and geographical risks in portfolios.

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JOB STRESS AMONG ACADEMIC STAFF: THE CASE OF COMMUNITY COLLEGES IN PAHANG

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Abstract: *The purpose of this study is to identify the relationship between role conflict, role ambiguity, job promotion, working conditions and workloads to job stress. The survey method was used to collect the primary data through the use of a questionnaire to the community college academic staff in Pahang. 103 of questionnaire were distributed and all 103 questionnaires were successfully collected. The descriptive and inferential analyses were conducted. The results of this study showed that role conflict, role ambiguity, job promotion, working conditions and workloads are all positive correlated to job stress. Role conflict, workloads and job promotion are moderately correlated with job stress. While role ambiguity and working conditions factors is low correlation to job stress. This results of this study provides information about job stress among college community academic staff in Pahang to policy maker for improvement the community college management.*

Keywords*: Job Stress, Role Conflict, Role Ambiguity, Working Conditions, Job Promotion, Workloads*

Introduction

Career in education line is increasingly demands of high commitment of their servants. In Malaysia, those involved with this career will called as a teacher, lecturer and academic staff. The scope of teacher, lecturer and academic staff task, are increasingly challenging day-to-day and needs highly demands patience, commitment, and sacrifice from the teacher, lecturer and academic staff.

Selye (1964) was the first use the term stress: to describe a set of physical and psychological response to adverse conditions or influence. Job stress, sometimes will contribute to a more positive or negative effects to who are stress suffered. Job stress happen in workplace when the job requirement do not match and suit with employee capabilities, capacity, skill resources and requirement. This situation are lead to effect the human psychological and physiological. The employee who feels stresses by their work will identified by with prolong depression. The employee who are in depression is in psychological disturbed and they will not able to give good commitment and make good decision. In turn, will effect to their job performance and the organization itself. The negative job stress will lead less productivity and also effect the psychology of the employee are stress suffered. (Cooper and Khan, 2013).

Many previous studies that investigate the relationship between stress factors and the careers in the field of education. Career in the teaching profession is one of the most career are causes their servants are in stress suffer which in turn adversely affects mental problems, health, decreased work performance, lack of job satisfaction and employee eventually

burnout. (Cooper and Khan, 2013). Career as a teacher, lecturer, or academic staff (in education line) is identified as most stressful occupational. (Cooper et. al, 2005). Studied by Ahmad Usman, Zulfiqar Ahmed and Ishfaq Ahmed (2011) in work stress experienced by the teaching staff of university of the Punjab Pakistan: Antecedents and consequence. From the studied disclosed, there is role conflict and role ambiguity is positively related to work stress. Nilufar Ahsan et al. (2009), was studied of job stress on job satisfaction among university staff in Malaysia was conducted in public university in Klang Valley. Finding from the study are, workload pressure, home-work interface, role ambiguity and performance pressure as job stress factor and the job stress have relationship with job satisfaction. Barkhuizen and Rothman (2008) in occupational stress of academic staff in South African higher education institutions. The study enclosed that academic staff in South African Higher Education Institution is experienced high level of occupational stress relating to pay and benefits, overloads and work-life balance. Dua (1994) made a study on the staff of the University of New England in 1994 on job-related factors related to causes of stress to academic staff. This studied finding are job significance, workload, work politics, and university reorganization was significant to stress occurrence in the University New England.

This study are explore and review the relationship between job factor stress and stress in academic staff community college in Pahang. There have 93 community college around Malaysia by end 2016. In Pahang, there have 10 community college in Pahang. Academic staffs of community colleges normally perform a variety of job scope. The main task of the academic staff at community colleges is to perform the duties of teaching and learning. The task of teaching and learning requires academic staff to plan and implement academic responsibilities such as providing teaching materials, implementing lectures, supervising practical, and supervised student projects. In most cases, academic staffs at community colleges teach from 20 to 28 credit hours per week. The long hours of teaching and learning contributes to the pressure and contribute to stress. Academic staffs are also responsible for manage and implements the short courses. The short course are recognized as one of performance indicators and performance evaluation tool in community college. Academic staffs are also required to undertake duties as a coordinator at the certain units such as coordinator at the examination unit, student recruitment, student affairs, sports, college time table and schedule, quality assurance, innovation, research, industrial training and alumni, data and more. The objective of this study are, to identify the relationship between role conflict, role ambiguity, job promotion, working condition, and workloads and job stress among academic staff in community college in Pahang.

Methodology

This study is a quantitative and survey based research. The research instrument used in this study is the closed–ended questionnaire. The questionnaire is adapted from several of previous research. The questionnaire is divided by three parts, which Part A (6 question about respondent background information), B (consist 30 question on job stress antecedents), and C (10 question on job stress). The independent variable (role conflict, role ambiguity, job promotion, working condition and workloads) and dependent variable (job stress). The design of the Likert scale is to examine how strongly subject agrees or disagree on point scale. This study adopts the 5-point Likert scale. The pilot test carried out before actual studied. The pilot test conduct involve 30 academic staff in Rompin community. Cronchbach's alpha 0.919, good degree of reliability of the questionnaire. The population of the study in community college west in Pahang. There are selected because no study that has been carried out about this field in community college and the increase of amount of duties and responsibilities due to the lack of facilities. The academic staff population of these study

are 140, and based on Sekaran (2012), the sample for this study are 103. The location of studied carried out are Bentong, Raub, Temerloh, Lipis, Bera, Jerantut community college. The data collected are analysed by used Statistical Package for the Social Science (SPSS) version 17. The analysis include descriptive (data background) and inferential analysis such regression and correlation.

Findings

These data were collected and analysed using SPSS version 17. The respondent background information are consist of gender, marital status, place of working, academic level, period of service and the distance from workplace to home. The result as table 1.1 below:

Items	**Frequency**	**Percentages**
Gender		
- Male	26	25.2
- Female	77	74.8
Total	103	100
Marital Status		
- Single	32	31.1
- Married	70	68.0
- Widow	1	1.11.0
Total	103	100
Place of working		
- Bentong Community College	41	39.8
- Raub Community College	6	5.8
- Temerloh Community College	39	37.9
- Lipis Community College	6	5.8
- Bera Community College	5	4.9
- Jerantut Community College	6	5.8
Total	103	100
Academic Level		
- Diploma	5	4.9
- Degree	69	67.0
- Mater Degree	29	28.2
Total	103	100
Period of service		
- 0-3 years	27	26.2
- 4-7 years	56	54.4
- 8-11 years	13	12.6
- 12 years and above	7	6.8
Total	103	100

Workplace to home		
- 0-5 km	37	35.9
- 6-10 km	45	43.7
- 11-15 km	10	9.7
- 16 km and above	11	10.7
Total	103	100

Table 1.1: Data respondent background information

The inferential analysis used in this study, are correlation analysis and regression analysis. This studied are used Pearson correlation analysis. Pearson correlation analysis is used for examine and analyzed the relationship between the job stress factor and the job stress. The result generalized with Guilford Rule of Thumb for identify and interpreted the strength of correlation. The correlation result as table 1.2:

		Job Stress	Role Conflict	Role Ambiguity	Job Promotion	Working Condition	Workloads
Job Stress	Pearson Correlation	1	**.666****	**.259****	**.521****	**.259****	**.643****
	Sig. (2-tailed)		.000	.008	.000	.008	.000
	N	103	103	103	103	103	103
Role Conflict	Pearson Correlation	.666**	1	.400**	.601**	.327**	.528**
	Sig. (2-tailed)	.000		.000	.000	.001	.000
	N	103	103	103	103	103	103
Role Ambiguity	Pearson Correlation	.259**	.400**	1	.180	.188	.258**
	Sig. (2-tailed)	.008	.000		.069	.057	.009
	N	103	103	103	103	103	103
Job Promotion	Pearson Correlation	.521**	.601**	.180	1	.334**	.446**
	Sig. (2-tailed)	.000	.000	.069		.001	.000
	N	103	103	103	103	103	103
Working Condition	Pearson Correlation	.259**	.327**	.188	.334**	1	.160
	Sig. (2-tailed)	.008	.001	.057	.001		.106
	N	103	103	103	103	103	103
Workloads	Pearson Correlation	.643**	.528**	.258**	.446**	.160	1
	Sig. (2-tailed)	.000	.000	.009	.000	.106	
	N	103	103	103	103	103	103

Table 1.2: Table of correlation analysis

Based on the results of correlation analysis table, all independent variables are positively related to job stress. The most significant is role conflict (r = 0.666, p = 0.000) followed by workloads (r = 0.643, p = 0.000), job promotion (r = 0.521, p = 0.000), role ambiguity (r =

0.259, p = 0.008) and working conditions (r = 0.259, p = 0.008). Based on the guideline from Guildford's Rule of Thumbs indicated that role conflict, workloads and job promotion have moderate relationship to job stress. Meanwhile role ambiguity and working condition have a weak relationship to job stress.

Regression Analysis

Is used to determine the effect or a form of relationship between two variables. Regression analysis is used to determine the effect or a form of relationship between two variables. Referring to Table 1.2, it could be concluded that the combination of role conflict, role ambiguity, job promotion, working condition and workloads has moderate influence ($p < .000$, $R^2 = 0.570$ Adjusted $R^2 = 0.548$) on job stress among the academic staffs at the community colleges in Pahang. Based on interpretation of Table 1.3 the beta weights and structure coefficients the role conflict ($\beta = 0.400$, $r^2 = 0.000$) was the best predictor of job stress among the academic staffs. The next variable leading the model was the workloads ($\beta = 0.388$, $r^2 = 0.000$).

Table 1.3: Regression Analysis result

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	TW, TWC, TRA, TJC, TRC	.	Enter

a. All requested variables entered.

b. Dependent Variable: TJS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.755[a]	**.570**	.548	.36444

a. Predictors: (Constant), TW, TWC, TRA, TJC, TRC

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.104	5	3.421	25.757	.000[a]
	Residual	12.883	97	.133		
	Total	29.987	102			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.960	.453		2.118	.037
	Role Conflict	.289	.069	.400	4.187	.000
	Role Ambiguity	-.036	.103	-.026	-.351	.726
	Job Characteristics	.073	.064	.099	1.139	.257

Working Condition	.051	.099	.037	.520	.605
Workloads	.332	.069	.388	4.838	.000

a. Dependent Variable: TJS

Discussion

These studied was explored the relationship between role conflict, role ambiguity, job promotion, working condition and workload towards job stress among academic staff in community college in Pahang. The following discussion is based on each objective of this study.

a) **Objective 1: To Identify The Relationship Between Role Conflict And Job Stress Among Academic Staff In Community College At Pahang**.The correlation analysis shows that there is a positive relationship between role conflict and job stress, means that if there have any change in the role conflict item, it would lead to of stress among academic staff in community colleges. Findings from this studied, presented the role conflict as a job stress factors among community college academic staff at Pahang. Similar findings by other studies are such as findings by Ahmad Uthman, Zulfiqar Ahmed, and Ishfaq Ahmed (2011). However, finding from studied by Nilufar Ahsan et al (2009), and El Shikeiri and Hassan A. Musa (2011), and Conley and Woosely (2000), presented role conflict is not stress factors that cause job stress in their studied and opposed with this studied findings.

b) **Objective 2: To Identify Relationship Between Role Ambiguity And Job Stress Among Academic Staff In Community College At Pahang.** Although the relationship between role ambiguity and job stress is positive but the relationship is weak (r = 0.259, p = 0.008). Therefore any increase in role ambiguity will not resulted significant changes in job stress among academic staff in community college at Pahang. Similar findings are by El Shikeiri and Hassan A. Musa (2011), and Conley and Woosely (2000), presented role ambiguity is not as job stress factors that cause job stress in their studied. However, the finding from studied by Ahmad Uthman, Zulfiqar Ahmed, and Ishfaq Ahmed (2011) and Nilufar Ahsan et al (2009) are opposed with this studied findings. The finding studied by Ahmad Uthman, Zulfiqar Ahmed, and Ishfaq Ahmed (2011) and Nilufar Ahsan et al (2009) resulted the role ambiguity as job stress factor in their studied.

c) **Objective 3: What Is The Relationship Of Job Promotion And Job Stress Among Community College Academic Staff?.** Based on the coefficients analysis, the relationship between job promotion and job stress is weak. If there were to be any have changes job promotion items, it will not contribute to stress among academic staff in community college at Pahang. . Findings of similar earlier studies are by El Shikeiri and Hassan A. Musa (2011), stated that resulted job promotion is not as job stress factors that cause job stress in their studied.

d) **Objective 4: To Identify Relationship Between The Working Condition And Job Stress Among Academic Staff In Community College At Pahang.** The relationship between working condition and job stress among the academic staff in the community colleges in Pahang is moderate relationship (r = 0.521, p = 0.000). The working condition do contribute to the job stress among the academic staff. stress factor also not become as job stress factor among academic staff. Findings of this studied are similar to findings by Dua (1994) that resulted working condition is not as job stress factors that cause job stress in their studied. However, the finding from studied by El Shikeiri and Hassan A. Musa (2011), are opposed with this studied findings.

e) **Objective 5: To Identify Relationship Between Workloads Job Stress Among Academic Staff In Community College At Pahang.** Through coefficient analysis have presented that sig value is 0.000, in turn show have correlation between working condition and job stress. The last factor are presented direct relationship between the workloads and job stress. That means, if anything changes happen in workloads will contribute to the job stress happen among academic staff in community college in Pahang. Findings from this studied, resulted the workloads is a job stress factors among community college academic staff in Pahang. Findings of this studied are similar to findings by Dua (1994), El Shikeiri and Hassan A. Musa (2011), Barkhuizen and Rothmann (2008) and Nilufar Ahsan et al (2009 that resulted workloads is a job stress factors that cause job stress in their studied.

Conclusion

The purpose of this study is to identify the relationship between the job stress factor and job stress among community college academic staff in Pahang. It is hoped that the information gathered will be of use to the management of the community colleges in Pahang to understand issues related to job stress among the academic staff. Results presented showed that the main factor of job stress among academic staff in community college in Pahang are role conflict and workloads.

From this study, hopefully it will be used as a reference especially in the planning of activities that could reduce the job stress among community college academic staff in Pahang. It is also hoped that the outcome would assist the management of the community colleges plan the system, policies or procedures that could continuously monitor the job stress level among community college academic staff in Pahang so that the job stress is more manageable. Manageable jobs stress would bring positive effect and among the staff and organization.

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THE ROLE OF MUSEUM AS CULTURAL HERITAGE ATTRACTION: KOTA KUALA KEDAH MUSEUM

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Abstract: *Museums have historically been seen as cultural institutions whose prime function is education and learning. However, as society has changed, more museums are aware of their potential to add value to their community economically by attracting visitors to the destination. As the demand for tourism increase, museums have become key partners in the cultural heritage tourism industry of a destination. Consequently, greater emphasis is now being placed on their leisure function. In parallel with the development of museums as visitor attraction, museums need to be the place where visitors can visit, see and experience the important aspects of the community and area within the destination. In this sense, the process of exhibiting, communicating and explaining to visitors the significance of the place or resources they are visiting is important in ensuring visitor satisfaction. In this paper, the role of Kota Kuala Kedah Museum as cultural heritage tourism attraction in Kedah is explored. Findings revealed that the museum has great potential to attract visitors. The museum, furthermore, able to connect the visitors with the historical values of the fort to community in Kuala Kedah specifically and Kedah generally. As a conclusion, this paper concludes that the management of Kota Kuala Kedah Museum should be ready to meet the challenge of practicing a more visitor friendly approach while continuing to meet their heritage preservation and education mandates.*

Keywords*: Museum, Tourism Attraction, Visitor Experience*

Introduction

Cultural heritage tourism has becoming one of the fastest growing segments of the tourism industry. In many societies, cultural heritage manifests itself in oral history, traditional music and dances and social practices. As such, it is said that cultural heritage tourism can boost local culture. For these reasons, it has become one of the important pillars of tourism

industry in many countries. On the same note, museums play an important role in cultural heritage tourism worldwide. Through museums, societies represent the relation with their own history, and to that of other cultures and people (Lumley, 1988:2). Like elsewhere in the world, museums play an important role in cultural heritage tourism in Malaysia. At present, there are more than 150 museums in Malaysia, under the management of either the museum department, state government, or private sector. With increased level of competition in the tourism industry, it is becoming more important for museum managers to identify factors that will enhance the attraction and retention of museum visitors.

Literature Review

Heritage

Generally, heritage is defined as consisting of traditions or living expressions that are inherited from our ancestors and passed on to our descendants. Because of its role as a carrier of historical values from the past, heritage is viewed as part of the cultural tradition of a society. Today, the term cultural heritage is increasingly attached to present-day activities linked to the past. The present-day activities, furthermore, have expanded during recent years in their range and scope, with the recognition of the growth of the so-called 'heritage industry' (Hewison, 1987). It highlights the commodification of heritage, with tourism development as the prime objective in the heritage industry.

In support to the discussion above, several authors (Bendix, 2009; Du Cross, 2007; Arthur & Mensah, 2006) indicate that higher demand for cultural heritage tourism may be due to three factors. First is an existing dissatisfaction of the market concerning present-day product. Second is a rising focus on learning while travelling in order to enhance one's knowledge and appreciation of other cultures. Finally, is the realization on the part of governments about the demand for cultural heritage tourism and the creation of facilities to assist the development. As cultural heritage tourism product is getting momentum, museum as a part of heritage industry, is experiencing the same scenario as tourist attraction.

Museum

A museum is a 'non-profit making, permanent institution in the service of society and of its development and is open to the public. It acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of study, education and enjoyment (International Council of Museum, 2007). In addition to preserving and studying collections, 'museums exist for the purpose of serving the community' (Ambrose & Paine, 2012:11). As part of the 'heritage industry', the role of museum is not only to educate people about the place they are visiting, but also to provide enjoyable and entertaining experience for visitors (Prentice & Anderson, 2007). Museums are actually competing with other tourism products in getting the attention of visitors. In this sense, in order to be competitive, museums need to be not only educational, providing information and engaging the minds of visitors, but also be interesting, attractive and alive.

De Ruyer, Wetzels, Lemmink and Mattson (1997) explain that there are six different components in the delivery process of museums. The components include: permanent collection, temporary collection, restaurant, museum shop (souvenir shop) and wardrobe. The combination of the components would influence the level of satisfaction of visitors visiting museum.

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Museum Visitors

In the beginning, visitors of cultural heritage attractions, including museums, are seen as homogeneous mass of people. However, recent literature has begun to consider them as a heterogeneous group with different perceptions, characteristics and needs (Brida, Desegna & Scuderi, 2014; Sheng & Chen, 2012; Ryan & Hsu, 2011). Pekarik, Doering and Karns (1999), on the other hand, explained on the kind of experience visitors find in museum. There are four kinds of experience which include:

- Object experiences – permanent and non-permanent exhibitions
- Cognitive experiences – knowledge and information learned
- Introspective experiences – ability to imagining other (past) time
- Social experiences – togetherness with family, friends and loved ones

According to the authors, visitors may engage in some of the experience depending on their motivation and the way museum collections are exhibited. Nonetheless, having the ability to engage in all four types of experience will enhance the level of visitors' satisfaction, and make their visit more meaningful. Driven by the motive to enhance visitors' satisfaction levels, public museums are encouraged to become more market oriented (Biran, Poria & Oren, 2011). This is because funding has to be justified more and more in terms of visitors' satisfaction. They are encouraged to utilize a variety of ways to engage visitors and provide them with intrinsic rewards, i.e. learning experience. Central to the issue is the need for the managers to understand how visitors perceived their experience in visiting museums. However, regardless of growing pressure faced by museums in competing with other types of visitor attractions, the museums, particularly public museums, have been slow in subscribing to the idea of understanding their visitors. Thus, the objective of this paper is to investigate visitors' experience in visiting one of the public museums in Kedah, the Kota Kuala Kedah Museum.

Kota Kuala Kedah Museum

The museum is located in a fort, known as the Kuala Kedah Fort, situated at the northern shore of the Kedah River (photo 1). The fort was built in 1771 during the reign of Sultan Muhammad Jiwa. It was known as the centre for administration, trade and fortress of the Kedah's Malay Sultanate, as British government offices when Kedah was officially under the British rule in 1909, as well as military training centre during Japanese occupation. The fort was acknowledged as a historical land site by the Department of Museums and Antiquities (currently known as Department of Museums Malaysia) in 1978, and was officially opened to public in 1999. The *kota* or fort consist of a museum, a lighthouse, several remain of buildings that were built during British colony, a site that was said to be the sultanate's palace, several cannons, and two gateways. Photo 2 depicts the description.

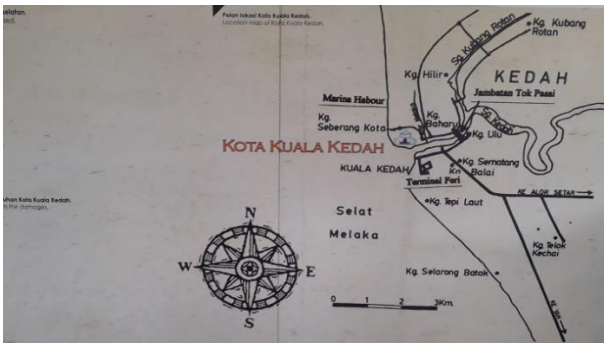

Photo 1: Location of Kota Kuala Kedah Museum

Photo 2: Kota Kuala Kedah Museum

Methodology

The research is based on a survey conducted in March 2017. Convenience sampling method was adopted as there was no sufficient information on the characteristics of visitors to the museum. Interviews were held with visitors exiting the museum after their visit. Only one person per travel party was selected. Questionnaire consisted of both open-ended and closed-ended questions, designed to capture visitors' experience with the permanent exhibition in Kota Kuala Kedah museum.

Discussion Of Findings

It should be noted at the outset that this paper focuses on permanent exhibition only. It does not, therefore, provide any discussion involving other components in the delivery process of museums as discussed by De Ruyer et al (1997). A total of 34 visitors were interviewed. All of the visitors are Malaysians, with 41% male and 59% female. Majority of the visitors (91.2% @ 31 respondents) are within the age of 20 to 29. About 76% of visitors are from outside Kedah. In addition, respondents are accompanied on average by three or four people, with 75% of them make the visit with friends, while 9% with organized group. Their three main sources of information about the museum come from family/friends, internet and tourist information centre. Findings also revealed that the three main reason for visiting the museum are: 'to occupy some leisure time', 'to accompany friend/family member', and 'recommended by someone'.

Respondents are also asked to describe their museum experience, and as highlights in table 1, majority have positive experience, with only a small number feel the opposite.

Table 1: Description on Museum Experience

Learning something new		85%
Having the feeling of wasting my time	6%	
Feeling at ease	92%	
Feeling lost or disoriented		11%
Having fun	95%	
Feeling astonished by something		95%
Feeling bored	6%	

In addition, respondents are asked about their preferences in experiencing the museum. Findings revealed that majority of the visitors want to explore the museum and the surrounding area on their own. Although others feel the same way, they also like the idea that staff are around and available, in case they want to ask questions. The two most preferred options in exploring the museum can be explained by the fact that the area within the *kota* or fort is quite large, and the permanent exhibition within the *kota* is quite plentiful. In the museum, in addition, are displayed information and copies of important documents during the reign of Kedah sultanates, and their relationships with the British colony. The preference of the visitors on how to spend their time in the *kota*, can be further explained by the duration of their visit. As explained in table 2, majority of the respondents spend more than one hour visiting the museum, signifying that they have explored not only the museum but also the area within the *kota*.

Table 2: Time spent visiting Kota Kuala Kedah Museum

Duration	persons
Less than one hour	7
More than one hour	20
More than two hour	7

Based on the qualitative interview made with the respondents, finding reveals that all of the respondents have encountered at least one of the four types of experience: Object, cognitive, introspective and social. Majority commented on the aspects of landscape and architecture of the fort. According to respondent #5:

> …I enjoyed the visit very much because the information is everywhere, and not just the writings in the museum. You have to walk and explore the fort to see and understand what have been written in the museum

Comment made by respondent #5 indicating that the respondent has at least experienced cognitive experience (knowledge and information learned). On the other hand, respondent #9 commented that:

> …Beautiful surrounding, well kept. I could imagine how the fort would have looked like during its glorious days

Respondent #9 was actually experiencing an introspective experience (ability to imagine other time). Others were fascinated with the cannons, doors and lighthouse displayed in the fort. It was important for them to visit real artefacts. As explained by respondent #18:

> …It is a good feeling to visit real artefacts rather than just replicas. It gives you a sense of place…..by seeing all these relics you can imagine how important the fort was during the time. Sungai Kedah must have been a busy port

Comment made by respondent #18 indicating that the respondent was experiencing at least two types of experience: introspective and object (on permanent exhibitions). Last but not least, majority of the respondents agreed that they have enjoyed visiting the museum. As noted by respondent #25:

> '…I enjoyed my visit to this museum. I am sure my friends shared my feeling as well'

Comment made by respondent #25 was echoed by respondent #28:

> '…yes very much. I came all the way from Johor with my family, on our way to Langkawi….this is a good stop.'

Comment made by the two respondents indicating that they were experiencing a social experience (togetherness with family, friends and loved ones).

Conclusion

It is clear that Kota Kuala Kedah Museum has successfully creating all four types of experience, and consequently creating a positive experience for museum visitors. The fact that visitors learn and enjoy the walk within the fort signalling that more emphasis should be given to the interpretation process. Some can be considered as old. From the findings above, it can be concluded that Kota Kuala Kedah Museum is able to hold its role as a carrier of historical values from the past, as well as a cultural heritage attraction, that filled with story from the past that shape the present and future of our land for Malaysia generally, and Kedah specifically.

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HOMESTAY PROGRAMME – A TOOL FOR RURAL TOURISM DEVELOPMENT: CASE OF KAMPUNG RAGA HOMESTAY, YAN KEDAH

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Abstract: *The efforts to introduce tourism as a development tool for rural areas in Malaysia is reflected in the National Rural Tourism Master Plan 2001 (NRTMP). The main objective of NRTMP is to plan and guide rural tourism development in the country. It emphasized on, among others, homestay programme as the tool in giving more opportunities for the communities in rural areas to create new or additional income and employment. Homestay programme offers visitor a unique experience that combines basic needs of food and accommodation with the host's culture. Ideally, homestay programme should practice a wise use of the cultural and natural heritage resources of the rural area. The paper discusses the concept and evolution of the Malaysian Homestay Programme. It then relates the discussion with referring to Kampung Raga Homestay in Yan Kedah. Kampong Raga Homestay is one of the oldest homestays in the state. Findings revealed that the evolution of homestay programme in Malaysia is much reflected by what has happened and is happening in Kampung Raga homestay. Several issues are identified.*

Keywords*: Homestay Programme, Rural Tourism, Rural Community*

Introduction

Rural tourism is recognized as an important instrument of growth for rural economy. Rural tourism is also coined and introduced to the market attempted to diversify tourism product and fulfil market requirement. Examples can be seen from people longing to escape from modernity, seeking tradition and authenticity, travelling for natural and cultural attractions, and looking for one's heritage. One of the products closely related to rural tourism is a homestay programme. Like many other countries, Malaysia is also promoting homestay programme as an attempt to achieve rural community's development. As such, this paper tends to discuss the concept and evolution of Malaysian Homestay Programme, and to relate the discussion with referring to Kampung Raga Homestay in Yan Kedah.

Literature Review

An Overview Of Rural Tourism

Rural tourism is essentially a tourism activity that takes place in the countryside (Lane, 1994). Sharpley and Vass (2006) further defines the term as a range of activities, services or amenities provided by rural communities in order to attract visitors to visit their area, and to generate additional income. Rural tourism encompasses a broad range of activities, and it is multi-faceted (Irshad, 2011). The diversity of attractions included within rural tourism spectrum includes farm-tourism, agro-tourism, cultural tourism, nature tourism and ecotourism. In short, rural tourism can be defined as an experience which encompasses a wide range of attractions and activities that take place in non-urban areas. Its essential characteristics include (Irshad, 2011:5):

- Tourism activities that is located in rural areas, traditional in character
- Built upon the rural area's special features of small scale enterprise
- Low levels of tourism development
- Opportunities for visitors to directly experience social and/or natural environments, and traditional practices

From the perspective of the authority/government, rural tourism is seen and used by the authority as a development strategy to improve the social and economic wellbeing of rural areas. It is considered as a means to diversify rural economy.

Challenges Of Rural Tourism

As with most of other forms of tourism, rural tourism development has its own drawbacks and challenges. It has been found that rural tourism contributes relatively little extra income to the communities (Sharpley, 2007). The communities, furthermore, may find it difficult to adapt to a service role, a requirement necessary in tourism industry (Stone & Stone, 2011). Thus, they need to be introduced and trained about leisure and hospitality related commercial activities. With that in mind, Irshad (2011) stressed on the importance of government's involvement in developing and organizing rural tourism. He further argued on the importance of the authority to concern about the provision of support facility whenever tourism is to develop in a rural area. The inadequacy of basic facilities, such as accessibility, may hinder the development of tourism in that area. Thus, disappointing the visitors who are motivated to travel into the outlying attraction.

Rural Tourism In Malaysia

In Malaysia, the scheme of rural tourism is considered as one of the most viable development strategies for rural areas (Marzuki, Ali & Othman, 2011). It is included in the five-year Malaysia development plans (MP), a short term national economic strategic plan. The rural tourism agenda is further elaborated to become National Rural Tourism Master Plan, prepared by Ministry of Tourism and Culture in 2001. By the 8th MP (2001 – 2005), rural tourism was highlighted as one of the mechanisms for rural community development ie to benefit local communities economically and socially. According to the Masterplan, rural tourism is defined as: Tourism that provides opportunities for visitors to visit rural areas and rural attractions, and to experience the culture and heritage of Malaysia, thereby providing social-economic benefits for local communities (RTMP, 2001:22). Its main objectives include:

a) Plan and guide rural tourism development in the country.
b) Provide more opportunities for local community involvement
c) Generate new possible source of income

d) Stressed on agro-tourism and homestay programme

Homestay Programme

A homestay programme is a period during which a visitor lives with a local family. The idea is to accommodate visitor in a village with a local family, enabling visitor to learn about local lifestyle, culture and nature (Wani & Shafi, 2014). The homeowner is the one who provides lodging and meals to the visitors (at a fee) (Kalsom, 2010). It is a unique concept as it promotes interaction between host families and visitors. At the same time, homestay programmes act as a development tool in creating awareness of and respects for the host's culture.

Homestay Programme In Malaysia

In December 1995, the Ministry of Culture, Arts and Tourism (MOCAT) (currently known as the Ministry of Tourism and Culture – MOTAC) had formed a unit to oversee growth of the program. It even introduced a guideline and accreditation criteria, as well as training package for homestay development in Malaysia. MOCAT's official definition of a homestay programme says that:

> …a homestay is where tourist stay with the host's family and experience the everyday way of life of the family in both a direct and indirect manner

According to the guideline, a village homestay program should be operated by a group of certified homestay operators in the communal areas, with a minimum of 10 houses. The ministry would then issue a license, providing the house owners able to abide to a certain criteria which include:

a) The village have easy access from the main-road
b) The participating houses should have adequate facilities for guests (separate bedroom / proper toilet)
c) Home owners have no history of criminal record
d) Home owners should be able to demonstrate a high standard of hygiene
e) The group of homestay operators should be able to provide and include in the programme related rural communities' activities. Depending on the source of economic activities of each village. For example: rubber tapping, paddy planting, cocoa/coconut plucking, and fishing
f) Able to show-case and involve visitors in past-time games – congkak, traditional/folk dances, and other related activities commonly practiced by the rural communities
g) Possess 'act and think tourism' attitude

Upon getting a license, home owners would be required to attend a basic training course conducted by the Institute for the Rural Advancement (INFRA) (*Institut Kemajuan* Desa) under the Ministry of Rural and Regional Development.

Recent Development in Homestay programme in Malaysia

Recent development in rural tourism related product by MOTAC sees the introduction of a new but related programme emphasizing on visit My Kampung instead of My Home called *Kampungstay* (refer figure 1).

Figure 1: MOTAC's logo of Homestay and Kampungstay programme

Kampungstay is a continuation from the Homestay programme, but the latter is a form of experience where visitors are provided with accommodation facilities independently from the host's house (MOTAC, 2015). In other words, visitors do not stay with the host. Visitors would be given separate accommodation, equipped with basic facilities for the comfort of visitors and features the life of the village community. At the same time, visitors would be able to maintain the opportunity to interact and follow daily activities in the village.

Participation of the Kampungstay programme, however, are only open to the existing homestay operators registered with the MOTAC. Among the main objectives of Kampungstay implementation is to:

a) Promote the participation of rural communities in the tourism industry in order to increase the income and living standards of the villagers
b) Encourage rural communities to engage in business and become rural entrepreneurs;
c) Provide additional accommodation arrangement for village life
d) provide visitors with the option of selecting accommodation types that suit their needs

Kampung Raga Homestay Yan Kedah

Information gathered for the analysis of Kampung Raga Homestay was based on a qualitative interview with homestay operators conducted in August and September 2017. Six operators were interviewed. Kampung Raga homestay is located in the district of Yan, Kedah. Registered in 1996, it is among the earliest homestay programme in the state. Kampung Raga homestay is also recognized by the State of Kedah as one of its major tourism products. Several of the operators are employed in rubber plantation, while others work in public sectors in town. The rest of the operators are self-employed. In terms of the products offered in the homestay programme, operators explained that almost all the products are based on the environment surrounding the village area. As such, activities include:

a) Rubber tapping demonstration
b) Community activity such as gotong royong, planting of trees
c) Cooking demonstration - traditional sweets and cookies in particular
d) Handicrafts making and demonstration
e) Visits and jungle trekking to nearby recreational areas like Titi Hayun, Puteri Mandi, Seri Perigi and Batu Hampar waterfalls
f) Fruits eating during fruits season (June - August)

Those operators interviewed could recall when they were sent for training/workshops. In fact, training/workshops were quite regular during the early stage of the programme. This signify that whatever stated in the guideline about trainings is implemented in Kampung Raga.

When asked why they participate in the homestay programme, many of the operators answered because they are interested in the programme, and that their participation is a voluntary one. To be specific, they considered the homestay programme as an avenue to support family or for additional income as majority of them work in the village. At the same

time, they also considered a homestay programme as a platform to foster a sense of ownership, togetherness and pride in the community. In fact, it is considered by several female operators as a platform for women to practice and develop their entrepreneurial skills. Other reasons mentioned by the operators include their delight and interest to share local heritage with others, and their interest to get to know people from other places/countries.

Current Situation At Kampung Raga Homestay

Today, the homestay programme is faced with several challenges. In the beginning of the programme in 1996, there were twenty registered operators. However, at present the number has significantly reduced to eight operators. All the eight operators are the pioneers of Kampung Raga homestay programme. They have been participating in the programme for more than twenty years. Aged factor is said to be the reason for a reduction in the number of operators. Table 1 illustrate the age of the six operators interviewed.

Table 1: Age of Respondents

Respondent	Age
Respondent 1	70
Respondent 2	65
Respondent 3	62
Respondent 4	53
Respondent 5	53
Respondent 6	55

Kampung Raga homestay also suffers from migration problem. Many claimed that their children are not interested to pursue and involve in the programme. They prefer to stay and work in the cities. The situation leave no other options but to make older generations to continuously run the programme. The unbalanced participation in the homestay programme has caused a problem to the community. As such, the sustainability of the programme is at stake.

At present, the concept of Kampungstay is not taken up by the villagers. Although the objective of Kampungstay is admirable (to increase the income and living standards of the villagers), perhaps the issues discussed above may hinder the communities of Kampung Raga from participating.

Another challenge that was raised by all of the operators is the misuse of the homestay term by other parties. Independent accommodation facility that used the term ‘homestay’ are easily available in the surrounding areas of Yan which has created a confusion among the visitors. Consequently, the development has become a threat to the genuine homestay programme.

Another aspect that has become a concern by the operators is related to the visitors themselves. Operators began to realize that in many instances, particularly with foreign visitors, activities provided for them may not be sufficient. The visitors would request for a visit to places of interest outside of the district. For example a visit to Alor Setar which is about 42km from Yan, and to the archaeological site of Lembah Bujang which is situated in another district in Kedah. On one side, requests for a visit made by the visitors could become as additional income to the operators, but on the other side, it may cause some problems to the operators when there is a

shortage of staff to manage the request. Nonetheless, it is interesting to note that, in the guideline for Kampungstay, operators are encouraged to '…take visitors for a visit to historic sites / heritage, and tourist spots' (MOTAC, 2015:3). Signifying that activities held should not be confined within the village alone.

Conclusion

As noted in the early section of the paper, the objectives of developing a homestay programme by MOTAC is noble. It aspires to stimulate economic and social growth in rural communities. While pursuing the objectives, limitations and challenges faced by the rural communities should not be neglected by MOTAC. The sustainability of a homestay programme should also become a priority in the homestay guideline, particularly concerning a long established homestay like the one in Kampung Raga. Perhaps MOTAC has taken up a proactive strategy in foreseeing the sustainability of the programme by introducing Kampungstay project. Nonetheless, as for Kampung Raga Homestay, clearly the life-cycle of Kampung Raga as a homestay operator is declining.

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BRIEF COMMUNICATION ON SATISFACTION LEVEL AND SAFETY PERCEPTION ON PUBLIC CLIMBING EQUIPMENT

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***Abstract**: Background: Public playground injury caused by unsafe climbing equipment is a public health concern. This study aimed to measure the popularity, satisfaction level and safety perception of public users on public climbing equipment. Methods: We conducted a survey using online questionnaire with a total of 50 respondents from Malaysia. Respondents were 18 years old to 45 years old Malaysian. The respondents can be either parents or guardians. The data was analysed using SPSS version 21.0. Description analyses were used in the analysis. Result: Climbing equipment is one of the popular choices among children in public playground but the satisfaction level of parents towards the existing public climbing equipment was relatively low. Hence, they might not allow their children to use them due to lack of confidence on the safety. The results showed that majority of parents (90%) have low satisfaction level on public climbing equipment and 92% of parents agreed that reducing falls injury by improving the design in terms of height, materials and protective shade can improve the safety level of public climbing equipment. Conclusion: Equipment-related injury among children in public playground is a serious public health problem which should not be taken lightly. Industrial designer, manufacturer and correspondent party should play their role by improving safety features of climbing equipment to retrieve the user's trust.*

Keywords: *Public Playground Injuries; Children; Climbing Equipment; Satisfaction; Safety Perception*

Introduction

Recently, children injuries increased due to unsafe public playground equipment. There is a need to improve the safety features of playground equipment in order to reduce children injuries in Malaysia effectively. According to Epidemiology of Injuries in Malaysia, showed that there is about 3000 injuries cases in every three months occurred in Malaysia, whereas falls from equipment accounted for 75% of playground injuries (Norraliza, 2012); indicated that the safety of our playgrounds is insecured and more should be done to make our playgrounds safer (Noriah, 2014). Besides, children injuries in public playground are higher than indoor playground; Keays & Skinner, (2012) stated that out of 39,730 cases selected, 84% happened in public playground while 16% happened at indoor playground. This showed that there was a high frequency of children injuries caused by unsafe public playground equipment and need to be concerned by public.

Recent study also stated that most of the playground-related injuries were related to playground equipment. (Mani, Mehdi Hosseini, & Abdullah, 2012). Climbing equipments are always accounted for the most injury among children (Cassell & Clapperton, 2014), but still it is publicly known to be one of the most prevalent equipments among children (Bourke & Sargisson, 2014; Mani, Mehdi Hosseini, & Abdullah, 2012; Mcdonald, 2001; Sargisson & McLean, 2013). There were least researches done on measuring satisfaction level of public playground user compared to parental concern and behavioural investigation. Although, some of the studies have showed interest on studying the effectiveness of safety regulation and maintenance, however, study on measuring satisfaction level and safety perception of public users has never been done before.

Method

Instrument

Online survey using questionnaire had been used to collect data from 50 respondents. The survey was subjected to all Malaysian between eighteen to forty-five years old. Respondents can either parents or guardians. The questionnaire was divided into two parts, part A and part B. Part A was about profile info, and part B was about satisfaction level and safety perception. There were ten questions related to individual profile that cover on age, monthly income, residence area, housing, frequency of visiting public playground, equipment preference of their children and so on. For satisfaction level and safety perception on climbing equipment, there were ten questions too in this part. Every questions came with five categorical answer (I) = Strongly disagree, (II) = Disagree, (III) = Fairly Agree, (IV) = Agree and (IV) Strongly Agree. Every question in part A and part B is compulsory question to answer before proceed. There was an addition optional question where respondents were asked whether they have any suggestion on improving safety level of public climbing equipment.

Data Analysis

The data was analysed using SPSS version 21.0. Description analyses were used to measure the popularity of public climbing equipment among children twelve years old and below in Malaysia. Descriptive analyses also were carried out to measure the satisfaction level of public user towards the existing public climbing equipment, and level of acknowledgement of propose safety perception on improving safety level of particular equipment.

Result And Discussion

The main purpose of this pilot study was to investigate and verified whether climbing equipment is of the popular public playground equipment that accounted for most of the injury among children. The study found that the respondents (N=50), majority of parents (40%) and guardians (60%) to children under twelve years were between 18 to 25 years old (58%), followed by 26 to 35 years old (32%) while the remaining were between 36 to 45 years old (10%) (Table 1). In terms of monthly personal income, the result showed that most of the respondents earned RM1,500 to RM3,999 per month (44%) followed by less than RM1,499 per month (40%), while RM4,000 to RM6,999 (14%) and RM7,000 and above (2%). This pilot study covered response almost from all states and cities in Malaysia. Majority of respondents are from Kuala Lumpur (26%), Selangor (14%), Perak (12%) and Negeri Sembilan (10%); living in terrace house (52%). The sample of the this pilot study showed that parents nowadays prefer to have small number of children; 1 children (68%), 2 children (20%) and 3 children (10%) (Table 1).

The result showed that the children (N=69), who were majority between 3 to 7 years old, were quite balanced with the number of males (48.3%) and females (51.7%) fairly equal (Table 2). The pilot study also tended to investigate the pattern of public playground usage. 44 percent of parents or guardians usually brought their children visit to a public playground once a week while 26 percent visit in once a month. Normally they spent about half an hour to one hour in the playground (Table 3). As table 4 shows, the majority of children liked to play in area installed with play equipments (82%) spending about half an hour to one hour rather than in open space (18%). Swing (25.2%), see-saw (18.7%), slide (18%) and spring rider (15.1%) seems to be the favourite equipments of children according to their parents and guardians. On the other hand, horizontal ladder (10.8%), climbing equipment (10.1%) and outdoor gym (2.2%) which involves intense play show unfavourable response.

In relation to satisfaction on Malaysia public playground safety regulation and maintenance on public climbing equipment, the findings showed that approximately half of the respondents agree that both were ineffective. The study also showed majority of the parents are not satisfied with the existing standard on falls prevention. When respondents were asked whether climbing equipment is one of the most popular equipment among children, over half of the respondents agree with it. From this study and also findings from Bourke & Sargisson, (2014), Cassell & Clapperton, (2014) and Mcdonald, (2001), public climbing equipment caused the most injuries among children but they are still very prevalent among children. The overall mean value of satisfaction level is 2.45 (Table 5). The results showed that majority of parents (90%) have low satisfaction level on public climbing equipment. (Table 6)

In terms of safety perception, majority of respondents (92%) agreed that by applying playground shade, reduce height, improve material and focus on reducing falls can improve the safety level of public climbing equipment (Table 7 & 8). The result reported that height and material of climbing equipment has strong impact on risk of children injuries. Falls from public climbing equipment need to be reduced in order to retrieve the confidence of playground user. When parents and guardians were asked for suggestion on improving safety features of climbing equipment, most of them suggest lowering the free fall height of climbing equipment. Some pointed that material used to produce public climbing equipment need to improve and some even mentioned that surface material under climbing equipment is not efficient yet in absorbing shock.

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Table 1: Profile of respondents (N=50)

Age group		**18 – 25**	**26 – 35**	**36 – 45**		
Variables	**Description**	**No. (%)**	**No. (%)**	**No. (%)**		**Total**
Relationship	Parent	3(6)	12(24)	5(10)	20(40)	
	Guardian	26(52)	4(8)	-	30(60)	
Monthly personal Income	Less than RM1,499	19(38)	1(2)	-	20(40)	
	RM1,500 – RM3,999	9(18)	12(24)	1(2)	22(44)	
	RM4,000 – RM6,999	-	3(6)	4(8)	1(14)	
	RM7,000 and above	1(2)	-	-	1(2)	
State/City	Perlis	1(2)	-	-	1(2)	
	Kedah	3(6)	-	-	3(6)	
	Penang	2(4)	-	-	2(4)	
	Kelantan	2(4)	1(2)	-	3(6)	
	Terengganu	-	1(2)	-	1(2)	
	Perak	5(10)	1(2)	-	6(12)	
	Pahang	2(4)	-	-	2(4)	
	Selangor	4(8)	3(6)	-	7(14)	
	Kuala Lumpur	3(6)	5(10)	5(10)	13(26)	
	Putrajaya	-	1(2)	-	1(2)	
	Negeri Sembilan	1(2)	4(8)	-		5(10)
	Malacca	2(4)	-	-		2(4)
	Johor Bahru	3(6)	-	-	3(6)	
	Sarawak	1(2)	-	-		1(2)
Housing Type	Apartment	3(6)	2(4)	3(6)	8(16)	
	Condominium	-	1(2)	1(2)	2(4)	
	Bungalow	10(20)	1(2)	-	11(22)	
	Terrace house	15(30)	10(20)	1(2)	26(52)	
	Semi-detached	1(2)	2(4)	-	3(6)	
Number of children	One children	22(44)	9(18)	3(6)		34(68)
	Two children	1(2)	7(14)	2(4)	10(20)	
	Three children	5(10)	-	-	5(10)	
	None	1(2)	-	-	1(2)	
Total		29(58)	16(32)	5(10)	50(100)	

Table 2: Children's age and gender (N=69)

Gender		**Male**	**Female**		
Variables	**Description**	**No. (%)**	**No. (%)**		**Total**
Age	1 year old	1(1.4)	-		1(1.4)
	2 years old	1(1.4)	4(5.8)	5(7.2)	
	3 years old	5(7.2)	6(8.7)	11(15.9)	
	4 years old	2(2.9)	9(13)	11(15.9)	
	5 years old	5(7.2)	4(5.8)	9(13)	
	6 years old	9(13)	8(11.6)	17(24.6)	
	7 years old	8(11.6)	1(1.4)	9(13)	
	8 years old	-	1(1.4)	1(1.4)	
	9 years old	-	1(1.4)	1(1.4)	

	10 years old	2(2.9)	-	2(2.9)
	12 years old	1(1.4)	1(1.4)	2(2.9)
Total		34(49.3)	35(50.7)	69(100)

Table 3: Frequency of visit to public playground (N=50)

Frequency		**I**	**II**	**III**		
Variables	**Description**	**No. (%)**	**No. (%)**	**No. (%)**		**Total**
Time spend	Two to four times a week	1(2)	8(16)	5(10)	14(28)	
	Once a week	5(10)	16(32)	1(2)	22(44)	
	Once a month	4(8)	6(12)	3(6)	13(26)	
	Other	-	1(2)	-	1(2)	
Total		10(20)	31(62)	9(18)	50(100)	

Note: I = Less than 30 minutes II =Half an hour to one hour III = One hour to two hours

Table 4: Children's preference in play (N=50)

Time spend		**I**	**II**	**III**		
Variables	**Description**	**No. (%)**	**No. (%)**	**No. (%)**		**Total**
Favourite play area	Area with equipment	10(20)	25(50)	6(12)	41(82)	
	Open space	-	6(12)	3(6)	9(18)	
Favourite equipment	Climber	2(4)	8(16)	4(8)	14(28)	
	See-saw	4(8)	20(40)	2(4)	26(52)	
	Swing	8(16)	20(40)	7(14)	35(70)	
	Horizontal ladder	2(4)	8(16)	5(10)	15(30)	
	Spring rider	6(12)	13(26)	2(4)	21(42)	
	Outdoor gym	-	3(6)	-	3(6)	
	Slide	4(8)	15(30)	6(12)	25(50)	
	Other	-	-	1(2)	1(2)	
Total		10(20)	31(62)	9(18)	50(100)	

Note: I = Less than 30 minutes II =Half an hour to one hour III = One hour to two hours

Table 5: Level of satisfaction on climbing equipment (N=50)

Level of satisfaction	I	II	III	IV	V	Mean($\overline{X}$)	Std. Deviation(σ)
Low popularity	3	20	18	6	3	2.72	0.970
Effective safety regulation & maintenance	5	21	20	3	1	2.48	0.839
Caused less injury		6	25	14	5	0	2.36	0.827
Effective standard on falls prevention	6	27	15	2	0	2.26	0.723
Overall mean value = 2.45							

Note: I = Strongly disagree II = Disagree III = Fairly agree IV = Agree V = Strongly agree

Table 6: Level of Satisfaction (N=50)

	Frequency (No.)	Percent (%)
Low satisfaction ($\overline{X}$ = 1-3)	45	90.0
High satisfaction ($\overline{X}$ = 3.01-5)	5	10.0
Total	50	100.0

Table 7: Safety perception on improving climbing equipment (N=50)

Safety Perception	I	II	III	IV	V	Mean($\overline{X}$)	Std. Deviation(σ)
Playground shade	2	2	13	25	8	3.70	0.931
Reduce height	3	1	4	27	15	4.00	1.010
Improve material	4	4	11	22	9	3.56	1.128
Reduce falls	1	1	6	26	16	4.10	0.839
Overall mean value = 3.84							

Note: I = Strongly disagree II = Disagree III = Fairly agree IV = Agree V = Strongly agree

Table 8: Safety Perception (N=50)

Safety perception	Frequency (No.)	Percent (%)
Positive (+ve)	46	8.0
Negative (-ve)	4	92.0
Total	50	100.0

Conclusion

In conclusion, we can assume that children like to use climbing equipment a lot but their parents might not allowed them using it due to low confidence level on safety. Overall satisfaction level of parents on public climbing equipment was relatively low. Majority of respondents agreed by applying playground shade, reduce height, improve material and focus on reducing falls injuries can improve the safety level of public climbing equipment. This study also showed

significance to our society, nation and economy since the non-stop increasing injuries cases of children caused by unsafe playground equipment may lead to the decreasing time of children spend playing outdoors. The result of this study appealed to all concerned parties to improve the safety level of existing public climbing equipment. The result also can be applied in the design process of future design. Designers will obtain benefit by gaining information that might help them in improving safety features of equipment. Thus, children injuries in public playground can be reduced or controlled effectively.

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MODEL PENERIMAAN DIGITAL DALAM KALANGAN GURU DI MALAYSIA

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Abstract :*Informasi dan ilmu pengetahuan telah disampaikan dalam pelbagai medium. Seiring dengan perkembangan teknologi, pemindahan informasi telah mengalami perubahan format dan peralatan. Format digital yang digunakan dalam dunia penyiaran telah mempengaruhi dunia pendidikan yang mempunyai kaedah dan teknik yang pelbagai. Bermula dengan buku teks, kertas soalan dan nota yang berbentuk fizikal dalam kertas, beransur-ansur digantikan menjadi versi digital. Perubahan mekanisme dan dasar oleh kerajaan oleh Kementerian Pendidikan Malaysia (KPM) menerusi pengintegrasian Pembelajaran frog-VLE dalam pembelajaran harian adalah satu bentuk pembelajaran secara digital. Hal ini dapat dilihat menerusi pengenalan e-pembelajaran berfungsi bagai intranet, bilik darjah online dan ruang sosial untuk sekolah di bawah satu bumbung. Perubahan format ini membuka peluang kepada kemudahan akses informasi, terutamanya apabila guru dapat memuat naik bahan pembelajaran secara atas talian. Penggunaan dan perkongsian maklumat atas talian merupakan salah satu faktor yang mendorong pesatnya pertumbuhan ilmu pengetahuan dan teknologi. Justeru itu, terdapat keperluan untuk meramal penerimaan guru terhadap arus perkembangan digital dengan menggunakan model bersepadu UTAUT. Penerimaan guru terhadap digital akan menggambarkan penggunaan teknologi digital pada masa hadapan. Kajian ini dijangkakan menyumbang kepada pemahaman terhadap konsep dan kepentingan model UTAUT sebagai Model Penerimaan Digital dalam kalangan guru di Malaysia untuk menggunakan teknologi digital dalam proses pengajaran dan pembelajaran di sekolah pada masa hadapan.*

Keywords: Digital, Virtual Learning Environment, Penerimaan Guru dan Model UTAUT

Pengenalan

Perkembangan dunia digtal pada hari ini telah mempengaruhi institusi-institusi pendidikan di seluruh dunia dengan mengalihkan pembelajaran secara maya. Institusi pendidikan dan syarikat-syarikat gergasi dunia telah menumpukan usaha berterusan dengan menggunakan peruntukan kewangan yang besar untuk membangunkan program-program e-pembelajaran kepada pengguna. Di bawah Program 1BestariNet, penyediaan Pelantar Pelajaran Maya, VLE ataupun Virtual Learning Environment merangkumi buku teks digital serta pembekalan komputer riba Chromebook kepada sekolah-sekolah.Walau bagaimanapun, pada masa ini, institusi-institusi pendidikan di Malaysia, dengan kemudahan kewangan dan kepakaran yang terhad masih tidak dapat memenuhi sepenuhnya keperluan ini. Pengauditan yang dijalankan oleh Audit Negara Malaysia antara bulan Oktober 2013 hingga April 2014, mendapati

1BestariNet belum mencapai objektif sepenuhnya iaitu tahap penggunaan VLE oleh guru, murid dan ibu bapa berada pada tahap sangat rendah iaitu hanya 0.01% hingga 4.69% (Kewangan, 2014). Menerusi kaji selidik yang dijalankan oleh Kementerian Pendidikan Malaysia pada tahun 2010 juga mendapati bahawa penggunaan ICT di sekolah-sekolah seluruh negara didapati terhad. Terdapat kira-kira 80% daripada guru-guru di Malaysia menggunakan ICT kurang daripada satu jam setiap minggu. Manakala hanya satu pertiga daripada pelajar menyatakan guru mereka kerap menggunakan ICT (KPM, 2013). Kementerian Pelajaran Malaysia (2012) dalam laporan awal Pelajaran Malaysia Rangka Tindakan 2013-2025 menyatakan bahawa tidak ada bukti yang menunjukkan ICT yang digunakan dapat menggalakkan kemahiran seperti kreativiti, penyelesaian masalah dan pemikiran kritikal. Fenomena penggunaan TMK pada kadar yang perlahan dalam kalangan guru ini tidak selaras dengan hasrat kerajaan yang ingin menjadikan perantaraan dunia digital sebagai alat untuk meningkatkan keberkesanan pengurusan sekolah serta pengajaran dan pembelajaran secara interaktif pada masa hadapan.

Terdapat kemungkinan wujudnya masalah berkaitan teknologi dalam kalangan guru yang terlibat, iaitu guru mempunyai masalah untuk menerima teknologi digital sebagai kemudahan teknologi semasa mengajar. Maka, terdapat keperluan untuk menjelaskan fenomena ini, kerana guru-guru di Malaysia banyak didedahkan dengan peralatan-peralatan teknologi dan inovasi PdP abad ke-21. Terdapat pandangan daripada penyelidik-penyelidik seperti Motaghian, Hassanzadeh & Moghadam (2013) mendakwa kegagalan ini berpunca dari sudut faktor penerimaan teknologi. Penyelidik seperti Teo (2009) mendakwa guru berhadapan dengan banyak pembolehubah yang berinteraksi antara satu sama lain, sama ada memudahkan atau sebaliknya untuk menerima sesuatu teknologi. Walaupun kedua-dua guru dan pelajar adalah pengguna utama sistem Frog VLE, guru memainkan peranan yang paling penting dalam membentuk kejayaan atau kegagalan sistem (Motaghian, et al., 2013). Jika pengajar memutuskan untuk menjalankan semua atau sebahagian daripada aktiviti pengajaran mereka melalui sistem pembelajaran berasaskan web, pelajar tidak mempunyai pilihan selain menggunakan sistem (Motaghian, et al., 2013; W.-T. Wang & Wang, 2009). Manakala penyelidik seperti Agarwal & Prasad (1998) menyatakan masalah penerimaan teknologi ialah masalah utama (*key issue*) kepada organisasi yang melabur jumlah yang besar dalam bidang teknologi maklumat. Walaupun aliran penyelidikan semasa lebih berminat mengukur prestasi sebagai hasil utama penggunaan, faktor-faktor yang berkaitan penerimaan teknologi (misalnya, tindak balas dan niat) adalah relevan untuk memahami bagaimana persepsi mungkin menjejaskan prestasi individu (Davis et al., 2012). Walaupun penggunaan teknologi seperti VLE dan buku teks digital merupakan suatu pembaharuan yang dapat memperkayakan pengalaman pendidikan murid dan guru. Ia hanya boleh berjaya sekiranya sekolah dan guru menerima untuk melaksanakannya dengan betul. Justeru berdasarkan sorotan literatur, kajian bertujuan membina satu model konseptual berkenaan penerimaan guru terhadap pendigitalan sebagai medium PdP. Hal ini dilakukan dengan memeriksa hubungan teori *Unified Theory of Acceptance and Use of Technology* (*UTAUT*). Teori ini dijangkakan dapat membantu kelompangan peramalan mengenai penerimaan pendigitalan guru untuk meneruskan penggunaan Frog VLE pada masa hadapan.

Sorotan Literatur

Sistem Virtual Learning Environment (VLE)

Sistem pembelajaran maya adalah sistem maklumat yang memudahkan e-pembelajaran telah dilaksanakan secara meluas oleh institusi pendidikan untuk menyokong pengajaran *face to face* dan secara belajar secara kendiri dalam pembelajaran maya (Lin, 2012). Realiti maya membolehkan persekitaran pembelajaran di ruang siber menjadi serba boleh berbanding bilik

darjah tradisional "kapur dan papan hitam". Dalam pembelajaran yang berlaku, individu membuat pertukaran interaksi teknologi sama ada dengan individu lain atau dengan apa sahaja sistem / perisian yang digunakan; permohonan realiti maya dalam pendidikan adalah lompatan besar daripada kaedah pengajaran selepas multimedia, komputer, dan Internet (Jou & Wang, 2013). Dengan mengamalkan VLE, pelajar dijangka meningkatkan pembelajaran dengan mendapatkan akses kepada maklumat kursus yang berkaitan dan mempunyai peluang sepenuhnya untuk berinteraksi dengan pengajar dan rakan-rakan dalam VLE (Lin, 2012). Dalam kajian penyelidik seperti Jou & Wang (2013), melaporkan bahawa selepas menilai kemahiran teknikal yang telah dibangunkan untuk tempoh masa satu semester, pelajar-pelajar telah menyatakan bahawa VLE menjadi kaedah yang berkesan apabila mempertimbangkan tiga dimensi "operasi mesin", "pemilihan proses parameter", dan "perancangan proses". Penemuan itu membuktikan manfaat VLE kepada prestasi pembelajaran pelajar.

Unified Theory Of Acceptance And Use Of Technology (UTAUT)

UTAUT (*Unified Theory of Acceptance and Use of Technology*) adalah sebuah model penerimaan teknologi yang terkini. Model ini telah dibangunkan oleh (Venkatesh, Morris, & Davis, 2003). Model ini dibina berdasarkan kepada lapan buah model penerimaan teknologi yang terdahulu (Venkatesh et al., 2003). Model ini dibina berdasarkan persamaan pembolehubah-pembolehubah yang terdapat pada model-model terdahulu berdasarkan teori-teori psikologi. Pembolehubah tersebut adalah seperti berikut:

Pengharapan Terhadap Prestasi (Performance Expectancy)

Tahap kepercayaan individu mengenai penggunaan sistem akan membantu untuk mendapat kesenangan dan kemudahan dalam menyudahkan tugasannya (Venkatesh et al., 2003). Pembolehubah ini dibina berdasarkan pembolehubah-pembolehubah yang terdapat dalam teori-teori terdahulu iaitu *perceived use*fullness (TAM dan C-TAM-TPB), *extrinsic motivation* (MM), *job-fit* (MPCU) *relative advantage* (IDT) dan *outcome expectation* (SCT). Pembolehubah ini mempunyai dua penyederhana iaitu jantina dan umur. Melalui kajian yang telah dijalankan Venkatesh, et al., (2003) merumuskan bahawa pengaruhnya lebih kuat terhadap lelaki dan pekerja yang lebih muda.

Pengharapan Terhadap Usaha (Effort Expectancy)

Venkatesh et al., 2003 mendefinisikan sebagai tahap kemudahan berkaitan dengan penggunaan sistem. Pemboleh ubah ini juga dibina berdasarkan pembolehubah-pembolehubah yang terdapat dalam teori-teori terdahulu iaitu *perceived ease of use* (TAM/TAM2), *complexity* (MPCU) dan *ease of use* (IDT) (Venkatesh et al., 2003). Pembolehubah ini dirumuskan sebagai mempunyai hubungan dengan pembolehubah bersandar iaitu niat untuk menggunakan (*behavioral intention*). Pembolehubah ini mempunyai tiga pembolehubah penyederhana iaitu jantina, umur dan pengalaman. Melalui kajian yang telah dilakukan (Venkatesh et al., 2003) merumuskan bahawa pengaruhnya lebih kuat terhadap perempuan terutamanya yang lebih tua dan pengguna yang kurang pengalaman dalam menggunakan internet. (Venkatesh et al., 2003) juga mencadangkan bahawa pembolehubah *effort expectancy* hanya signifikan pada awal perlaksanaan teknologi tertentu. Pembolehubah ini tidak lagi signifikan apabila pengguna telah lama dan sudah biasa menggunakan teknologi tersebut.

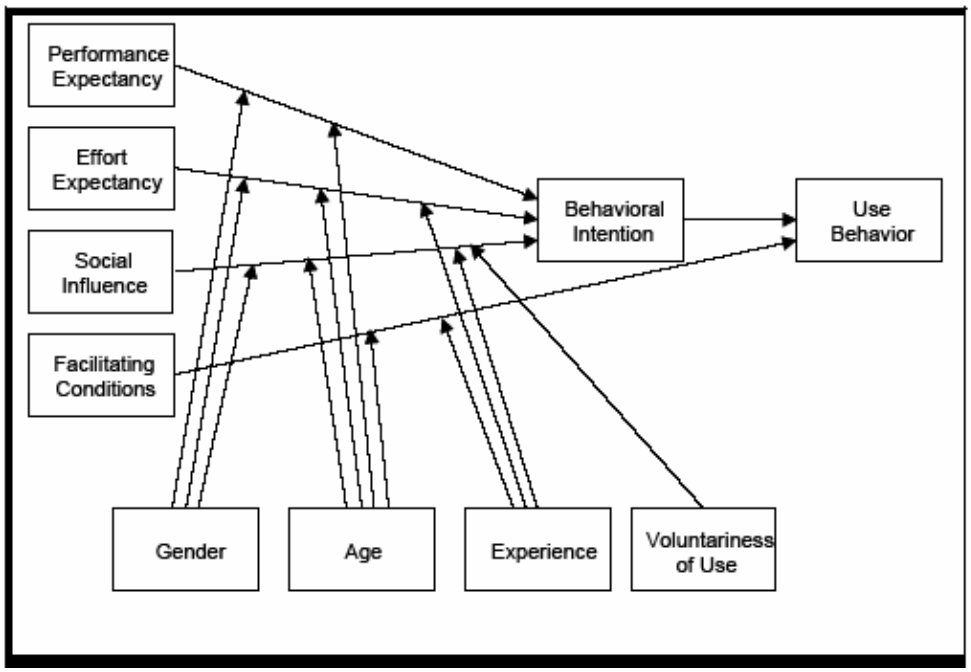
Pengaruh Sosial (Social Influence)

Suatu tahap individu merasakan orang-orang yang penting baginya percaya bahawa dia perlu menggunakan sistem yang baharu (Venkatesh et al., 2003). Konsepnya adalah sama dengan

norma subjektif dalam teori gelagat terancang (TPB) yang mendakwa bahawa yang lebih baik pengaruh sosial, semakin kuat niat individu untuk melaksanakan sesuatu. Pembolehubah ini dibina berdasarkan pembolehubah-pembolehubah yang terdapat dalam teori-teori lepas iaitu, *subjective norm*, (TRA, TAM2, TPB dan C-TAM-TPB), social factor (MPCU) dan image (IDT) (Venkatesh et al., 2003). Pembolehubah ini mempunyai empat pembolehubah penyederhana iaitu jantina, umur, pengalaman dan kesukarelaan. Pembolehubah *social influence* hanya signifikan pada awal perlaksanaan sesuatu teknologi. Tahap signifikan akan berkurangan sedikit demi sedikit selari dengan pertambahan masa dan keterbiasaan menggunakan teknologi tertentu (Venkatesh et al., 2003). Peningkatan hubungan boleh mempengaruhi keputusan untuk menggunakan sesuatu sistem. Kajian telah menunjukkan bahawa pengaruh sosial atau norma subjektif adalah peramal yang signifikan terhadap niat untuk menggunakan sistem. (Chiu & Wang, 2008; Yang, Lu, Gupta, Cao, & Zhang, 2012).

Kemudahan Prasarana (Facilitating Condition)

Tahap kepercayaan seorang individu terhadap kemudahan infrastruktur dan organisasi yang menyokong penggunaan sistem (Venkatesh et al., 2003). Pembolehubah ini dibina berdasarkan pembolehubah-pembolehubah yang terdapat dalam teori-teori terdahulu iaitu *perceived behavioral control* (TPB,C-TAM-TPB), *facilitating condition* (MPCU) dan *compatibility* (IDT). UTAUT mencadangkan bahawa *facilitating condition* tidak signifikan dalam meramalkan niat (behavioral intention) apabila *performance expectancy* dan *effort expectancy* wujud bersama (Venkatesh et al., 2003). Pembolehubah ini dirumuskan mempunyai hubungan secara langsung dengan pembolehubah tingkahlaku (behavior) dan mempunyai pembolehubah penyederhana umur dan pengalaman (Venkatesh et al., 2003). Faktor-faktor dan sumber-sumber yang wujud membuatkan individu percaya ia dapat menyokong aktiviti-aktiviti dikenali sebagai "keadaan kemudahan" (Chiu & Wang, 2008). Kajian sebelum ini telah menekankan peranan keadaan kemudahan terhadap niat untuk menggunakan (Chang & Cheung, 2001; Chiu & Wang, 2008; Teo, 2011).

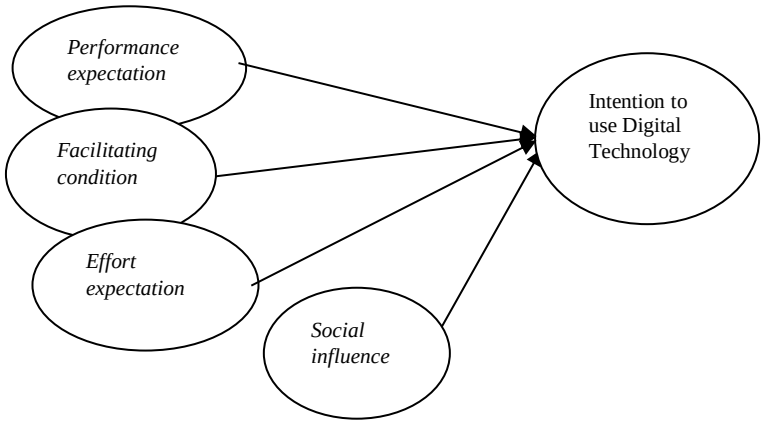


Gambarajah 0-1 : Model UTAUT , Sumber (Venkatesh et. al 2003)

Walaupun model UTAUT ini mempunyai kekuatan meramal niat menggunakan teknologi sebanyak 70%, namun Venkatesh et. al (2003) telah menyarankan supaya lebih ramai para penyelidik melakukan penambahbaikan dan eksplorasi untuk menentukan pembolehubah baru untuk meningkatkan lagi kuasa meramal niat dan penggunaan sesuatu teknologi. Penyelidik seperti Straub (2009) pula menegaskan bahawa model UTAUT masih lagi baru dan masih kurang digunakan sejak dibina pada 2003. Kajian-kajian seterusnya sangat perlu dijalankan untuk menguji kesahannya. Model UTAUT menyumbang 70% daripada varians dalam niat penggunaan berbanding dengan model penerimaan yang lain (I Gusti Nyoman Sedana, 2010). Meskipun begitu terdapat kritikan terhadap UTAUT dengan Van Raaij & Schepers (2008), mendakwa model UTAUT mempunyai struktur model yang agak kompleks (*less parsimonious*) jika dibandingkan dengan teori TAM. Ini kerana Model UTAUT akan mempunyai tahap penjelasan sehingga 70% hanya jika disertakan dengan pembolehubah penyederhananya iaitu jantina, umur, pengalaman dan kesukarelaan (Van Raaij & Schepers, 2008). Sejak UTAUT mula digunakan tahun 2003, penyelidik telah semakin beralih kepada menguji UTAUT untuk menjelaskan penggunaan teknologi, termasuklah *e-learning* (Bakar, Razak, & Abdullah, 2013), *social media* (Gruzd, Staves, & Wilk, 2012) *on-line family dispute resolution services* (Casey & Wilson-Evered, 2012), *mobile banking* (Zhou, Lu, & Wang, 2010), *health information technology* (Kijsanayotin, Pannarunothai, & Speedie, 2009), *online purchasing* (San Martín & Herrero, 2012), *mobile commerce* (Chong, 2013; Min, Ji, & Qu, 2008) *information kiosks* (Y.-S. Wang & Shih, 2009), *e-government* (Weerakkody, El-Haddadeh, Al-Sobhi, Shareef, & Dwivedi, 2013), *mobile wallet* (Shin, 2009). Rumusannya, model UTAUT mengintegrasikan teori-teori yang sudah mantap dalam penyelidikan mengenai penerimaan individu berkaitan teknologi maklumat. Model UTAUT mengandungi empat teras penentu penggunaan niat dalam teknologi (Venkatesh et al., 2003), iaitu pengharapan terhadap prestasi (*performance expectation*), pengharapan terhadap usaha (*effort expectation*), pengaruh sosial (s*ocial influence*) dan keadaan kemudahan (f*acilitating condition*). Model UTAUT asalnya dibina untuk menguji penerimaan teknologi dalam persekitaran organisasi (Venkatesh et. al, 2003). Walau begitu terdapat kecenderungan menggunakan model UTAUT untuk mengukur tahap penerimaan teknologi dalam bidang pendidikan seperti dilakukan oleh penyelidik seperti Teo (2011), Shin et al. (2011) dan Liao, Yu & Yi (2011).

Pembinaan Kerangka Konseptual

Walaupun UTAUT terpakai kepada pelbagai teknologi, pembolehubah UTAUT boleh diperluaskan dengan menggabungkan faktor-faktor tambahan. Faktor-faktor tambahan ini bergantung kepada teknologi sasaran, pengguna dan konteks (Motaghian, et al., 2013; Shyu & Huang, 2011). Penggunaan model UTAUT dalam model kajian ini dijangka memberi kelebihan dalam menilai persepsi guru terhadap era pendigitalan dalam dunia pendidikan.



Gambarajah 1-2: Kerangka Konseptual

Implikasi Kajian

Kajian ini dijangkakan menyumbang kepada pemahaman konsep penerimaan pendigitalan dalam pengajaran dan pembelajaran (PdP) dalam kalangan guru di seluruh negara. Secara literaturnya, penggunaan model UTAUT dijangka memberi kelebihan dalam menilai penerimaan guru terhadap teknologi digital seperti FrogVLE yang melibatkan pengajaran termasuk keadaan pembelajaran semasa yang bersifat inovasi menerusi gaya pembelajaran maya. Menerusi kajian yang akan dijalankan, masalah kepenggunaan rendah yang sering berlaku dalam kalangan pengguna digital pendidikan khususnya dalam kalangan guru dapat diramalkan dengan menggunakan model UTAUT. Hal ini dapat membantu pihak pemegang taruh seperti KPM untuk membuat persediaan dalam merangka strategi-strategi yang lebih dinamik untuk meneruskan penggunaan peralatan digital di sekolah pada masa hadapan. Pada keseluruhannya, model UTAUT dijangka dapat membantu dalam memberi penjelasan yang lebih mendalam, khususnya dalam membangunkan Model Penerimaan Digital Guru di Malaysia yang akhirnya mampu memberi penyelesaian yang menyeluruh terhadap permasalahan dan isu-isu berkaitan dengan penggunaan digital dalam kalangan guru-guru di seluruh negara.

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PERANAN PENGALAMAN LEPAS SEBAGAI FAKTOR PENYERDAHANADI ANTARA NIAT DAN TINGKAH LAKU DALAM PEMBELIAN PRODUK TIRUAN DI KALANGAN PENGGUNA DI MALAYSIA

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Abstrak: *Produk tiruan merupakan produk perniagaan yang menyerupai dengan produk asli atau produk yang sukar untuk dibezakan dari tanda dagangan yang berdaftar dan ia melanggar hak-hak pemilik tanda dagangan. Penyelidikan terdahulu mengenai produk tiruan lebih memberi tumpuan kepada pengawalan bekalan produk tiruan, kesan ekonomi akibat penjualan produk tiruan dan implikasi undang-undang terhadap penghasilan produk tiruan. Walau bagaimanapun, usaha untuk mengawal bekalan produk tiruan tidak berjaya. Disebabkan pengguna membeli dan menggunakan produk tiruan, apa yang lebih penting adalah untuk mengkaji faktor-faktor yang menyumbang kepada keputusan pengguna untuk membeli produk tiruan. Kajian ini mengkaji perhubungan di antara faktor penyerdahana pengalaman lepas terhadap niat dan tingkah laku pembelian produk tiruan. Kajian ini melibatkan seramai 392 responden di sekitar Kuala Lumpur, Pulau Pinang dan Johor Baharu yang mempunyai pengalaman membeli produk tiruan. Analisis menunjukkan kewujudan hubungan positif di antara niat dan tingkah laku pembelian produk tiruan. manakala pengalaman lepas menyederhanakan hubungan antara niat dan tingkah laku pembelian produk tiruan. Kajian ini juga menekankan implikasi penyelidikan, limitasi dan cadangan penyelidikan pada masa hadapan.*

Kata Kunci*: Produk Tiruan, Niat Pembelian, Pengalaman Lepas*

Pengenalan

Isu peniruan produk atau lambakan produk tiruan bukan merupakan satu fenomena baru di Malaysia malah pasaran produk ini meliputi sekurang-kurangnya lima peratus daripada perdagangan dunia (Carpenter & Lear, 2011). Kajian mendapati bahawa nilai produk tiruan yang dipasarkan bagi setiap tahun di dunia mencecah USD $ 2 trilion pada 2010 (Turunen & Laaksonen, 2011). Kajian yang dijalankan oleh Chaudary, Ahmed, Gill dan Rizwan (2014), telah membuktikan bahawa penjualan produk tiruan telah memberi kesan negatif kepada ekonomi dunia. Malah, menurut Agarwal dan Panwar (2016), aktiviti peniruan telah memberi impak yang besar kepada ekonomi dan kutipan cukai kepada negara yang terlibat. Selain daripada itu ia dilihat di peringkat global sebagai perbuatan jenayah malah setanding dengan jenayah pengedaran dadah, penyeludupan senjata api, penyeludupan manusia dan aktiviti pengganas (Turunen & Laaksonen,

2011), pelbagai strategi anti-tiruan telah dilaksanakan di seluruh dunia untuk melindungi industri daripada menjadi mangsa peniruan produk (Bian, Wang, Smith & Yannopoulou, 2016) dan tindakan telah diambil untuk mencegah peniruan, namun realitinya gejala peniruan terus berkembang pesat di pasaran global (Chiu et al., 2014, Wilson, 2016).

Dalam konteks Malaysia, Haque, Khatibi dan Rahman (2009) mendapati bahawa Malaysia dikenali di mata dunia sebagai salah satu negara yang terkenal dengan cetak rompak walaupun undang-undang anti peniruan bertujuan untuk melindungi produk asli tetapi bilangan produk tiruan kian bertambah dan menguasai pasaran (Ng & Choy, 2012). Pihak kerajaan Malaysia dengan kerjasama pengeluar asli dan media tempatan, berusaha mendekati pengguna untuk mendidik dan meningkatkan tahap kesedaran tentang keburukan membeli produk tiruan. Walaupun pelbagai langkah diambil untuk menyedarkan pengguna, adalah tidak diketahui sejauh mana kumpulan pengguna ini melihat isu-isu tersebut. Apakah faktor-faktor yang sebenarnya menjadi pendorong untuk membuat pembelian produk tiruan?

Ulasan Karya

Sebagaimana yang dilaporkan oleh Sheeran et al. (2016), terdapat jurang antara niat dan tingkah laku sebenar, di mana pengguna menunjukkan niat yang positif untuk bertindak tetapi hakikatnya mereka tidak melaksanakan tingkah laku tersebut. Jurang antara pemboleh ubah bebas, iaitu niat dan pemboleh ubah bersandar, iaitu tingkah laku sebenar, menunjukkan bukti bahawa pemboleh ubah ketiga yang dikenali sebagai pemboleh ubah penyederhana boleh mempengaruhi arah dan/atau kekuatan hubungan antara niat dan tingkah laku sebenar (Hernández, Jiménez & Martín, 2010).

Pengalaman lepas dalam Teori Tingkahlaku Terancang telah dijelaskan dalam banyak kajian termasuk kajian tingkah laku oleh Hsieh et al. (2016) dan Gabisch (2011). Beberapa kajian telah mendapati bahawa pengalaman lepas mempengaruhi kedua-dua niat dan tingkah laku sebenar (Ajzen, 1991; Conner & Armitage, 2010). Begitu juga, Pomery et al. (2009) menyatakan bahawa pengalaman lepas adalah lebih ketara mempengaruhi hubungan antara niat dan tingkah laku sebenar. Taylor dan Todd (2015) melaporkan bahawa terdapat hubungan positif antara niat dan tingkah laku penerimaan teknologi bagi pengguna yang berpengalaman. Kajian oleh Norman dan Conner (2006) juga membuktikan bahawa pengalaman lepas berperanan sebagai faktor yang menyederhanakan hubungan antara niat dan tingkah laku minum minuman keras. Carrington, Neville dan Whitwell (2010) dan Cronan dan Al-Rafee (2008) mencadangkan agar penyelidikan mengenai pengalaman lepas perlu digalakkan dalam konteks yang lain contohnya apabila melibatkan tingkah laku yang tidak beretika

Walau bagaimanapun, terdapat percanggahan hasil dapatan yang dilaporkan mengenai kesan pengalaman lepas ke atas hubungan di antara niat dan tingkah laku sebenar. Contohnya, dapatan kajian daripada pilihan kaedah perjalanan di mana hubungan antara niat dan tingkah laku sebenar adalah rendah apabila tingkah laku itu telah kerap dilakukan pada masa lalu (Verplanken et al., 2007). Kesan yang sama berlaku dalam kajian Conner dan McMillan (2009), dan Fekadu dan Kraft (2010), di mana hubungan antara keyakinan diri dan niat akan lebih tinggi jika individu melakukannya secara kurang kerap. Dalam erti kata lain, keyakinan diri adalah peramal yang kuat bagi niat tingkah laku pada tahap pengalaman lepas yang sedikit.

Daripada penerangan di atas, dapat dibuat kesimpulan bahawa kesan pengalaman lepas sebagai faktor penyederhana di antara niat dan tingkah laku seolah-olah tidak konsisten. Dengan kata lain, boleh dikatakan bahawa kesan pengalaman lepas sebagai penyederhana tidak boleh digeneralisasikan kepada semua tingkah laku. Secara relatifnya, terdapat sedikit penyelidikan yang

mengkaji pengalaman lepas sebagai penyederhana yang mungkin akan membantu untuk merapatkan jurang antara niat dan tingkah laku sebenar (Verplanken et al., 2007). Atas hujahan yang dinyatakan diatas, hubungan di antara pengalaman lepas, niat dan tingkah laku pembelian produk tiruan dihipotesiskan sebagai:

Hypothesis 2: Pengalaman lepas menyederhanakan hubungan di antara niat dan tingkah laku pembelian produk tiruan.

Metodologi

Kajian ini merupakan kajian rentas (*cross-sectional)* di mana data dikumpulkan sekali sahaja untuk menjawab soalan-soalan kajian. Unit analisis kajian ini ialah individu pengguna di Malaysia yang berumur 18 tahun ke atas. Dalam kajian ini, soal selidik dijawab dengan memintas *(intercepting)* pengguna di lokasi yang dikenali sebagai kawasan tumpuan yang menjual barangan tiruan seperti di Petaling Street (Kuala Lumpur), Holiday Plaza (Johor Bharu)dan Batu Feringgi (Pulau Pinang) **(**http://deconsumer.blogspot.com/2013/07/barangan-tiruan-bermaharajalela-di.html; dan http://kpdnkk.bernama). Kaedah yang sama yang digunakan oleh Sahin dan Atilgan (2011) di Turki dan Amran et al. (2012) di Malaysia. Untuk mengelak kemungkinan berlakunya *bias* dalam pemilihan responden, kajian ini dijalankan serentak dalam tempoh empat hari yang termasuk dua hari hujung minggu dan dua hari bekerja iaitu selama satu bulan mengikut waktu beroperasi di kawasan tumpuan menjual produk tiruan yang di kenal pasti (Petaling Street, Batu Feringgi dan Holiday Plaza) dan melibatkan enam orang pembantu penyelidik. Kajian ini menggunakan rekabentuk persampelan strata tidak berkadaran *(disproportionate stratified sampling).* Kadar maklum balas sebanyak 69 peratus(480) dari jumlah keseluruhan soal selidik yang diedarkan(700) dan dari jumlah maklum balas hanya 392 maklumbalas yang boleh digunakan untuk analisis seterusnya.

Semua item bagi dimensi sikap, niat dan tingkah laku diukur dengan menggunakan lima mata skala *Likert* dari 1 = sangat tidak setuju kepada 5 = sangat setuju. Secara umumnya tingkah laku pembelian produk tiruan ditanya secara umum berkaitan dengan pembelian produk tiruan tanpa ada pengkhususan berkaitan kategori produk, keadaan dan jenis produk tiruan. Pengukur tingkah laku pembelian dalam kajian ini adalah berdasarkan kajian Wang et al. (2005), dengan mengubah-suai istilah untuk disesuaikan dalam konteks kajian ini. Empat item yang berkaitan dengan tingkah laku pembelian produk tiruan yang digunakan dalam kajian ini.

Armitage dan Conner (2010) menyatakan bahawa niat diukur dari segi jangkaan dan dinilai dari segi apa yang dihasratkan, dijangka dan dikehendaki. Niat pengguna diukur dengan menggunakan item yang dibangunkan oleh Riquelme dan Abbas (2012) dan Kim dan Karpova (2010).

Dalam kajian ini pengalaman lepas diandaikan sebagai pemboleh ubah penyederhana bagi hubungan antara niat dan tingkah laku pembelian produk tiruan. Terdapat tiga item yang diadaptasi daripada Ahmad, Yousif, Shabeer dan Imran (2014) digunakan untuk mengukur pengalaman lepas.

Analisa dan Dapatan Kajian

Daripada 392 maklumbalas, bilangan lelaki 204 (52%) dan responden yang berumur di antara 20 hingga 30 tahun (43.4%), 31-40 (25.3%), 41-50 (17.9%) dan 51 dan keatas(1.5%), lebig daripada separuh responden masih belum berkahwin(50.8%). Dari segi pencapaian akademik pula, responden yang mempunyai Sijil/Diploma mendominasikan dapatan kajian ini secara majoritinya

iaitu 44.1 peratus. Pendapatan di bawah RM 3000 merupakan kumpulan responden yang paling ramai iaitu menguasai 65.8 peratus dari keseluruhan responden. Ini adalah selari dengan data yang dikeluarkan oleh Unit Perancangan Ekonomi (1970-2014), menyatakan 40 peratus (40%) pendapatan kasar bulanan isi rumah di bawah RM 3000 (http://www.epu.gov.my/household-income-poverty).

Dari aspek pekerjaan, majoriti responden bekerja di sektor swasta iaitu 129 orang (32.9%), pelajar 111 orang (28%), bekerja di sektor kerajaan 99 orang (25.3%), bekerja sendiri 51 orang (13%) dan tidak bekerja 2 orang (5%). Sebagai rumusan perbincangan di atas, sampel kajian ini tidak menyimp. Justeru, sampel dianggap dapat mewakili populasi. Majoriti responden masih bujang(50.8%).

Jadual 1 Keputusan Ujian Kebolehpercayaan

Konstruk	**Nilai Kebolehpercayaan**	
	Alpha Cronbach	***CR (Composite Reliability)***
Niat	0.899	0.925
Sikap	0.874	0.905
Tingkahlaku	0.821	0.882

Nilai pekali *alpha Cronbach* dan kebolehpercayaan komposit yang diterima pakai dalam kajian ini adalah melebihi 0.5 seperti yang dicadangkan oleh George & Mallery (2010) dan Hair et al. (2013). Jadual 1 menunjukkan nilai melebihi 0.5 membuktikan item yang digunakan mempunyai nilai kebolehpercayaan yang tinggi.

Jadual 2 Keputusan Pekali Lintas Tingkah laku

No. Hipotesis	**Hipotesis**	**Pekali Lintas**	**Standard Error**	**Nilai T**	**Nilai P**	**Keputusan**
1	Niat -> TLaku	0.782	0.024	32.767	0.000	Menyokong
2	Moderating Effect 1 -> TLaku	0.071	0.035	2.031	0.043	Menyokong

p<0.05; **p<0.01; ***p<0.001

Keputusan menunjukkan bahawa niat (Niat) mempunyai hubungan positif dan signifikan dengan tingkah laku (TLaku) dengan nilai signifikan pada 0.00 pada tahap β=0.782; t=32.767; p<0.001. Manakala dapatan menunjukkan kesan langsung bagi lintasan hubungan PLepas-->TLaku berada pada arah negatif dengan menunjukkan nilai yang signifikan pada aras 0.05 (β= -0.057; t=1.920; p<0.05). Namun demikian, apabila kesan interaksi diuji pada lintasan Niat*PLepas--> TLaku, pekali pintasan berada pada arah positif dengan nilai yang signifikan pada aras 0.0043 (β= 0.071; t=2.031; p<0.05). Dapatan pekali lintasan bagi lintasan Niat*PLepas--> TLaku adalah konsisten dengan andaian hipotesis H_1 di mana pemboleh ubah pengalaman lepas (PLepas) menyederhanakan hubungan antara niat dan tingkah laku pembelian produk tiruan dengan arah positif.

Jadual 3 Ujian Kesan Pemboleh ubah Penyederhana Pengalaman Lepas

Nilai Pintasan Niat ---> TLaku	Bersama Pembolehubah PLepas	Tanpa Pembolehubah PLepas
t	32.767	38.233
β	0.782	0.798
R^2	0.678	0.669

Ia berdasarkan Jadual 3, perubahan nilai R^2 di mana nilainya meningkat apabila pemboleh ubah penyederhana (PLepas) diukur secara serentak bersama-sama pemboleh ubah yang lain. Dapatan analisa menunjukkan nilai R^2 bagi tingkah laku (TLaku) berubah dari R^2 0.669 kepada R^2 0.678. Manakala akibat penambahan pemboleh ubah penyederhana dalam model struktur telah melemahkan kekuatan hubungan (β) di antara niat dan tingkah laku. Hal ini dapat dilihat melalui penurunan nilai kekuatan hubungan iaitu daripada β=0.798 kepada β=0.782 apabila model struktur turut mengukur pemboleh ubah penyederhana.

Perbincangan

Hasil kajian memaparkan bahawa wujud kesan pengalaman lepas sebagai pemboleh ubah penyederhana. Dapatan ini menyamai kajian lalu yang mengupayakan pengalaman lepas sebagai penentu yang penting dalam konteks tingkah laku pembelian produk (Hernandez, Jimenez & Martin, 2010; Yeon Kim & Chung, 2011). Malah, Yoo dan Kee (2009) menunjukkan bahawa pembelian produk tiruan pada masa lalu mempunyai pengaruh yang positif terhadap pembelian produk tiruan. Peranan penghubung pengalaman lepas sebagai penyederhana menjelaskan secara signifikan lompang antara niat dengan tingkah laku. Ini bermakna, bergantung kepada kekuatan pengalaman lepas yang pengguna mungkin ada sewaktu membeli produk tiruan, tahap pengalaman mereka mungkin mengubah arah niat mereka yang rendah kepada tahap tingkah laku pembelian yang lebih tinggi. Ini merupakan dapatan kajian yang penting kerana ia mempunyai kesan positif terhadap perubahan arah pengguna yang mempunyai kekuatan niat yang rendah kepada tahap pembelian sebenar yang lebih tinggi. Satu penjelasan yang boleh diketengahkan tentang tingkah laku pembelian produk tiruan ialah pengguna berkemungkinan membina persepsi tertentu tentang prestasi produk tiruan berlandaskan pengalaman yang mereka himpun melalui pembelian produk tiruan pada masa lalu atau pengetahuan umum mereka berkenaan produk tiruan. Sekiranya pengguna berpengalaman dalam pembelian produk tiruan, mereka lebih yakin untuk menilai prestatsi produk tiruan yang mungkin sukar diperoleh sekiranya mereka tidak biasa dengan produk tiruan.

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THE NEEDS TO VALUE ARCHAEOLOGICAL HERITAGE SITES IN MALAYSIA

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Abstract: *Archaeological site is generally considered as society common heritage that carries with it significant values and benefits. Archaeological site, furthermore, has the ability to contribute to public understanding and appreciation of the past through heritage education and heritage tourism. Equally important is the management of the heritage site which also include aspects on visitor management. Such visitor management is crucial particularly for a new found archaeological site with significant findings. This paper aims to discuss the needs and importance of an economic valuation study on visitors to be conducted and addressed especially to a newly discovered site like the Sungai Batu Archaeological site in Kedah. The value is crucial in order to balance between protection of the site and tourism related activities. This paper then explores on how such economic valuation can be useful in decisions making that involve trade-offs and resources allocation, by providing a way to justify and set priorities for programs, policies, or actions that protect or restore archaeological sites and their services.*

Keywords*: Archaeological Site, Archaeotourism, Economic Valuation*

Introduction

The idea of heritage has been broadened to include both human and natural environments, architectural complexes and archaeological sites, and not only rural heritage and the countryside but also urban contexts. To understand further it is necessary to adopt a definition of heritage that is more precise in meaning, particularly for management purposes. The International Council for Monuments and Sites (ICOMOS) (http://www.icomos.org) defines heritage by dividing it into natural and cultural environments. The term "natural heritage" is used to describe gardens, landscapes, national parks, wilderness, mountains, rivers, islands, and flora and fauna. On the other hand, "cultural heritage" is defined as consisting of traditions or living expressions that are inherited from our ancestors and passed on to our descendants. Examples of living expression include oral traditions, performing arts, social practices, rituals, festive events, as well as knowledge and skills related to the production of traditional crafts. This definition is further specified into classifications of tangible and intangible elements which needs further elaboration on its own. This paper is intended to explore the discussion on the importance of archaeological site as one of the heritage dimensions.

Archaeological Sites as Public Goods

Archaeological site is generally considered as society common heritage that carries with it significant values and benefits. Archaeological site, furthermore, has the ability to contribute to public understanding and appreciation of the past through heritage education and heritage tourism (also known as archaeotourism). Some of the archaeological sites command high degree of popularity while some are not so fortunate and being abandon even by the society themselves. Archaeological sites, like any other cultural heritage goods or resources possess some characteristics of public goods which fulfil these two properties:

a) **Non-Excludable.**
That means no individuals can be effectively excluded from using the public goods. However, archaeological sites vary in their degree of excludability. Entry payment to the site is a mechanism to exclude some visitors. On the other hand, visiting historical city can be considered as a non-excludable activity as it is not practical to charge people.

b) **Non-Rivalry In Consumption.**
Where use by one individual does not reduce the availability of the good to others. On this property all of the visitors would be able to consume the good simultaneously without diminishing the value that each receives from the good. An archaeological site holds that two different people can consume it simultaneously as long as no event of congestion or crowding out.

In terms of provision, due to the inherent properties it holds, provision of public goods by private for-profit providers is far from sufficient and undersupplied and it is up to the government and not-for-profit organizations to do so. However, public sector faces limited resources and tradeoffs need to be made among competing objectives. Facing the constraint, the economics valuation can play the role in completing the cost benefit analysis framework and facilitating decision making by the policy makers. The notion of economics value is essential in understanding the framework.

Notions of Value in Archaeological Sites

Value suggests usefulness, importance and benefits. In business term, value is the monetary measure of the wellbeing associated with the change in the provision of some good or services. In other words, value refers to how much people value particular goods and services. In archaeological site, the notion of values can be looked from several perspectives. It can refer to how much a person gets from being able to consume the site. It can also refer to how much individuals and communities value their heritage (in this sense archaeological site). This value however, is not captured directly by commercial exchange of money since there is no specific market exists for such goods. Knowing the value of archaeology is also a useful way of understanding the aspects of archaeological conservation. As such, the value of archaeological site can be divided into two categories: sociocultural and economic values. The concentration of this paper is on the economic value.

Economic value is a way to define and measure value using economic analysis. Economic values are useful to consider when making economic choices. Choices that involve trade-offs in allocating resources. Measures of economic value, furthermore, are based on what people want, their preferences. The notion of total economic value (TEV) provides an all-encompassing measure of the economic value of any asset. It was introduce in the field of environment and can be extended to other resources which possess the property of public good such as archaeological sites. It decomposes into use and non-use (or passive use) values, and further sub-classifications. The use values compose of the direct use values and indirect use values of the resource. While the non-use values are more complicated and comprise of option

values, bequest values and existence values. To elaborate further, non-use values are the value that people assign to public goods even if they never have and never will use it. It is distinguished from use value, where people derive from direct use of the goods. Non-use values, in addition, are more intrinsic in nature. In heritage perspective, non-use value may be explained as when communities gain some benefits through collective memory they have about a particular heritage. There may also be people who have never set their eyes on the heritage but gain some enjoyment and satisfaction just from knowing that the archaeological site exist. At present, non-use values are most commonly applied to the value of environmental resources. The application of this method in heritage site, however, is scarce, and only concentrate on built resources. Thus, the potential and benefit of applying the concept of non-use value on other types of heritage resources, including archaeological remains, are worth exploring. It is worth exploring because the management of the resources, particularly in terms of conservation, is not necessarily an easy or problem-free process. This is due to the fact that conservation implies limitation on future development. As heritage resources, as public good, are not traded in markets, the methods developed for valuing them are referred to collectively as non-market valuation technique or the economic valuation technique which will be discussed in other platform.

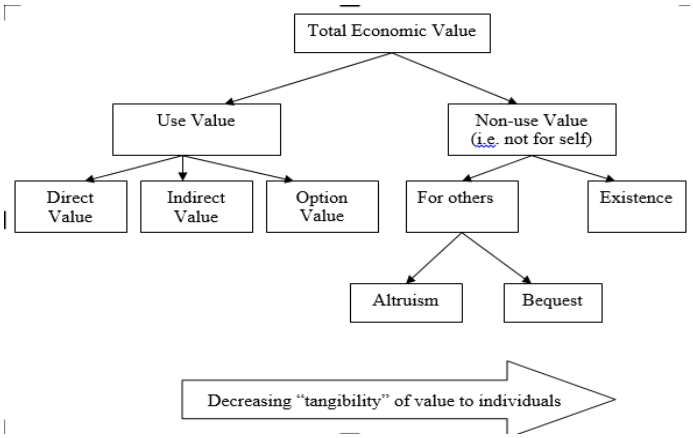

Figure 1: Total Economic Value
(Adopted from Bateman *et al*. (2002)

Sungai Batu Archaeological Complex

Sungai Batu Archaeological Complex, located in Sungai Petani Kedah, was found by the Universiti Sains Malaysia (USM) archaeological team led by Professor Datuk Dr. Mokhtar Saidin in 2007. The complex is located on a 4-square-km (1.5-square-mile) site in Merbok, Kedah. The carbon dating of the some of the artefacts proof that the civilization existed around 2600 years ago next after the Roman era. Sungai Batu has been used since the 5th century BC, continuously, from time to time, until the 17th century AD.

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Image 1: Selected photos at Sungai Batu Archaeological Complex

Looking at the time frame in figure 2, the Sungai Batu civilization is much older than Borobodur and Angkor in Southeast Asia region. This confirms the Sungai Batu Complex as the oldest civilization in the region. Experts have found strong evidence including the existence of ritual sites, and heavy industry. In fact, Sungai Batu Complex was a major iron exporter at the time, complete with mines, a smelting factory, a port (with twelve jetties) and administrative buildings to support the industry. According to Prof Mokhtar '…it was not just any ancient civilisation but an advanced one with geologists to detect and mine iron and the technology to smelt it. Iron needs 1600 degrees Celsius to smelt and in that period, the Kedah Tua kingdom already had that technology.' In May 2016, the Sungai Batu Archaeological Complex was officially declared as the earliest and oldest civilization in the of Southeast Asia region by experts led by a prominent archaeologist from the University of Oxford. The declaration, furthermore, will help launch the recognition of the United Nations Educational, Scientific and Cultural Organization (UNESCO) towards the creation of the Sungai Batu Archaeological Complex as a World Heritage Site.

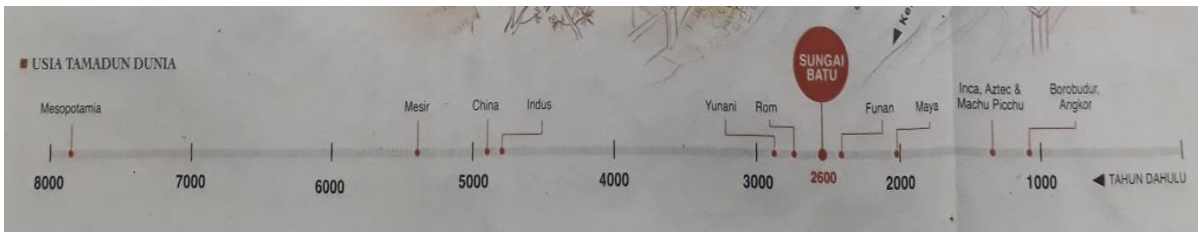

Figure 2: Sungai Batu in the World Civilization Time Frame
Harian Metro (02/01/2016)

The discovery of Sungai Batu has put Malaysia into the world perspective of early civilization and command a huge interest by the international scholars and communities. However, after a decade of discovery, in the locals view, it is just a mere site, which not really known even to the locals. The issue crop out on how can we manage and promote such important site to the public.

The Need for Economics Valuation

Faced with tightening budgets and growing needs, government agencies must make difficult decisions about how to allocate public investments to protect and restore the archaeological sites. Agencies must justify their decisions, not only in terms of benefits to the natural environment, but also in terms of fiscal accountability and public support. The authority will need to make decisions that involve tradeoffs which often call for economic analysis. Among other reasons for the need to value the archaeological sites are:

a) To justify and decide how to allocate public spending on conservation, preservation, or restoration initiatives.
b) To consider the public's values, and encourage public participation and support for conservation initiatives.
c) To compare the benefits of different projects or programs.
d) To prioritize conservation or restoration projects.
e) To maximize the economic benefits of the site per ringgit spent.

To develop an archaeological site such as Sungai Batu Complex will incur a lot of financial costs. Such examples are the construction and maintenance of the infrastructure, site management, administration and enforcement, and other operational costs. Apart from that, there are many other costs in archaeological conservation that are difficult to assess in monetary terms, for instance the ecological and social impacts. In many instances, the taxpayers are indirectly responsible for paying for the management and administration of the archaeo-tourism destination, while the local residents adjacent to the site may have to bear the cost of inflation. Therefore, to be less dependent on taxpayers, the concept of self-financing could be one of the solutions. In other words the application user-pay principle through the implementation of the entrance fees seems to be plausible to help finance the management and conservation efforts.

However, after nearly a decade of development, no effort of moving towards the introduction of entrance fees to the site is being discussed be it at the state or the federal levels. Most of the public goods such as the archaeological site, when not appropriately priced, may lead to several implications. Undercharging may lead to low revenues for the authority and over-consumption of the services by the users. Thus the revenue is often insufficient to cover the most basic costs of operations, for example, the enforcement from encroachment and maintenance of facilities. These may lead to the degradation of the site, which in turn may reduce the quality of the site. Consequently, visitors may refuse to visit the site, which can cause a sudden drop in overall revenue and, thus, discourage further investment. In contrast, overcharging may reduce visiting rate to the area which limits the growth of the industry as well as reducing visitors' net economic benefit. Thus it is crucial to understand the value of the public goods, such as the archaeological site, to the visitors in order to exercise the correct pricing level for the entrance fee.

Conclusion

Sometimes when talking to a different party or group of people, we have to use the same language that is easily understood by them. And one way of making the point and letting the policy makers and the local authority to understand the significant of the site is to proof that the site can stand alone and able to generate income to the state and the country. One of the avenues is through tourism related activities and services. Taking the initial study of measuring the value of Sungai Batu Complex is crucial to objectively understand the potential, true value and the benefit accrue from the site to the local economy.

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MURABAHAH SALE IN PRACTICE: PROCEDURE AND ISSUES IN CONSUMER AND TRADE FINANCING

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Abstract: *In Murabahah financing practised by Islamic financial institutions, instead of extending a loan facility to the client for purchasing commodities required by him, the Islamic bank purchases the commodity from the supplier first and thereafter sells it to the client usually on deferred payment basis, at an agreed fixed price comprising the cost incurred by the bank and an additional margin of profit. In the context of financing, Murabahah takes the form of a complex procedure comprising several transactions, reflecting several relationships between the parties involved. Being a mode of sale, all rules and conditions that are relevant to sale transactions remain applicable in Murabahah even when it is used for financing purposes. Murabahah is commonly used to finance the purchase of assets in a variety of forms, including financing consumer items as well as in trade financing, both through local purchase as well as import. A study of the procedural aspects of Murabahah would reveal that its proper implementation in a financing context is challenging. In order to overcome issues arising in Murabahah based financing, implementation of equity based modes such as Musharakah should be attempted where possible, such as in the context of trade financing. The current paper analyses important aspects involved in the application of Murabahah in the above areas, scrutinising practical aspects that are required to be carefully observed for the validity of the procedure in shari'ah.*

Keywords*: Islamic, Finance, Murabahah, Sale, Trade, Import, Consumer*

Introduction

Conventional banks extend loan facilities to clients in all types of financing. Even where funds are needed by the client for acquiring commodities, a facility based on lending is used for this purpose, the loan being repaid together with interest thereafter. Due to the involvement of interest which is abhorred by Islam, availing of such loan facilities is prohibited. In lieu of interest-based loans, Islamic banks use Murabahah based structures for financing purposes, usually linked with some other contracts such as agency. Murabahah is the dominant financing mode in the current arena of Islamic banking. Well over 50% of all financing by Islamic banks today take place on Murabahah based methods. In Murabahah financing as practised by Islamic banks, instead of extending a loan facility to the client for purchasing the required commodity himself, the Islamic bank purchases the commodity from the supplier first and thereafter sells it to the client usually on

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deferred payment basis, at a fixed price comprising the cost incurred by the bank and an additional margin of profit. It is widely used in financing asset purchases of all types for consumption, utility or trading, in the local market or through import. Some perceived advantages in this format are: entitlement of the bank to a fixed amount of profit based on its cash outlay and the period required for settlement, asset risk being limited to the minimum duration the asset lies in the constructive possession of the bank, resemblance in outcome to conventional banking facilities, and credit risk being covered by a pledge or mortgage. Several bodies of contemporary shari'ah scholars have ruled it permissible in facilitating asset purchase, subject to observing the necessary conditions.[12] The Islamic Fiqh Academy Jeddah has permitted sales on Murabahah to the commissioner-to-purchase with regard to goods already in the physical possession of the seller as required by shari'ah, provided the seller carries the risk of loss before delivery, the consequences of returning the purchased goods because of concealed defects, etc., and provided the conditions of the sale are met, with the absence of any impediments.[13] The current paper seeks to analyse the important aspects involved in the application of Murabahah in consumer and trade financing, both local and import.

Sale Based On Murabahah In The Context Of Financing

Murabahah in Islamic legal parlance refers to selling an item on cost plus profit basis, where the seller discloses to the buyer the cost incurred in procuring the article and the amount of profit earned by him through its sale. The buyer is assured about the exact profit made by the seller through the transaction, as the precise cost incurred by the seller is mentioned in the contract of sale and the profit component is fixed with the buyers consent. Due to the high degree of transparency that should prevail in Murābahah sales, they are classified by Muslim jurists under Buyu' al-Amānah or sales of trust, i.e. sale transactions which are based on trustworthiness in communicating the exact cost involved. This indicates that Murabahah not a financing mode as far as its basic structure is concerned. Being not the ideal instrument for financing, using Murabahah sale for financing purposes requires careful adherence to the necessary guidelines. It is clear that financing on Murabahah can never be as simple or uncomplicated as lending on interest. The very ease with which the lender provides loans and collects interest without undertaking any liability, or exposure to any risk or hardship, is one reason interest is prohibited in Islam. If such ease is desired, an ideal financing mode such as Musharakah or Mudharabah could be adopted, which however would necessitate undertaking the risk of the venture. Being a mode of sale, all rules and conditions that are relevant to sale transactions remain applicable in Murabahah even when it is used for financing purposes.

Financing on Murabahah can be employed only when a client genuinely requires procuring an asset from an outside source. The term 'financing' is used here to indicate purchasing the item required by the client from the indicated source and later selling it to the client. It does not mean extending a loan facility to the client so that he may purchase the item himself. Thus, when an asset such as a vehicle, land, building, raw material, merchandise, etc. is needed to be purchased, it may be financed on the basis of Murabahah. Instead of assets, if money is required for some

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[12] E.g. First Islamic Banking Conference Dubai, 22-24 May 1979, held at Dubai Islamic Bank, in Dubai Islamic Bank, *al-Fatawa al-Shari'iyyah fi al-A'mal al-Masrafiyyah*, vol. 1, p. 19, First Albaraka Seminar held in Madinah, June 1983, Resolution No. 8, in Dallah Albaraka, *Fatawa: Shariah Rulings on Economics*, p. 103.

[13] See Islamic Fiqh Academy, resolution No. 40, 41, (2/5 & 3/5), 5th Session held in Kuwait in December 1988.

purpose, Murabahah financing cannot be employed. This is because Murabahah is a genuine sale transaction where actual commodities are sold, and not a transaction of lending. Therefore, if cash is required for overhead expenses such as settlement of utility bills, payment of wages, transport, processing etc, or for purposes such as settlement of loans and payment for goods already purchased, Murabahah financing may not be employed. Similarly, if a service or usufruct is required, Murabahah may not be used for financing it.

In the context of financing, Murabahah takes the form of a complex procedure comprising several transactions, reflecting several relationships between the parties involved. In this type of financing, the financial institution sells the commodity required by the client on deferred payment basis through a properly executed contract of Murabahah sale. This necessitates the financial institution having come into ownership of the necessary commodity beforehand, and having the item at its risk at the time of sale. If the financial institution concerned happens to own stocks of the commodity required, this could be facilitated with ease, which would be welcome from a shari‘ah point of view too as some questionable practices could be avoided. Indeed, in a proper Islamic set up, rather than being content with providing finance, Islamic financial institutions are expected to play an active role in trading as well, and currently there are Islamic banks that also maintain trading wings dealing in vehicles etc. for providing Murabahahs. However, since financial institutions typically do not own stocks, the article required by the client has to be purchased from elsewhere, usually from a source indicated by the client himself. This results in the introduction of several further intricacies to the Murabahah procedure, resulting in the complex product known as “sale on Murabahah to the orderer-to-purchase”. (Bay‘ al-Murabahah li-al-Amir bi-al-Shira’)

Major Phases In Murabahah Financing

The major phases in this procedure at the practical level involves the request made by the client to the financial institution to purchase a certain commodity from an external source for subsequent sale to him, purchase of the item by the financial institution, usually on cash terms, and its subsequent taking possession of the item, and lastly the client purchasing the commodity from the financial institution on deferred payment basis, later settling the price on the due date or in instalments as agreed. It would be seen that this procedure consists of an initial agreement by the financial institution to buy the item required by the client followed by two transactions of sale. If each of these steps takes place in a manner acceptable in shari‘ah, the transaction would be complete.

The Islamic shari‘ah does not recognise the validity of forward sales where an item currently not in the possession of the seller is sold through a sale transaction that becomes effective on a future date. Consequently, the financier in Murabahah may not enter into a forward transaction of sale when the client seeks a Murabahah facility. In this situation, the financier is compelled to purchase the required article from a third party, take possession of it, and thereafter sell it to the client on Murabahah. However, if the client refuses to purchase the article from the bank after the bank had purchased it from the supplier, this could possibly result in the bank being left with an item that cannot be disposed of without incurring a loss. To avoid this situation that would inhibit financiers from embarking on Murabahah transactions, especially when these involve consumer specific items, the client could be made to enter into a unilateral promise that he would purchase the asset when it is acquired by the financier. A bilateral contract where both the

financier and the client bind themselves to enter into a contract of sale on a future date should be avoided, as it would be construed as a forward sale.

Thus, the initial request made by the client that the financial institution procures the required commodity from the market could, when necessary, take the form of a unilateral promise made by the client to the bank. Here the client promises that when the bank purchases the asset from the market, he would subsequently purchase it from them at a pre-agreed price calculated on cost plus mark-up basis. This is to eliminate the possibility of the client refusing to purchase the asset from the bank after the latter had procured it from the market. It is essential here that only the client binds himself to purchase the asset from the bank, while the bank does not promise to sell the asset to the client. This is to avoid entering into a bilateral promise binding both parties to contract a sale on a future date, resembling a forward sale which is prohibited in shari‘ah.

The two transactions of sale that follow this promise, where the bank purchases the commodity from the market first and sells it to the client second on cost plus mark-up basis, should both complete the relevant conditions for sales in shari‘ah. Thus, the bank should unequivocally purchase the item preferably through its own channels and take possession of it, either physically or constructively. Here constructive possession means having the item in the bank’s risk for a period of time, so that if the item is destroyed in that period the full responsibility devolves on the bank. The bank may procure the item from any supplier at its discretion, or purchase from a source indicated by the client. The subsequent sale to the client should take place after the bank had thus purchased it first and had borne its risk for some time. The bank transfers ownership of the asset to the client through a properly executed contract of sale, whereby the risk is transferred to the client for the first time.

The above illustrates the preferable procedure for Murabahah which should be adopted by financial institutions, and attempted to be implemented wherever possible. However in practice, an additional dimension is usually added to the above transaction that further complicates the matter and makes the procedure immensely vulnerable to abuse and foul play. This is the appointment of the client himself as the agent of the institution for purchasing the asset on latter’s behalf. Due to the introduction of this element, the distinction between the two sales and therefore between the two distinct ownerships, i.e. the ownership of bank first and the ownership of the client second, becomes marginal, making the involvement of the bank in the transaction similar in appearance to that of a conventional financier who takes no part in the risk. We shall see below how this development affects the Murabahah transaction.

As stated above, the bank procuring the required asset through its own channels and keeping it in its own possession is preferable to getting the client involved in the process. There is no harm in purchasing from a supplier indicated by the client, as long as the client does not play any role in the purchase. This would make the bank’s ownership of the goods more pronounced, and the subsequent sale to the client would appear more genuine. Any additional cost involved in the process could be added on to the cost of Murabahah for mark-up calculation.

However, due to various reasons, most financial institutions do not find this method convenient. Therefore, they prefer appointing the client himself who sought the Murabahah facility as the agent of the institution for purchasing the required asset on behalf of the institution. While this practice is correct in theory and therefore could be adopted when direct purchase from the supplier is not practicable due to some reason, it invariably results in increasing the complexity of the transaction, as now the bank and the client have to act in different capacities in different stages, and makes the point of transfer of the asset’s ownership to the client become somewhat obscure.

In appointing the client himself as the purchasing agent of the bank, it is necessary to understand that when the client first purchases the asset from the supplier in this capacity, the asset enters into the ownership of the bank, and not the ownership of the client himself. When he takes possession of the asset as the bank's agent, it would be regarded as possession by the bank, and the risk of the asset is transferred to the bank. Any loss befalling the asset at this stage would be borne by the bank solely, provided the client had discharged the duties of agency diligently, as the client is only a trustee holding assets belonging to the bank. Consequently, the client is not permitted to consume or utilise the asset in anyway at this stage, as this would amount to breach of trust. The asset would enter the ownership of the client only when the second contract of sale is finalised between the bank and the client, whereby the bank would sell the asset to the client on Murabahah terms as agreed. With this sale, the client would become owner of the asset, and start to bear the risk of the asset. Utilising the asset through any means such as consuming it or disposing of it through a contract becomes lawful for the client only after he purchases the asset thus from the bank through the second contract.

The agency given to the client by the bank may be for the purchase of a specific quantity of a specific item from a specified supplier, or for purchasing unspecified quantities of a type of commodity from unspecified suppliers. In the latter case, it would form a general agency, authorising the client to make several purchases on behalf of the bank. However, since what the client purchases on behalf of the bank remain at the risk of the bank, it should be ensured that the client exercises proper care in storing the commodities belonging to the bank separately, and duly purchases them from the bank on Murabahah before using them for his own purposes. Since general agency makes monitoring of the client's activities difficult and also is highly vulnerable to abuse, it should be granted only when necessary. Site visits should be undertaken regularly to ensure compliance.

Applications Of Murabahah In Financing

Murabahah as described above could be used to finance the purchase of assets in a variety of forms. It could be employed wherever assets are needed to be purchased from a third party. From financing consumer items such as washing machines and vehicles, it could be used in corporate financing where building complexes, factories and real estate are to be purchased. Trade financing, both for local purchase as well as import, is widely done on Murabahah based structures. The procedure adopted in each of these is taken up for discussion in what follows.

Consumer Financing On Murabahah

Murabahah is popularly employed for financing the purchase of consumer items such as furniture, computers, vehicles, etc. Here, subsequent to approval of the facility and signing the overall agreement with the client, the client produces a quotation or pro forma invoice from the supplier indicating the price and other details of the item. Usually at this stage, the client makes an undertaking to purchase the asset from the bank, which, as described above, is a unilateral promise made by him, so as to protect the bank from being left with the goods if the client refuses to purchase them.

If the financial institution is satisfied with the genuineness of the request, it purchases the item from the supplier and takes possession using its own agents and means, prior to selling the item to the client on Murabahah. If this is not convenient, it appoints the client as its agent for purchasing the asset on its behalf. The payment is released directly to the supplier without the

involvement of the client, through a medium such as bank transfer or a crossed account-payee cheque. After the client purchases the asset and takes possession on behalf of the bank, the bank is informed of this, and the bank preferably verifies the receipt of the goods through its own means. It is highly preferable that the bank requires the client to bring the asset to the bank's own stores and lets it remain there for at least a day, so as to establish the risk of the bank beyond all doubt.

Subsequently, the bank sells the asset to the client on Murabahah terms through duly accepting a specific offer to purchase forwarded by the client, where the cost of the asset, the profit, the total Murabahah price, the due dates of payment for the full price or instalments etc. are clearly stated. The asset becomes the property of the client only upon the acceptance of the bank, until which the asset remains at the risk of the bank.

The credit period for the settlement of Murabahah price starts from the date the sale to the client is completed, i.e. the date when the bank accepts the offer to purchase forwarded by the client. The period does not start from the day the bank releases funds to the supplier of goods, as goods are purchased by the bank itself initially. The client becomes a debtor to the bank only after he purchases the goods from the bank on Murabahah. Due to this reason, when the profit margin of the Murabahah price is calculated on the basis of the period of credit, the time elapsed prior to the sale to the client in which the goods were in the possession of the bank may not be taken into consideration.

Murabahah In Trade Finance

Murabahah could be used for financing the purchase of trade goods, including both raw material as well as stock. The basic features of Murabahah are similar in essence to those of consumer financing. However, the payment periods are usually shorter here. The number of transactions carried out under a single facility is considerably higher than in consumer finance, as the purchase of each consignment constitutes a separate Murabahah transaction. Due to this, ensuring meticulous observance of all necessary conditions becomes a hard task, requiring the sincere intent both of the client as well as the financial institution.

In Trading Murabahah, usually a limit is approved for client, limiting the maximum amount that may become outstanding at a single time through entering in to a number of Murabahah transactions. After the overall agreement, whenever a consignment is to be purchased, the client submits the relevant quotation or pro forma invoice together with an undertaking to purchase, as described above in consumer financing. It is important to ensure that the client does not apply for Murabahah for goods that have already been purchased by him. This is of especial concern in Murabahah for trading, where consignments are purchased by clients on a daily basis. There is a possibility of an application for Murabahah being made by the client for consignments he had purchased directly from suppliers and had taken delivery, for the purpose of obtaining funds for payment to suppliers. Therefore, verifying the dates of quotations and making enquiry as to whether the goods have already been purchased is essential. Traders sometimes do so on the assumption that goods that have not yet been paid for still belong to the suppliers.

After verification, agency is granted to the client for purchase on behalf of the bank. Each undertaking to purchase requires a separate agency. When the client effects the purchase from the supplier on behalf of the bank and takes possession the goods enter the bank's risk. In this stage, the client is not allowed to sell or utilise the goods, as they still belong to the bank. If retaining the goods in the bank's own storing compounds prior to the sale to the client is not feasible, the client should be emphatically required to store them separately, distinct from other merchandise

belonging to him, until his purchase from the bank is complete. Site visits should be made periodically to ensure compliance in this respect, as sometimes traders hastily sell such consignments before purchasing them from the bank.

It is essential that the possibility of the funds being channelled to suppliers through the clients is prevented in Trade Murabahah as far as possible. This is for the purpose of ensuring that only genuine transactions take place. If funds are released to the client at the time of agency, this would result in the bank losing its control over the transaction, due to the possibility that the client could use the funds for other purposes, or negotiate credit terms with the supplier for partial or delayed payment. If due to some compelling reason funds are released to the client for payment to suppliers, it should be done only with clients whose sincerity in carrying out genuine Murabahah transactions is established. It is imperative that properly drawn receipts are obtained from the suppliers in this instance. If the bank knowingly approves Murabahah facilities for fictitious transactions, or the laxity of the system leads to such transactions being carried out, the profit earned may not be permissible.

When the offer to purchase from the bank is forwarded by the client, it should be promptly accepted, as the client may start using the goods for his own purposes only after this. It is essential that the Murabahah period starts from the date of acceptance. It is best that the bank arranges to complete the sale to the client after a site visit and verification of the goods purchased. Similarly, it is possible that after the initial agency is granted and the client effects the purchase on behalf of the bank, the bank may find that the client has reached the limit of his facility. However, as the bank has already become the owner of the goods, it may not refrain from payment to the supplier at this stage.

Murabahah For Import Purchase

A large portion of import transactions are financed by Islamic financial institutions on the basis of Murabahah. Instead of providing an interest based credit facility for imports as done by conventional banks, the Islamic bank is expected to import the consignment in its name first and thereafter sell it to the client on Murabahah. The procedure here is more complex as compared with Murabahah for local trade due the involvement of Letters of Credit, import documents such as Bills of Lading and Airway Bills as well as foreign exchange conversions. Ensuring the ownership of the bank over the consignment and bearing its risk prior to the sale to the client are points of concern in this procedure. Since there remains an amount of uncertainty over whether the shipping documents being in the name of the bank alone is enough to ensure complete ownership of the bank over the goods, Murabahah is not recommended for import transactions. The manner in which Murabahah is usually practised by Islamic banks in financing import purchases is analysed in what follows.

An overall agreement for providing Murabahah facilities for import purchases is signed between the bank and the client. When the client wishes to import a consignment of goods, he obtains the Pro Forma Invoice from the supplier and forwards it to the bank together with the undertaking to purchase. The undertaking to purchase only provides an approximate indication of the cost, mark up and the Murabahah price etc, as these are subject to change due to possible differences in shipping documents and exchange rate fluctuations.

The bank issues a Letter of Credit initiating the process of import. Upon receipt of the Letter of Credit through the negotiating bank, the supplier ships the goods and forwards the Bill of Lading, Invoice and other shipping documents to the L/C opening bank. The Bill of Lading and

other documents are expected to be in the name of the L/C opening bank, thus purportedly establishing the bank's ownership over the consignment.

The bank releases the shipping documents to the client by endorsing them in his favour to facilitate port clearance, at the same time effecting a sale transaction to the client through offer and acceptance. From the point of time when the supplier surrenders the goods to the shipping company until the L/C opening bank sells the goods to the client, the goods purportedly are in the ownership of the bank (i.e. the L/C opening bank) and at its risk. If the consignment is damaged or is destroyed during this period, the bank may not claim any compensation from the client. Even if the consignment is insured through some Islamic arrangement such as Takaful or through conventional insurance, this would not change the party that bears the risk primarily, as insurance only facilitates compensation to the owner if a loss occurs, and does not eliminate possibility of loss.

Import On L/C Sight Terms

In the case of import on L/C sight or D/P (documents against payment) terms where no credit period is involved and remittance to the supplier is done immediately upon receipt of the documents, the Murabahah sale to the client could take place after the bank had remitted payment to the supplier. In this event, the amount of local currency spent by the bank for the purpose is known with certainty and the Murabahah sale could be carried out with ease on the basis of local currency.

Import On D/A Terms

When the import is on D/A (documents against acceptance) terms where the supplier himself extends a credit period, payment to the supplier is to be remitted at a future point of time. If the Murabahah sale to the client is planned to be carried out in the local currency, this would require knowledge of the exact amount to be remitted in the local currency, which is not possible due to fluctuation of exchange rates. Therefore, it is not possible to effect a Murabahah sale to the client in local currency in D/A imports. If remittance is to be done in foreign currency, the Murabahah sale also could be carried out in the same currency. On the due date of payment, the client could either settle the Murabahah price in the relevant foreign currency, or pay the equivalent in the local currency based on the exchange rate prevailing on the date of payment.

If the client is not willing to carry out the Murabahah purchase in foreign currency due to his apprehension that an unexpected rise in exchange rates could affect him adversely, there remains no possibility of a Murabahah transaction being carried out in this instance. The only option in this situation is to carry out a Musawamah sale where the bank sells the consignment to the client at a lump-sum price fixed through negotiation. The Musawamah contract does not provide any indication of the cost and profit elements. The sale in this instance could be carried out in the local currency. However, a sale on Musawamah basis requires the existence of a Musawamah agreement between the bank and the client beforehand, where the nature of the Musawamah transactions to follow is clearly stated. Therefore, if imports are to be done on D/A basis, a Musawamah agreement should be in place, and the import could be financed on the understanding that the consignment will be sold to the client on Musawamah.

The Murabahah/Musawamah period should start from the date the consignment is sold to the client, i.e. the date the offer to sell forwarded by the bank is accepted by the client, and the shipping documents endorsed in his favour, as this is the point when the client becomes the owner

of the goods. The period may not start from the date money is remitted to the supplier, nor could mark-up be calculated for the intervening period if there is any delay in the acceptance by the client.

Observations On The Application Of Murabahah In Trade Financing

Careful consideration of the procedural aspects of Murabahah would reveal that its application in a financing context is prone to error and abuse in a number of ways, which makes its proper implementation challenging. In employing Murabahah for financing trade, due to the involvement of agency enabling the client to purchase the goods on behalf of the bank and take possession himself, the mechanism becomes vulnerable to abuse. Although such agency could be theoretically upheld as valid and may facilitate the bank's purchase especially when it may not purchase directly from the supplier for some reason, due to this element, the distinction between the two ownerships, i.e. the initial ownership of bank and that of the client afterwards, becomes marginal, as the transfer from one to the other takes place while the goods are in the custody of the client. The agency may also enable exploiting Murabahah for obtaining funds, without the involvement of an asset. If funds are released to the client under agency even in a genuine transaction, the client could delay forwarding them, by negotiating credit terms with the supplier. The asset sought to be financed may have already been purchased by the client and taken possession before the involvement of the bank. The client may even dispose of the goods before purchasing them from the bank, whereas doing so is lawful only after he purchases from the bank through an independent second contract.[14]

In order to overcome these and other similar issues arising in Murabahah, implementation of equity based modes such as Musharakah should be attempted in trade financing. Being expressly designed for financing, these could replace in many instances debt based modes such as Murabahah that have been tailored to fit in artificially. Equity based structures for purchase of assets for trade, in addition to being distinctly advantageous through facilitating an equitable sharing of profit and loss, could significantly smoothen the process while avoiding negative aspects related to debt financing mechanisms such as Murabahah[15].

Conclusion

Murabahah is a trading instrument in its original layout that has been adapted for financing purposes for providing a facility similar to credit facilities offered by interest based banks, while avoiding involvement in prohibited interest. When carried out correctly with due observance of all requirements, Murabahah provides a lawful means of fulfilling one's immediate financing requirements at a premium, without being constrained to borrow on interest. However, due to the forced nature of the task Murabahah is required to perform which is not what it is originally

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[14] Client's purchase of the goods in his custody from the bank cannot be understood to take place automatically through a *ta'aÏi* contract, i.e. an implicit contract indicated by the actions of the contractors, without the involvement of textual expression. Also, an agent for sale may not sell to himself assets belonging to the principal.

[15] For a detailed discussion on the practical application of equity modes financing in trade, see Muhammad Abdurrahman Sadique (2015), Application of profit and loss sharing modes in trade financing for small-scale businesses: an alternative to debt based financing, in IIUM Law Journal, Vol. 23, pp. 175-189.

designed for, financing on the basis of Murabahah involves numerous conditions, laxity in the observance of which may make the transaction invalid. This would result in the failure of the basic purpose for which Murabahah was adopted in the first place, which is avoiding violation of shari'ah.

Thus, the major positive aspect of Murabahah when carried out correctly is that it provides a lawful alternative to financing on the basis of interest, which is no meagre benefit. As far as those who avail of Murabahah facilities are concerned, their benefit is principally in the form of avoiding entanglement in the curse of riba, thus ensuring their spiritual and material wellbeing in this world as well as in the hereafter. This in itself is a major achievement of Murabahah based financing. Moreover, funds that were paid as interest to conventional banks previously and which served the purpose of furthering the interest based system are now channelled to Islamic banks and their depositors in the form of lawful profit, which is a tangible gain.

However, it should not be forgotten that enjoying the fruits of the economic system propounded by Islam requires more than only evading direct violations of shari'ah. In fact, Islam has provided complete guidelines for establishing a just economic system that could eradicate social and economic oppression resulting from interest, monopoly, hoarding and speculation, ensuring an equitable distribution of wealth. A vital feature in this system would be the full-fledged adoption of the equity based financing mode of Musharakah. Utilising a debt based trading tool such as Murabahah in financing could never bring about the real benefits of the Islamic economic system. Therefore, employing modes such as Murabahah and Ijarah where the net result is not materially different from interest based transactions, should be restricted to instances where adopting Musharakah is not feasible. Widespread use of Murabahah in all spheres of financing should be curtailed and means for widening the scope of application of Musharakah actively sought, facilitating the gradual transition from Murabahah based structures to full-fledged implementation of equity based modes for financing.

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EXAMINING THE MUSEUM VISITORS USE OF MOBILE TECHNOLOGY THROUGH TECHNOLOGY ACCEPTANCE MODEL (TAM)

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Abstract: *Museum is one of educational centre for people to gain knowledge. Varieties of communication modes have been used to deliver the information to museum visitors. The advent of technology has brought to the usage of mobile technology in museum, thus ensure visitor's meaningful experiences. Further, the integration of mobile technology in museum has facilitated visitor's understanding on information about artefacts in the museum. In addressing this issue, the present study focused on factors that might influence museum visitors' usage of mobile application based on Technology Acceptance Model (TAM). Data of the study was collected through fifty five responses from a survey questionnaire. All the museum visitors were asked to use their own mobile devices in order to access digital information provided in the museum. Findings show that perceived usefulness and perceived ease of use has a direct influence towards the actual use of mobile technology. However, the effect is much stronger when it passes through attitude. Thus, museum visitors' attitude played a dominant role in determining the actual use to use mobile application.*

Keywords: Museum, Mobile Application, Mobile Technology, Technology Acceptance Model

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Background Of The Study

People who visited museum have their own aims, and objectives, thus created their own meaning in museum. Initially, museum was intended for educated people since they are the ones who frequently visited the place and eager to understand about artefacts. It is thought that these groups of educated people fulfil their leisure time in the museum for stretching intellectually and believe they should learn things continually (Chang, 2006). In essence, the main function of museum is to display artefacts or objects of the past. However the role of museum changes according to the transition period. Nowadays, museum not only exhibit artefacts, in fact it already be part of education centre for museum's visitors to enhance their knowledge especially onwards culture and heritage which has been abandoned by our ancestor (Chung, 2009).

The shifting of museum that focuses from the object to the subject, has established museum as a centre of education for society (Taber, 2014). Many museums now have provided guidebooks and brochures in sharing information to visitors (Taber, 2014). Information was provided to ensure that visitor can make sense towards the objects. Hooper-Greenhill and Dodd (2002) have interpreted the museum as an educational centre, where it is an institution that offers educational experiences.

On the other hand, the advanced of digital technology has now made major changes to the world. In line with this idea, the advent of technology has changed the process of transferring the information. This idea is also in accordance to the 'Malaysia Education Blueprint' that emphasized the Higher Education Institution to enhance the student's learning experience by leveraging the use of technology in a more personalized learning (Ministry of Education Malaysia, 2015). The widely use of technology gave oppurtunities for museums to adapt the usage of technology.

In promoting museum as one of the sources of information, technology has been introduced to museum visitors. In order to create meaningful experiences among visitors, museum starts to improve their ways of conveying the information. It has been reported that museum have started implementing technology through the use of liquid crystal display (LCD), cathode ray tube (CRT), television, interactive multimedia kiosk and audio tours (Allen, 2012). In local context of Malaysia, the National Museum has used a concept of touch screen through numbers of interactive kiosks. Throughout these kiosks, there are a several type of concepts used in delivering information, which includes games, multimedia presentation and interactive books. In addition, the museum also provided a quick response (QR) code for visitor to assess digital information through their own mobile devices.

From time to time, the expectation of visitors about art museums increasingly evolved throughout the ages. It is to ensure that visitors are not bored with the objects display, the layout of the exhibits, and the old notch approaches (Liyana, 2008; Othman, Petrie & Power, 2011). The advancement of digital technology and its peripherals have changed the world dramatically. In accordance, numerous initiatives have been initiated in expending the full potential of technology. One of the most influenced aspect that effected by the robust development of technology is the birth of varieties mobile technology devices and applications. For instance, the emerging technologies such as smart phones and tablets have changed the way technology is used in a museum. The trend of the used of smart phones, provides an opportunity among museum visitor enhance active participation in constructing knowledge and experiences. Additionally, the use of technology is not only limited to the audio but it can be decode through a combination of still images, video and multimedia (Othman et al., 2011).

The possibility for museum visitors to integrate technology is there because most of the visitors come to the museum by bringing their own mobile devices. It was proven when the percentages of mobile devises usage in Malaysia has increased from time to time (Malaysian Communications and Multimedia Commission, 2015). This clearly shown that the use of mobile technology is now seen as a trend in which would open up more opportunities for visitors to diversify ways of learning and help out those who want information in various forms. The trendiest aim for mobile technology in museum project is to enhance the visitor engagement, provide more information as well as attracting visitors (Chang, 2006 ; Taber, 2014).

Based on this increasing utilization rate, more museums are trying to integrated personal devices into their exhibition. Museum is now aim to create dynamic, user-directed experiences where visitors can use their own personal devices that have been absorbed into their daily lives (Taber, 2014). As suggested by Falk & Dierking (2013) media may not be one of the reasons why people come to the museum, but the visitors began to realize the function of technology and media in museums.

Undoubtedly there are numbers of factors that influence individual's usage of technology, where can be referred through various educational technology adoption models. Furthermore, there are varieties of theoretical models that have been designed and developed to determine factors that influence individual's usage of technology. Individual's attitude,

subjective norms, behaviour, social influence, and facilitating conditions are examples of factors that have been determine as basic factors that might influence their decision to use technology. Although there are other factors, in context of this study focus were only focused on these three factors that may influences museum visitor's decision to use mobile technology in museum. Considering this understanding, the present study has examined three factors, namely museum visitor's attitude, perceived usefulness and perceived ease of use as predictors towards their usage of mobile technology in museum. Findings of this study are hoped to outline strategies and ideas to the museum authorities, ministry and educators in ensuring museum aims on being one of information sources will be realized.

Literature Review

Technology And Museum

The use of technology has been developed in accordance with the changing of time. To date, the uses of mobile technology become a trend and in the meantime it changes the way how museum communicated with their visitors (Taber, 2014). All the information is now available in our finger tips. Museum started introduced Personal Digital Assistant (PDA) and iPod as a medium to add surfeit of information in the museum environment (Walker, 2008). It is provided to meet the expectation of frequent visitors that greed for knowledge. Research by Lehn & Heath (2005) suggested that PDA can be a good device for museum visitors because they need to wear earphone in to receive audio information. However, PDA has given some difficulties for visitors who attend in a large group where it's should be able to talk, engage in discussion, and view information due to small screens (Lehn & Heath, 2005). Besides PDAs, museum also started to provide a large screen seems like mini cinema for visitors to watching related video in getting new experiences.

In 2003, the golden age of smart phones has started.. The increasing popularity of smart phones has given an opportunity, thus changed the way how museum communicates with their visitors (Taber, 2014). It is believed that the usage of mobile application in museum will increase visitors' engagement and usable in delivered information to museum visitors (Taber, 2014). Mobile devices have been well received and become an important medium in the lives of people in Western country (Raento et al., 2009) and even in Malaysia (Osman, Talib, Sanusi, Shiang-Yen & Alwi, 2012). The acceptance and demand of mobile devices are rapidly increase without any sign of deterioration. Mobile application incorporate all previous types of mobile technology that allows text, audio, and video to communicate with user into one. Mobile devices have also provided a paltform for user to download usable application that they need in their lives. It included an educational, social, and others application needed by the users.

Actually, the United States of America has became the first coutry that introduced the used of mobile technology in museum, which started in the year 2011. Although not all museums use mobile devices as a medium of communication, it clearly has offered valuable experience and became an important component for museum (Taber, 2014). In Malaysia, few musseum have taken up this idea of communicating with their visitors through mobile dedvices. the National Museum, Heritage Museum, Cultural Museum and Folk Art Museum are among museum that already started to implemented the use of mobile technology in delivering an information about the artefacts on displayed. However, It is believed that there are factors that might influance the usage of mobile technology in museum, especially in the Malaysian context, thus highlight the important of conducting this study.

Research Model – Technology Acceptance Model (TAM)

The change in nature of technology has offered to the presence of various definitions and concepts of technology. In a research field, many models and theories have been suggested

by past researcher to determine an individual acceptance towards information technology system context (Surendran, 2012 and Chen, Li & Li, 2011). Despite of that, this study has focussed on construct as suggested in the Technology Acceptance Model (TAM) that enables to explain the determinants that encourage mobile application use. The TAM model is extensively used by many studies in explaining individual's acceptance of technology (i.e. Rahmat & Wu, 2013; Fathema, Shannon & Ross, 2015 and Li, Chung & Fiore, 2017). The basic TAM model that been introduced by Davis (1989) is shown in Figure 1.

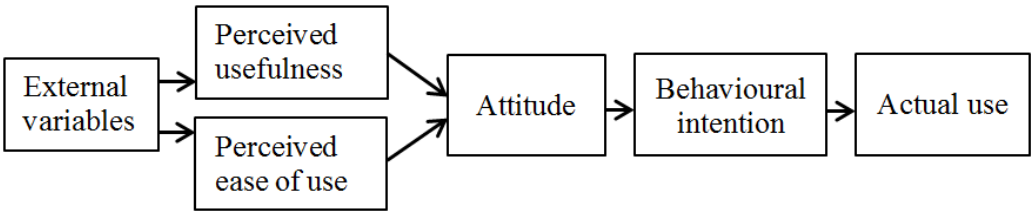

Figure 1: Technology Acceptance Model (TAM)

In the TAM model, actual use of a proposed technology is represented by intention to use, which is determined by the user's attitude toward using the proposed technology. Base on TAM, users' perceived usefulness (PU) and perceived ease of use (PEoU) are the predictors towards users' attitude (ATT) in using (AU) proposed technology. Additionally, PU and PEoU also can be affected by numerous external variables.

Although there are five variables that been proposed by TAM, for the purpose of this study behaviour intention will be excluded. It is because past studies had shown direct relationship between attitude and actual use constructs without passes through behavioural intention (Ducey, 2103; Gao, Waechter & Bai, 2015 and Shang & Wu, 2017). A part from that, behaviour intention variable is much suitable to predict the intention of user to use the proposed technology. In other words, it means that user have not used yet the proposed technology. In contrast to this study, all the respondents are giving a chance to use the mobile technology in museum before they answered the questionnaire. It is conclude that, the behavioural intention is not relevance to be part of the variables in predicting the actual use of mobile application. The research model for examining the factors that influence museum visitors' decision in using mobile technology is presented in Figure 2.

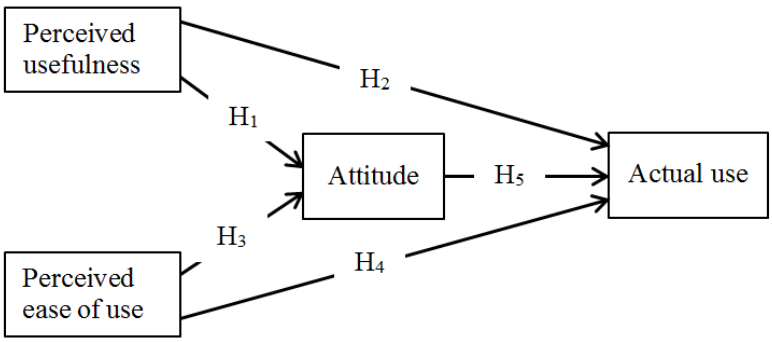

Figure 2: Research model based on TAM

Perceived usefulness (PU) and Attitude (ATT)

Perceived usefulness referred to the belief of an individual that using a particular information technology will enhance his or her performance (Davis, 1989). In this study, it indicates that museum visitors' interest to use or not to use mobile application depends on to what extent they belief that the application can help to increase their learning performance. Previous study by Cheon, Lee, Crooks & Song (2012) proved that PU is one of the major factors that influences students' attitude to adopt mobile learning in their learning process. In addition, study conducted by Thomas, Singh & Gaffar (2013) in Guyana also found that PU has a significant effect on attitude in determining the mobile learning adoption among students in higher education. In other words, students that believe the use of mobile technology will increase their performance in learning process will have a more positive attitude to integrated mobile learning. These findings are consistence with the study by Wojciechowski & Cellary (2013) and Isaias, Reis, Coutinho & Lencastre (2017). Based on the consistent findings, the present study therefore tested the following hypothesis:

H_1: The museum visitors' PU has a significant influence on their ATT towards the actual use of mobile technology in presenting information of artefacts in the museum

Perceived Usefulness (Pu) And Actual Use (Au)

Although TAM did not shows a direct relationship between PU and AU of technology, but a number of studies revealed that there is a relationship between PU and AU of proposed technology. In the same contexts of study, study by Taber (2014) found that perceived usefulness is reliable to the usage of MAGart 2.0 application in delivering information and as a guide for Memorial Art Gallery visitors in their tour. In addition, data gathered by Khayati (2013) indicated that the perceived usefulness of information communication technology (ICT) have a good significant towards the use of ICT among the contractors in Tunisia. The results also in line with study carried out by Zarmpou, Saprikis, Markos & Vlachopoulou (2013) whereas they also found the same result. Thus, the next hypothesis is formulated as:

H_2: The museum visitors' PU has a significant influence towards the usage of mobile technology in presenting information of artefacts in the museum

Perceived Ease Of Use (Peou) And Attitude (ATT)

Perceive ease of use (PEoU) considered as a belief that an individual will be free of effort when use of a particular information technology (Davis, 1989). For the purpose of this study, museum visitors' tend to use a mobile application when the application minimizes their effort in order to get information. As verified by TAM, an individual PEoU has a positive relationship towards their ATT in technology usage. It point out that an individual would have a positive ATT towards technology usage if the technology is effortlessness. This statement has proved strong evidence by numbers of studies by Wojciechowski & Cellary (2013); Briz-Ponce, Pereira, Carvalho, Juanes-Mendez & Garcia-Penalvo (2016); Li et al. (2017) and Isaais et al. (2017). Therefore, this present study carries on futher investigation with the following hypothesis as :

H_3: The museum visitors' PE has a significant influence on their ATT towards the usage of mobile technology in presenting information of artefacts in the museum

Perceived ease of use (PEoU) and Actual use (AU)

A considerable amount of literature has been published on the relationship between PEoU and an individual's technology usage (AU). This statement can be proven in a study by Taber (2014) when he found that the museum visitors' PE of MAGart 2.0 application positively affected the usage of MAGart 2.0 application. It indicated that, the effortlessness in using MAGart 2.0 application will increase the percentage of museum visitors to keep in using the application. In context of mobile online shopping services, Shang & Wu (2017) divulge that the PE is one of the best predictor in determining user's satisfaction level in mobile shopping. In other words, when consumers feel the services is easy to handle and gaining benefits, the percentage of to use mobile online shopping services in purchasing selling item will be increase. In essence, the trustworthy in this construct is high due to its consumption in some previous studies to foresee the technology usage in diversity field. Thus, this present study proposed the subsequent hypothesis:

H_4: The museum visitors' PEoU has a significant influence towards the AU of mobile technology in presenting information of artefacts in the museum

Attitude (ATT) and Actual use (AU)

Attitude construct is used to predict a museum visitor's behaviour either positive or negative toward the usage of mobile application. As an analogy, a person who have a good attitude would have a good attention towards the usage of mobile applications. It has been reported that attitude is one of the variables that have a positive correlation towards the usage of technology since the p-value is over than 0.8 (Ducey, 2013). In addition, responses from 330 social networking sites (SNS) from a study by Ha, Kim, Libaque-Saenz, Chang & Park (2015) found that the user's ATT towards mobile SNS significantly affects the use of mobile SNS. Although both studies found a positive relationship between ATT and AU of technology but study conducted by Myrczik (2014) did not found the same result. Given the inconsistence research findings, further investigation needs to be conducted. Therefore, this present study will test the following hypothesis:

H_5: The museum visitors' ATT has a significant influence towards the AU of mobile technology in presenting information of artefacts in the museum.

Methodology

This study attempted to determine the contributing factors that might influence museum visitors' usage of mobile technology. This study deployed a quantitative methodology in the form of questionnaire. Decision to choose the questionnaire is due to the fact that it can facilitate the data collection process within a short period of time. The study was carried out among group of museum visitors in one public museum in Malaysia. The respondents were asked to access the digital information provided in the museum by using their own mobile devices. The questionnaires were distributed to 55 visitors which is among Malaysian higher institutions students. There are 20 items have been adapted from TAM in addressing the contributing factor towards the actual use of mobile application among museum visitors. These items utilized four-point likert scale ranging from "Strongly disagree" (1) to "Strongly Agree"(4). All the 20 items from four variables are mixed together and arranged randomly to get truthfully answer from respondents without favouring a particular data. In analysing the

data, the study employed statistical analysis to address all hypotheses. Apart from descriptive analysis, through mean score and standard deviation, the study has also embarked into inferential statistical, through regression analysis.

Findings

Reliability Of Items

In determining the consistency correlation among each item for each construct, Cronbach's alpha is referred. The Cronbach's alpha is the most frequent form of internal consistency reliability coefficient and it is primarily used for questionnaires constructed items (Singh, Ghani & Hoon, 2009). It has been suggested that value of alpha 0.5 are acceptable while scores more than 0.7 are indicated as great reliability (White, Cordato, O'Rourke, Mendis, Ghia & Chan, 2012 and Felder & Spurlin, 2005). Reliability statistics output in Table 1 shows the Cronbach's Alpha for each construct. The results provide confirmatory evidence that those constructs in high reliability since the value is greater than 0.70.

Table 1: Cronbach's Alpha

Construct	Number of items	Cronbach's Alpha
Perceived usefulness	5	0.706
Perceived ease of use	5	0.738
Attitude	5	0.710
Actual use	5	0.788

Regression Analysis

In referring to listed hypotheses H_1, H_2, H_3, H_4 and H_5, the relationship between two appropriate constructs defined in the research model using regression analysis. The result of regression analysis is presented in Table 2

Table 2: The regression analysis

Independent variable	Dependent variable	Hypotheses	R	R^2	p-value
Perceived usefulness	Attitude	H1	0.584	0.341	<0.001
Perceived usefulness	Actual use	H2	0.518	0.269	<0.001
Perceived ease of use	Attitude	H3	0.678	0.460	<0.001
Perceived ease of use	Actual use	H4	0.487	0.237	<0.001
Attitude	Actual use	H5	0.677	0.458	<0.001

As presented in Table 2, museum visitors' ATT can be determined by their PU and PEoU towards the use of mobile application in receiving information. The available evidence seems to suggest that the information provided is beneficial as well as improving visitors' performance in learning process leads to the positive attitude among visitors. At the same time, the effortlessness in using the mobile technology also makes the visitors shows a great attitude towards the usage of mobile application. To compare between those constructs, PEoU was a much more significant factor rather than PU in determining museum visitors' ATT.

Based on the empirical study, data appears to suggest that museum PU and PEoU had a similar effect on actual use of mobile technology. However, with regard to the actual use of mobile technology in museum, ATT was much more significant factor than PU and PEoU. A regression analysis between PU and ATT suggest the value for $R^2 = 0.341$. This value indicates that 34.1% of the variance in ATT score can be predicted from the value of PU. Due to the significant of *p*-value, it can be concluded that the PU reliably predict ATT. Thus, the hypothesis for H1 is supported.

Data gathered in this study also suggested that AU of mobile technology can be predicted to a similar extent on PU (R^2=0.269) and PEoU (R^2=0.237). The data yielded by this regression values provide strong evidence that the hypotheses H_2 and H_4 were supported. Further, the data indicates that 26.9% of the variance in ATT scores can be predicted from the PEoU scores. The coefficient *p*-value shows that PEoU reliably predicts ATT since the value was less than typical significant level 0.05. Therefore, the regression values were sufficient to accept the hypothesis H_3. As *p*-value of ATT and AU variable was statistically significant, it reveal that ATT variable reliably predict the AU variable. The R^2 value indicates that 45.8% of the variance in AU can be predicted from the value of ATT. Hence, hypothesis H5 was accepted.

Conclusion and Discussion

Based on the empirical study, data obtained from this study suggested that museum visitors' PU and PEoU had a similar effect on AU of mobile technology. On the other hand, museum visitors' ATT has found to be a stronger predictor to their AU of mobile technology in museum, as compared to other factors, namely PU and PEoU. This study thus suggested that museum visitors had a strong positive attitude towards the mobile technology which leads them to use the technology. Technology provided in museum indirectly has full fills the visitors' desire and criteria in line with the advent of technology in 21st century. A possible explanation why visitors easily can adapt the use of technology in museum might be because it deals with device that so deeply ingrained to then and already be part of their life.

A part from that, there are another two more factors that can be considered to have positive impact toward museum visitors' decision to integrate mobile devises. Museum visitors' PU was used to determine a belief of museum visitors to enhance their knowledge through the application. Study founded that, museum visitors' belief that mobile technology can enhance their knowledge about artefacts on displayed and lead them to use the technology. This finding was in line with past researches by Zarmpou et al., (2012), Khayati (2013) and Taber (2014). This may be due to the information provided was fit with their requirements to gained knowledge about particular artefacts. In fact, provided information in mobile technology was in details explanation with the presence of visual. The used of proper visuals, illustration and texts allowed museum visitors to easily understand the explanation about artefacts. In point of fact, people easily to adapt and memories the information through visual compare with the text only.

In addition, findings from the present study indicate that museum visitor's PEoU is a successful predictor towards the usage of mobile technology. Several researchers (i.e. Suki & Suki, 2011 and Taber, 2014) also used it as part of their study and proven it can be predictors of technology integration. PEoU was used to determine a belief of museum visitors will be free of effort to gain knowledge through the usage of mobile application. Undeniably the usage of this mobile technology would make the museum visitors free of effort because they can get information by scanning the QR Code. It clearly more easily and saves time compared to seek information about every artefacts on displayed in the Internet.

An alternative interpretation of the study results is that the positive attitude of museum visitors to the mobile application was expressed due to its novelty. It can be assumed that the positive

attitude of visitors to dig extra information by their own will fade with time; since visitors will get used the technology provided in museum. To maintain the visitors' interest assessing information through mobile technology in longer period, continuous provision of engaging learning content is of crucial important. Thus, the dissemination of the mobile technology in museum on a large scale will greatly depends on the availability and quality of learning content for museum environment. Therefore, research on technology in museum should focus primarily on the development of advent technology to fit the need in 21st century learning environments.

Learning process in museum through mobile technology has a great potential for non-formal educations because it gains meaningful experiences. Visitors can gain their learning experiences when museum provide a realistic artefacts at the same time can get extra digital information through their own mobile devices. The realistic presented artefacts considerably facilitate visitor to comprehend the information received. It is because learning with realistic object is much better as it giving a chance to viewers to look at every corner of artefacts in details.

Present study concluded that receiving digital information through mobile technology can be particularly attractive and evocative for younger generations, especially for whom that interested on edutainment than pure learning. This is the right time to expand the use of more technology on a large scale for the purpose of education. In similar vein, several researchers (i.e. Tussyadiah, Jung, & Dieck, 2017; Salinas & Gonzalez-Mendivil, 2017; Solano, Ugalde, Gomez & Sanchez, 2017 and Yilmaz, 2016) start to explore the importance of augmented reality (AR) in learning process, perhaps AR can be one of the technology that can be considered to be implemented in museum as well. In recent years, extensive availability of 3D computer games and movies based on 3D interactive graphics also has led to widespread familiarity of individuals with the 3D technologies. This statement was supported by Wojciechowski & Cellary (2013) that suggested the exposure of 3D technologies due to the facts that the young generations accustomed to 3D games and movies demand similar experiences to be implemented in education. Thus, these approaches may offer a great help to educational institutions in increasing learning interest as well as motivation among learners.

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IN-HOUSE GREEN KNOWLEDGE PRACTICE FOR HOSPITAL BUILDING MAINTENANCE

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Abstract : *The purpose of this study was to develop a knowledge practice model for the green hospital building maintenance. The proposed model was developed in a three-phase process: the information gathering phase using questionnaires, interviews and document analysis; the potential usefulness of the model was review on 8 BM managers. The results of the survey indicated that the model has the potential to improve the existing corrective and reactive maintenance management practices towards green maintenance practices. Well managing of the hospital building will be able to inspiration the quality of the hospital buildings that remain safe, long, and fine-looking and meet the standard without any harm and difficulties. Accordingly, this study will have highlighted the issues that impact in the hospital building occupancy as to develop the sustainable building value.*

Keywords*: Green Knowledge, Building Maintenance, Hospital*

Introduction

The study is interested to highlights the green practices for hospital building. The most complex fields of facilities management is the BM of hospital facilities. Rani et al.(2015) stressed that hospitals required to purposefully make over the outdated methods of maintenance practices to achieve better performance of the facilities. According to Amankwah et al, (2017) stated that hospital BM management was problem such lack and lack of green maintenance practising.Therefore the need to identify green application in the daily operation for the hospital.

Green Movement In Community

Over the past decade in particular, sustainable improvement has become an vital aspect of the BM industries. Green management has been the main discussed topic among BM industry players nowadays. the Country Master Plan (2005 –2015) is of significant importance for the Malaysian construction industry (CIMP 2006-2015). Many countries including Malaysia are now trying to make green technology as a back bone behind every development agenda in the future. (CIDB, 2011).

Un-proper manageable waste of BM workplace, low awareness of participation in ensuring safety and health of BM area was the issues.(Paterson, 2008; Seow, 2012). Furthermore means that without proper and adequate knowledge of sustainable development, those scenarios are scenes that will continuous for several periods. the environmental elements in

sustainability include climates change, air pollution, ozone depletion, oceans, wildlife, soil, land use, waste, and noise pollution.

Building Maintenance Practising For Hospital

Building Maintenance (BM) is a very essential aspect in maintaining a value and functionality of a building being occupied. BM is one of the vital area, which has great intention in building industry.(Olanrewaju, Khamidi and Idrus, 2011; Amani et al ,2012).BM activities, such as repair maintenance contribution integral part of building industries. The aim of BM is to preserve a building in its original operational state and achievable, therefore it works purpose efficiently (Al-Zubaidi 1997); Chanter and Swallow 2007; Zawawi et al. 2009). BM hospital practitioners are required to understanding the scenario of BM and hospital practicing green application. Therefore, green practising will filling the sustainable knowledge gap and to realisation of a sustainable hospital environment (Yik,2006). Furthermore, Chan (2014) highlights a well regularly maintained and refurbished will outcome the sustain and efficiency of the building properties.

BM as well as the integration of processes within an organisation to maintain and develop the building services which support and improve the effectiveness of its primary activities". Building also required to be maintain effectively as it was main activities of urban city (Horner et al. 1997; Al-Zubaidi 1997 Zakaria et al., 2012).The condition of building must be in well planned for users. Adenuga (2010) highlights that a buildings are required to provide a conducive and safe environment for numerous daily activities and remain for post occupancy. As hospital buildings are complex in accommodate facilities, the BM hospital department faces more challenges in managing such activities. Thus, buildings become more complex in design and facilities, Zakiyuddin et al., (2016) highlighted that the BM organisation getting more challenges, thus the need of expertise for completion BM tasks. BM for public buildings were not frequently maintained for the reason that most faults cannot be notable at their early phase (Utusan Malaysia, 2006). Building require to rapid maintenance and being as main activities at global cities also to retain as its previous good conditions. (Al-Hammad et al. , 1997 ; Horner et al. ,1997; Al-Zubaidi 1997).

Addressing Green Maintenance Issues

Nowadays, hospitals are designed independently by different architects for different service providers with different viewpoints. Hereafter, hospital designs at this time remain not uniform. The need to standardise the new hospital in relation much was not be assessed. While old hospitals may not be sustainable in the like of the new requirements in healthcare buildings.

According to Mohammad et al.(2015) stated that the Government bring together green building as a challenges to achieve the goals of sustainable development. Green building has an main role in achieving the aim of sustainable development which is to protect environment and to improve the quality of human life. (Fisk and Rosenfeld, 1998; Mohammad et al. (2015).

Hospitals provide patient care for community (Kinney,2010) thus the need of green sustainability for the BM activities and occupants activities. According to Zainol et al. (2015) mentions that a concept of application in green buildings focusing at the level of operation maintained with the safety, health for occupants and users. Sahamir and Zakaria (2014) stated that healthcare services are water and energy intensive, managing hazardous and non-hazardous materials and reducing of polluting emissions. AmanKwah (2017) highlight several of element for hospital sustainability focusing on energy, environment, ventilation and lighting.

According to Sahamir and Zakaria (2014) stressed that a sustainability was not consider as a requirement in the hospital sector so far. Hospitals was lagged behind other industries in "green" building initiatives that employ environmentally friendly materials and others building activities and methods. In addition much of hospitals not interest in green building certification than other industries (Saidur et al, 2010). Study by Sahamir and Zakaria (2014) stated that a green building recently as one of the most common areas. Green buildings could be distinct as "healthy facilities designed and built in a resource-efficient manner. Hospital must be kept as"safe hospital" will help to guide the approach to assessing the safety of hospitals. A safe hospital is a facility whose services remain accessible and functioning at maximum capacity, and with the same infrastructure, before, during and immediately after the impact of emergencies and disasters.

The proper BM should be really maintained in a good and effective manner. Zakaria et al. stated that a building must ensure that it is in a safe, proper utilised, fulfils all authorized requirements and sustains its form quality. Buildings as physical entities of the built environment such hospital buildings. Building hospitals that are alert to local climate conditions and enhanced for reduced energy and resource demands. Nawawi et al. (2013) stated that all hospital designs are subjected to the Uniform Building By-Laws (UBBL) 1984. UBBL incorporated the minimum requirement on passive design considerations for the users for the purpose of health and safety. According to Braganca et al., (2007) highlights the components for sustainable building such as space system; services; indoor conditions. stability, flexibility, comfort, accessibility and environmental impacts. Furthermore, Nawawi et al. (2013) also stated that foremost focusing for sustainability is in its ability to function, support operation, and serve the users-i.e. patients, staffs, relatives, visitors and medical equipment, efficiently. In addition, Nawawi et al. (2013) highlighted that healthcare buildings has to be designed for hygienic control; control infection of adequate space and capacity for the function; ease of circulation; adequate ventilation; safe and comfortable environment and having supportive healing environment among its design attributes.

In term of architectural and civil activities, hospital BM must generate green practices. According to Nawi et al., (2013) stated that BM structure is a vital component in the field of architectural and civil engineering. The need to have intention on building structural defect maintenance. Adenuga et al (2010) and Adenuga (2010) highlighted that the need to have BM principles for public buildings because some are in very poor and unacceptable conditions of structural and decorative poor condition. According to Isa (2011) stated that BM defect on building structural may cause during construction failure. Due to this, most defects are not properly recorded and resolved, and may affecting maintenance costs. Isa (2011) mention that designers play to eliminate defects. Factors such as poor specifications, selection of materials, workmanship and supervision the common cited causes of defects, poor design decisions are identified as the most significant contributor to the defects.

According to Enshassi et al., (2009) highlighted that several types of defects that affect the green maintenance for hospital building such as include faulty plumbing , inadequate or faulty ventilation, uncooling systems, inadequate sound proofing; and inadequate fire protection systems.In relation to building services for hospital building the need to enhance green maintenance activities. According to Zawawi et al., (2009) stated that building services elements in BM such lighting, HVAC, telecommunications and sanitation are considered to need most maintenance attention. The maintenance managers of healthcare facilities need to considered challenges from the repair, maintenance and cleaning of hospital buildings. (Straub, 2003; Zawawi et al., 2011). According to Abdul et al. (2016) stated that heating ventilating and air conditioning (HVAC) is the equipment that provides environmental comfort inside of a building.

Green Maintenance Practices For Hospital

Currently, this is green maintenance was challenging the BM sector and all its stakeholders, mainly the BM teams. To achieve sustainability in hospital BM is essential view practices guided by indicators and performance targets, able to assess integrate within dimensions of Sustainable Development: environment, society and economy.

Lu (2012) stated that green buildings are designed to reduce the whole guidance on the external environment such as reducing waste and subject to pollution. Therefore it is necessary to take into account the use of renewable and non-renewable resources, disposable products, toxic substances and the production of a large quantity of waste (Short & AL-Maiyah 2009).

Green design emphasizes a number of features (Fik, 2005; Huff, 2009): reducing energy use; improving aeration; using passive solar heating and cooling; considering the life-cycle impact of building materials; improving water-use, -capture, and -recycling; and the integration of climatic- and site-features (Ismail, 2013). The practice of green building is to reduce consumption of energy and material resources throughout the building life cycle. According to Nielsen et al., (2009) highlighted that green maintenance should focus on reducing energy, waste and water in the BM.

Hospital building must reduce noise pollution and air pollution. Encourage walking and cycling to the facility; promote staff, patient and community use of public transport; site health-care buildings to minimize the need for staff and patient transportation. According to Suwasono et al. (2013) stated that green hospital discusses to a hospital that includes environment as part of value services. Consideration on, strategic location, efficiently water usage, energy and good air pollution, using good material, keeps indoor environmental quality, delivers green education and awareness, non-toxic environment, green cleaning, waste reduction, and friendly working area.

It is well known that BM sites have negative impacts on the local environment and community through noise, air, and water and land pollution. Hospital shall have a plan for recycling of water. Water recycling is reusing treated wastewater for beneficial purposes such as toilet flushing, landscape irrigation, and replenishing ground water basin. This should be consider whereby cleaning activity was classified as a top activity during operations and maintenance stage. (Mat, 2011). Hospital BM must practice green cleaning. The aim of green cleaning is to minimize environmental and human-health impacts and during maintaining. Thus, according to Ziqi Wu (2011) mentions that consideration for sustainability for hospital should foremost be welcoming to patients and to improves their quality of life.

Green Safety And Health Practices For Hospital Maintenance

Issue related to BM was to ensure the workers in safe position. It is important to ensure the safety of BM workers, site visitors and people in the surrounding community should be of maximum. Amaratunga et al., (2002) stated that element of health and safety is the one of requirement in the managing facilities. Zakaria et al. stated that safety and health practices in BM was to ensure that all occupants always comfortable, safe and healthy during occupation of a building. This could integrate within BM scope of work. The health and safety on BM sites, the use of screens and fences around the site will provide security against unwelcome intruders, while also protecting their safety. Nawi (2014) highlighted that important to protect

person who is in the building against activities risks. BM sites must be kept tidy at all times and that there are areas designated for waste separation, etc. This is an efficient practice and will improve BM site safety.

According to Nawi (2014) found that Reese (2004) had highlighted several itemise of health and safely in related to maintenance personnel as follows: Provide barriers around hazardous BM areas. Secondly, do not block the BM emergency evacuation area. BM activities where do not leave the equipment and materials under supervision. BM activities on building services such as do not leave exposed conductors of electricity. BM works on cleaning activities such as clean all chemical spills immediately. Protection of public especially alert the public to the dangers such as demolition works on site and adjacent buildings occupied.

The need of the BM manager to ensure that health and safety work procedure are documented and clear guidance. According to Lee (2009) stated that safety and health was very important factors influenced in the final task in term to delegate the maintenance works This was to ensure the BM works not risk to BM personnel and building users.

Hospitals function non-stop and in the process are known to generate huge amount of waste including infectious and hazardous solid waste. Hospitals consume huge water and electricity power. They operate air handling units, leaving environmental footprint in many ways, affecting staff, patients and community at large. Hospitals use toxic chemicals as cleaners, chemical sterilizers and as chemical reagents. Add to these are noise and radiation pollutions from variety of bio-medical equipment and radiological apparatus. Hospital shall demonstrate initiative by maintaining good indoor and outdoor environment such as walkways, greenery, landscaping, waste management, environment friendly transport etc. The need of hospital building planning for maintaining good indoor air quality, lighting and ventilation. The consideration of clinical waste in hospital for sustainable. According to Affendy (2009) and Mohammad (2015) stated that BM manager must create environmental handle toxic materials which attention must be planned in-term of handling the activities. Thus, managers must able to manage clinical waste collection in order it consist of hazardous and toxic waste in the hospital. In order to maintain sustainable, hospital has to be operated with minimum effect of waste. In fact, hospital waste contribution is one of dangerous pollutants to the environment. The proper handling and disposal of clinical wastes generated from hospitals is essential in order to mitigate against opposing health and environmental significances. According to Yong, et al.(2009) and Razali (2010) highlighted such a proper handling of clinical waste management were vital to avoid health risks and damage the environment.

According to Suwasono et al. (2013) highlighted the process of waste collecting for managing non-medical waste, the hospital staffs sort wet and dry waste into two different containers, with black plastic bag on each container, which have been provided on each room. Then, three times a day, the cleaning service officers collect and carry the waste to hospital garbage dump.

Sahamir and Zakaria (2014) stated not many of hospital buildings at local community being conferred green sustainability approaches. According to Olanrewaju (2008); Khamidi (2010); Zakaria et al (2011) highlighted that maintenance continuously affects the quality of environment by reducing waste, pollutant and other resources; reducing energy and water consumption and people's comfort, health, safety.

According to Kibert (2005) stated that the practice of sustainable building refers to the creation and operation of a healthy built environment. The core of sustainable may apply to the hospital maintenance which are protecting nature and eliminating toxics. In addition, (Abidin. 2009; Abidin et al,2010) highlighted that developers understand 'sustainable

activities' from the environmental perspective. Furthermore, Abidin (2010) stressed that building activities will affect the sustainable development from its impact to the output. Also lack of exposure towards sustainability may create harm to the community (Abidin, 2009).

Internal building must have a good circulation of ventilation air for hospital. Hospital need to have user friendly architecture design, well-decorated rooms, comfortable rooms and fresh air for hospital. The inadequate ventilation impact in most hospitals also contributes to the poor indoor air quality and pollution. According to Abduladheem (2013) highlights well design of ventilation and air conditioning provides a healthy and comfortable environment for users such as patients, workers, and public visitors. A well designed ventilation opering was requires careful architectural, environmental and cultural considerations (Todd, 2007; S. Aripin (2007).

Research Method

To achieve the purpose of study, data collection was carried out by questionnaires, interview and observation. The survey was conducted for evaluation of green practices at several hospitals. Managers in BM were interviewed and several places with specialities were observed.

Results And Discussions

Table 1 green practices for hospitals through observation in the case studies.

GREEN COMPONENT	ACTIVITY	ISSUE	EFFECT ON ENVIRONMENT	SOLVING	INDICATORS
Green segregation	Paper usage, disposal tissue	Garbage, paper and boxes	add to unnecessary landfills	Collection of waste, recycling	Monitor paper usage
	Hospital department building	Electricity, heating, water	Effect on climate and waste	Using modern technology for less consumption	
Green maintenance	Electronic equipment	Batteries and fluorescent lights	Used batteries and fluorescent lights are a cost for disposal processes	Collect and take to proper discharge place	Exchange intervals of fluorescent lights or proposed to use solar energy
Green cleaning	Fabric cleaning	Towels for single use	Much chemical for cleaning towel	If possible, usage of multi use towels	Follow up towel usage

Green transportation	Logistics	Logistical problem	Traffic emissions, air pollution, noise	Planning on delivery, transportin g	Reduce traffic congestion by zoning transportation such as emergency, visitors and staffs
Green cleaning	Pharmacy	Packaging drugs	Unnecessary landfill	Patient informatio n, ask if they bring own bag	Use biodegradabl e plastic or paper bag
Green cleaning	Patients return of unused and expired medicines	Medical waste	Environmental problems if not discharge properly	Use of small packaging and informatio n to recycling	The amount of returned medicine per year
Green cleaning	Storage	Optional of storage	Unused of medicine are a cost of disposal process. Require more space for storage	Effective storage manageme nt	Amount and value of expired product
Green cleaning	General practitione r	Environmen tal hazards	Toxic effects on the environmental	Provide guidelines on prescriptio n	Reminder to the practitioners

Table 1 shows the green practices for hospitals building through observation case studies. Most of the green practices apply throughout green cleaning. Through observation the need to have need a comprehensive management. If the clinical management waste poorly managed, it will cause adverse effects to in-house managements.

Table 2 Relationship between hospital specialities observed within the green practise

Roles in BM	GREEN ELEMENTS /BUILDING	**1**	**2**	**3**	**4**	**5**	**6**	**7**
BUILDING SERVICES ENGINEER	Mechanical and Electrical	MP	MP	MP	MP	MP	MP	MP

SAFETY MANAGER	Fire Safety	MP	MP	MP	MP	MP	LP	MP
MANAGER CARE UNIT	Clinical waste			MP			MP	
FACILITY MANAGER	Green recycle	MP						MP
	MP- Top priority LP – less concern Departments/Specialties 1 Pharmacy ; 2 Lifts/Lobby/Reception/Staircase; 3 Medical and surgical;4 Radiology ;5 Dietetic ; 6 Diabetic resources; 7: Medical storage							

Table 2 shows the association between hospitals departments being observed with the green maintenance consideration at each department at the hospitals. Three main areas focussing the mechanical and electrical, fire safety and clinical waste was determining in relation within green practices at the hospitals departments. The top priority at specialities such as at the pharmacy area, medical and surgical follows by medical storage indicates the practising of green approaches

Findings

The findings of researchers and from the case studies indicates that in order to embedded green maintenance practices in the BM of hospital buildings in ECR, all core element of GBM must be considered. The need to have green hospital operation focusing to attention to the sustainable approach for daily maintenance operation. Effective BM not only ensure good working environment, but also contributes to upkeeping the green practicing value of the hospital buildings. This is important to address recently, green practices in hospital buildings. Thus the BM managers for green hospital need to appoint green practices as well as to fulfil the sustainable hospital.

Conclusions

Overall, the results of this study labelled that the BM values through green practice could be apply as a basis to develop maintenance principles in the BM industry in Malaysia for the hospital building users. Throughout this study found that hospitals building was consists of numerous functions that requires different working environment that relates to people, equipment, and the BM activities. The hospital project comprises different features from the most usual projects of residential, office or service buildings. Finding, various design requirements, hospital buildings are not designed and operated to meet the sustainable development requirements. Therefore, green practice for hospital design must considered maximize the use of natural light and ventilation while considering the building orientation; building materials should be free from toxicity and be environmentally friendly; the facilities should increase the sense of a healing environment, and clean water usage for users. In other perspective, a green hospital design hopes to provide users with energy savings and a comfortable environment through innovative designs and green maintenance. The study concludes that, the challenge the hospital BM industry is facing today is not only to complete projects within time, cost and quality, but to integrate various constraints such as economic, environmental and social needs in the act of building. By adopting sustainable BM, it can

reduce the overall energy use and maximize potential for renewable energy supply, minimize waste, conserve water resources, enhance water quality, incorporate water sensitive design and minimize vulnerability to flooding, minimize polluting emissions to water, air and soil and minimize noise and light pollution.

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THE EFFECTS OF EXECUTIVE COMPENSATION AND CORPORATE GOVERNANCE ON PAYOUT POLICY

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Abstract : *The study investigates how corporate payout policy is influenced by CEO share ownership, CEO stock options and CEO long-term incentive plans (LTIPs) in UK firms from 2006 to 2015 using Tobit regressions (for total payouts, dividends and share repurchases) and logistic regressions for the propensity of firms paying out to shareholders. The results show that CEO share ownership LTIPs have positive effects on corporate payout policy. In contrast, corporate governance characteristics do not show conclusive results which affect changes in payout policy. Dividend payout is significantly influenced by CEO share ownership compared to share repurchase payout. The findings support the notion that CEOs' share equity ownership is used to align managerial interest with shareholders in terms of cash payouts to shareholders.*

Keywords*: (Dividends, Share Repurchases, Payout, Compensation, Corporate Governance)*

Introduction

The significance of managerial incentive towards financial policy raises the questions of how and to what extent pay influences payouts. This study examines whether cash and equity based compensation as incentive alignment mechanism would increase the level of total payouts. A re-examination of the factors which influence corporate payout policy is important for several reasons. First, the reasons for dividends and repurchasing shares could have changed significantly since the early 1990s. Second, emerging evidence shows that firms with weak governance mechanisms have tendencies to invest in value destroying projects (Dittmar and Mahrt-Smith, 2007; Oswald, 2008). This research aims to complement the empirical works of Fenn and Liang (2001) and Hu and Kumar (2004) for UK firms for dividend and share repurchases payouts.

The choice of payouts has also been debated in financial economic literature. Grullon and Michealy (2002) show the growth of repurchase programmes in addition to dividend payouts, suggesting that these two forms of cash distribution to shareholders are not mutually exclusive. Prior studies identify the reasons of a firm's choice for share repurchases. A firm may engage in share repurchases as a substitute for dividends payouts (e.g. Dittmar, 2000; Jaganathan et al., 2000; Grullon and Michealy, 2002). Other studies argue that share repurchases enables the firm to provide a signal of 'true' share price if the firm's share price is selling below value in the stock market (Vermaelen, 1981; Ikenberry et al., 1995). Several empirical works provide evidence that managers disburse free cash flow in the form of share repurchases to shareholders(Stephens and Weisbach, 1998; Dittmar, 2000; Mitchell and Dharmawan, 2007).

As stated above, this study aims to examine whether shareholders should be concerned with excess cash flows in firms. The objective is also to determine whether the CEO compensation structure and improved corporate governance have effects on payout policy. The

results show that CEO shareholdings, LTIPs and equity portfolios have positive effects on dividend payouts, thus supporting the hypothesis that CEO ownership and compensation packages are able to align managers' and shareholders' interests to mitigate the free cash flow problem. However, corporate governance variables show inconclusive results on the link between CEO compensation and payout policy.

Literature review: Determinants of Payout Policy

Stock Options

Many studies posit that payout choices between dividend and share repurchases are influenced by stock options (Dittmar, 2000; Grullon and Michealy, 2004; Brav et al., 2005; Akhigbe and Whyte, 2012). For example, Lambert et al. (1989) show the method of share repurchases payouts increase following the use of stock options plans as a part of compensation to managers. In recent research based on a sample of financial firms, Akhigbe and Whyte (2012) provide evidence that cash compensation such as salary has positive influence over dividend payouts but report a negative association to share repurchases. Following the study by Fenn and Liang (2001), they examine the link between managerial shareholding and dividend payout. Their results show negative relationship between executive ownership and payout policy. They conclude that such a relationship is expected when higher regulation for financial institution in conjunction with managerial shareholding are used to minimise conflicts of interest between managers and shareholders.

Excess Cash Flows

According to Jensen and Meckling (1976), managers tend to invest excess cash flow in value decreasing businesses, a move which deviates from shareholders' value-maximising goals. Furthermore, the disbursement of excess cash flow to shareholders through dividend payouts may limit the overinvestment problem because of restrictions on available resources (Jensen, 1986) Managers are forced to invest in positive NPV projects which increase shareholders' wealth and alleviate the friction between parties in agency relationship. In order to mitigate the overinvestment problem, corporate dividend payout policy provides a mechanism to deter managers' unproductive corporate expenditure.

Corporate Governance

According to Sharma (2011) dividend policy is one of the areas where conflicts between managers and shareholders may occur based on free cash flow hypothesis illustrated by Easterbrook (1984) and Jensen(1986). The board of directors is charged to protect shareholders' interests. In this regard, the board of directors has control over payout policy setting on dividend payment and able to reduce the friction in agency relationship (Easterbrook, 1984; Hu and Kumar, 2004).

Data And Methodology

This research adopts a time-series sampling of firms by selecting a sample from a much larger group, that is, the entire population of large companies in the UK. This comprises 350 companies listed on the FTSE 350 index. The rationale behind this selection is because the sample consists of a wide range of large corporations which are distributed across the UK and operate in various industries and market sectors. This creates a substantial size for the sample, which is likely to increase the probability of the sample being representative of the population. By taking a panel data approach, the in-depth analysis of regression is able to explain the variability in the longer term than a single time period. It is also noted that companies who are

listed on the FTSE have an obligation to publish annual reports, making access to the required data more feasible.

The sample consists of 183 publicly traded companies listed on the FTSE 350. Financial institutions are included except that firms such as pension fund and unit trust companies are excluded from the sample because these firms have few employees, massive financial assets and boards made up entirely of non-executive directors. The data includes remuneration details relating to the boards of directors, including CEOs and chairmen. All these variables are extracted from company annual reports from 2006 to 2015. The firms in the sample cover most sectors of the economy and are the most highly represented companies.

Hypotheses

Stock options and LTIPs could be related to corporate payout policy because linking other forms of compensation also encourages CEOs to align with shareholders' value maximisation pursuits. Therefore, high CEO ownership and LTIPs will increase the dividend payouts of firms, whereas stock options could reduce dividend payouts but increase share repurchase payouts.

Hypothesis 1a: Stock options will induce managers to reduce cash dividends because of the dilution of value per share. Thus, there is a negative relationship between executive stock options and dividend payouts.

Hypothesis 1b: On the other hand, share repurchases have a positive relationship with stock options when there is high stock option ownership by management.

Hypothesis 1c: CEO ownership, LTIPs and cash compensation will induce a higher alignment of interest with shareholders and reduce free cash flow problems. Thus, there is a positive relationship between shareholding, LTIPs, cash compensation and dividend payouts of firms.

A compliant board will have a low influence over a firm's decision-making and policy-setting agendas. When the control and monitoring mechanisms fail because of the veto power of the firm's CEO, shareholders will lose out. Therefore, strong corporate governance with an effective and unbiased board will ensure that shareholders' interests are protected from managerial whims. Board size may play a role in influencing payout policy because a larger board will induce incompatible schedules and conflicting priorities among directors. A CEO's dual role as chairman of the board and CEO of the firm could also magnify conflicts of interest from empire building or pursuing shareholders' interests. Hence, role duality will reduce the level of payouts observed in a firm. Meanwhile, independent directors have less incentive to be compliant to the CEO and are able to offer informed advice to top management (Mehran, 1995). Therefore, a higher fraction of external directors will increase the payout level because directors are more consistent in their desire to give shareholders a wealth maximising return.

Given that the nature of cash flows possibly influences the type of payouts, sustainable cash flows will increase the level of payouts. Cash dividends will increase for firms with stable streams of cash flows such as operating cash flows. However, because share repurchases depend on flexibility and the availability of surplus cash, these are more likely to be influenced by investing cash flow because this is more usually subject to the business cycle.

Hypothesis 2a: There is a positive relationship between operating cash flows and dividend payouts.

Hypothesis 2b: There is a positive relationship between investing cash flows and share repurchases.

Hypothesis 3a: There is a positive association between board size and payout policy because close monitoring depends on the effectiveness of the board.

Hypothesis 3b: There is a positive association between the proportion of external directors and payouts.

Hypothesis 3c: There is a negative relationship between CEO duality and a firm's payout policy.

Results And Discussion

Table 1 shows results for the multivariate Tobit regression models. The analysis is based on a linear specification which differs in the utilisation of CEO compensation and corporate governance details. The main objective of the regression is to investigate the impact of CEO compensation, debt and corporate governance characteristics on firm payouts and the extent of their influence. This model also allows for control variables to be included in the analysis.

The first column presents the regression results for dividends. As expected, the results show a negative and significant relationship between dividend payout and stock options. The finding is consistent with the hypothesis 1a that CEOs with high stock options will seek to maximise their wealth and reduce dividend payouts because of dilutive effects on EPS which impact on their stock options' values. A similar result is also obtained for CEO cash pay (total of salary and bonus) where the results are negative and strongly significant at the 1% level. The inverse relationships may be because high CEO cash pay is not beneficial to shareholders because CEOs are more likely not to align with shareholders' preferences for cash payouts.

Table 1 : Tobit regressions of payouts

This table presents the Tobit regressions for a sample of 183 firms listed on the FTSE 350 from 2006 to 2015. The table reports coefficients of Tobit regression for dividend, share repurchases and total payout. Explanatory variables are CEO shareholding (Total CEO shareholding divided by common shares outstanding), CEO stock options (Total CEO stock options holding divided by common shares outstanding), CEO portfolio (Total CEO equity portfolio divided by common shares outstanding), CEO LTIP (Total CEO LTIPs divided by common shares outstanding), CEO cash pay (natural logarithm of salary and bonus), log board size (natural logarithm of board size), fraction non-executive (proportion of non-executive directors on board) and CEO duality (CEO duality dummy whereby 1=CEO and Chairman role, 0 otherwise). Control variables are operating cash flow (net cash flow minus operating cash flow/assets), investing cash flow (net cash flow minus investing cash flow/assets), firm size (natural logarithm of firm sales), firm age, The p-values are presented in the second lines.

Variables	Dividend	Repurchases	Total payout
Managerial incentive			
CEO shareholding	-0.0320	-0.3579	0.0486
	0.7590	0.6860	0.8640
CEO stock options	**-0.2995**	**3.8988**	0.4196
	0.0630	**0.0570**	0.4320
CEO portfolio	**0.2577**	0.2710	0.1350
	0.0270	0.7410	0.6540
CEO LTIP	0.1037	-0.1271	0.1872

	0.2140	0.4420	0.2900
CEO cash pay	**-0.0139**	-0.0002	-0.0044
	0.0000	0.9170	0.4360
Corporate governance			
Log board size	0.0039	**-0.0737**	-0.0209
	0.5650	**0.0370**	0.2110
Fraction non-executive	0.0110	**0.1028**	**0.0513**
	0.5560	**0.0460**	**0.0240**
CEO duality	**0.0215**	-0.0251	0.0006
	0.0034	0.3370	0.9800
Other predictors			
Operating cash flow	-0.0866	0.0775	-0.1251
	0.3650	0.7750	0.3630
Investing cash flow	0.1241	-0.1046	0.1855
	0.2770	0.6950	0.2070
Firm size	**0.0042**	-0.0011	**0.0064**
	0.0033	0.8670	**0.0592**
Firm age	**0.0001**	-0.00004	**0.0001**
	0.0228	0.7260	**0.0570**
# Obs.	1002	1002	1002
Pseudo R^2	-0.0812	-0.6553	-0.0718
Log likelihood	1245.0952	1162.6584	935.5214
Wald chi^2	6.0950	26.2500	26.3400

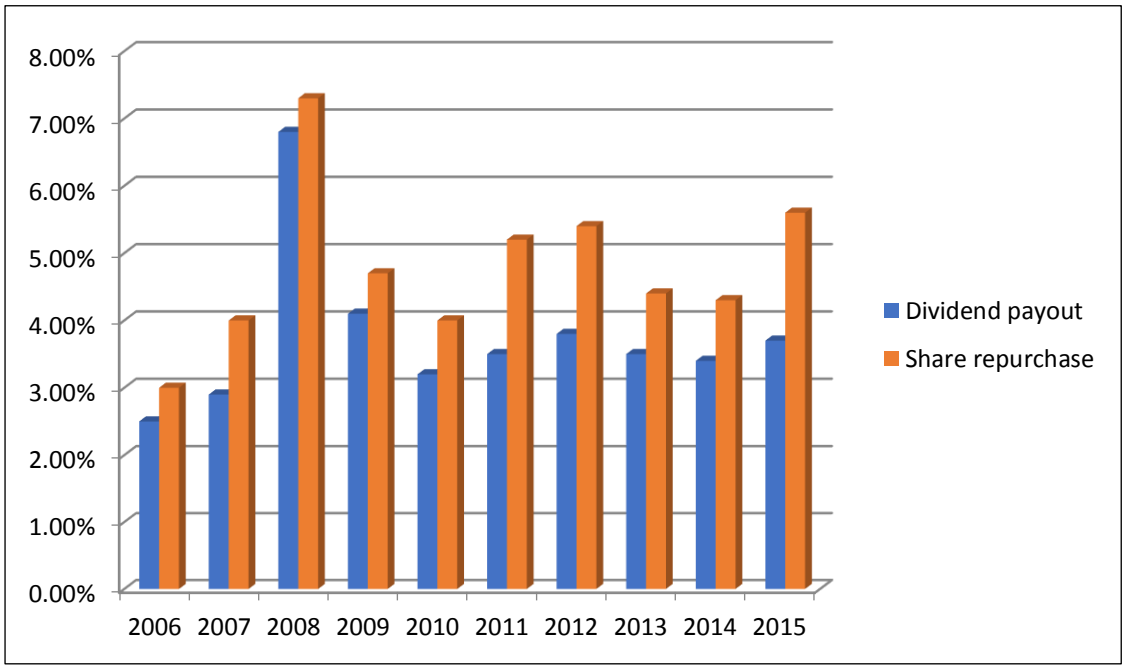

Figure 1: Average payouts from 2006 to 2015

With regard to corporate governance characteristics, only CEO duality shows significant results but the positive association does not support the hypothesis 3c that the independent roles of chairman and CEO increase the dividend payout because of the lesser implication of a conflict of interest. The results are interesting because they also reveal that debt payout increases dividend payout.

The second column presents the regression results of share repurchases. The coefficient estimates are positively significant for both measures of stock options. Since the results show that share repurchase payouts do not decline with CEO stock option holdings, this is consistent with the hypothesis 1a that managers prefer share repurchases when they have higher stock option holdings. As for CEO shareholding, total portfolio and LTIP grants, the results are negative but not significant for CEO shareholding and LTIPs, suggesting that these types of CEO incentives do not influence the share repurchase level. Because share ownership and LTIPs are similar in nature, the substitution effects in the form of share options outstanding support the findings of Fenn and Liang (2001) and Akhigbe (2011).

The results for corporate governance show mixed results for the variables of board size, board independence as a proxy for the fraction of non-executive directors and CEO duality. The coefficient for log board size is negative and significant at the 5% level, suggesting that larger boards prefer to keep lower levels of share repurchases, a situation which may be due to a preference for other types of payout. In contrast, the level of share repurchases increases with the level of board independence. There is a strong and positive association between share repurchases and the fraction of non-executive directors in firms. Strong board governance in terms of monitoring by external directors would ensure that firm commit to cash disbursement to shareholders as proposed by Hu and Kumar (2004). This supports the hypothesis.

Moving on to the regression results for total payouts, the analysis provides another mixed finding. The results show that for managerial incentive, only CEO total portfolio has a positive and strong association at the 1% significance level. Other weak results on CEO shareholding, stock options and LTIPs provide little support for the hypothesis that managerial incentives influence firms' total payout as concluded by the prior research of Jaganathan (2000), Fenn and Liang (2001), Grullon and Michealy (2004), Hu and Kumar (2004) and Akhigbe (2011). CEO cash pay again provides little influence on total payout disbursed by firms because the weak and negative relationship does not imply a link between cash pay and managerial payout policy-setting of firms.

With regard to the corporate governance variables, only the coefficient estimate for the fraction of non-executive directors has strong positive results at the 5% significance level. This finding suggests that board independence may positively influence a firm's total payout. However, other corporate governance variables as proxies for board size and CEO duality show no link to firms' total payouts. Because the overall results demonstrate a lack of evidence that corporate governance influences firms' total payout, it is prudent to note that the basis of strong corporate governance could be counterproductive to firms' payout policy-setting.

Conclusion

This study aims to investigate CEO stock incentives and corporate governance for payout policies. The results show that CEO ownership has a significant impact on payout policies. This is in line with Grullon and Michealy (2002) who argue that managerial ownership increases managers' alignment of interest with shareholders. In contrast, a high level of stock holdings is associated with a lower level of dividend payments and higher share repurchases. Prior studies by Lambert et al. (1989) and Fenn and Liang (2001) find that companies with

high executive stock options outstanding will reduce dividend payments and substitute them with share repurchases.

This research also provides support to the hypothesis that high CEO incentives will increase the total payouts of firms because of the alignment of interest between managers and shareholders. When managers are compensated in cash and equity pay, the results show a high association for equity incentives on firms' payouts. Firms will also increase the likelihood of making payouts to shareholders when they are holding excess cash and have a high proportion of external directors. This shows that corporate governance could improve firms' payout policies through their recommendations of payout choice.

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ASSESSING THE OIL PRICE EFFECT ON THE DIVIDEND PAYOUT RATIO: A CASE STUDY OF PLANTATION PUBLIC LISTED COMPANIES IN MALAYSIA

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Abstract: *The slide of in global oil price issue can affects varies across the sectors. Plantation industry is one the sectors may be affected. Since the plantation companies have to survive with the objective of maximizing the wealth of the shareholder and therefore dividend decision is really crucial. Hence, this study tries to assess the price of oil effect on dividend payout ratio of public listed plantation companies in Malaysia. Using a panel data spanning from 2007 to 2016 with 14 public listed plantation companies data is regressed with a static panel method. Finding reveals oil price has the expected magnitude but unfortunately is insignificant in influencing dividend payout ratio. Nonetheless, the rest of the variables chosen as controlling variables which are return on asset, debt to equity and current ratio are significant at 1% and 10% significance level. In conclusion, the price of oil does not affect directly on the dividend payout ratio of on public listed plantation companies. Thus, it explains the phenomenon of despite the continuous slide in oil price, most of the plantation companies in Malaysia persistently cutting the dividend.*

Keywords*: Dividend Payout Ratio, Oil Price, Panel Data, Public Listed Plantation Companies*

Introduction

Dividend decision is regarded as a crucial and important component of the strategic financing decision making relating to a company's dividend policy. The increasing challenges of economic environment have given effects to the companies. In order for the companies to survive, the investment decision, financing decision and dividend decision play important roles to achieve the objective to maximize the wealth of the shareholder.

Dividend stability can be indicated by regular payment dividend by the companies no matter on the amount paid. The company will resist reducing dividend as it would hurt share prices. Besides that, the company will also reluctant to deduct the dividend because it would against with the expectation of the investor. The dividend payout ratio only been adjusted by the company when they have confidence to sustain the change made (Litner, 1956).

Malaysian companies as stated by Pandey (2003) are stable in paying dividends across all sectors. Nonetheless, Pandey (2003)'s view is given before the declining of oil price in the world. The slide of oil price issue can affects varies across the sectors. Plantation industry is one the sectors may be affected as it is heavy reliance on transportation. As one of the contributors to the economics of Malaysia, the revenue generated from this sector diversified from production in the country and export of the commodities to the other countries.

Recently, many plantation companies have slashing dividends to shareholders. Kok (2016) in The Star Online has reported major of plantation companies such as Batu Kawan Bhd, IOI Corp Bhd and Felda Global Ventures Holdings Bhd (FGV) have announced lower dividends for their shareholders. Batu Kawan Bhd for example cut its dividend per share to 50 cent from 60 cent in year 2015 because their net profit fell by 17% from previous year. On the other hand, IOI Corporation Bhd has proposed a lower dividend per share of 3.5 cent compared with 4.5 cent in the preceding period after reporting a 90% decline in net profit for the year 2015. These companies have to cut or suspend dividends to shareholders because the decline in the profit of the company.

Since the dramatically drop in oil prices in year 2015, it is expected the company should able to reduce their cost of production as the plantation companies depends on oil to running their machineries and transportation. The reduction in cost of production is expected to boost the revenue of the plantation companies. The increase in earnings increases the ability of the company in paying dividend. Nonetheless, this is against the theory. Despite the continuous slide in oil price, most of the plantation companies persistently cutting the dividend. Therefore, this study is aimed to assess the oil price effect on the dividend payout ratio in the case of plantation public listed companies. This study departs from previous study as studies or reports such as Gencer and Demiralay (2013); Jafarian and Safari (2015) and Thomas (2016) who focused on the oil and gas companies which are directly related to the price of oil. The difference is, this study will focus on plantation companies which heavily reliance on the oil price that will affect their cost of transportation and machineries.

The remaining of the paper is organized as follows. Section 2 highlights the literature review. Section provides the methodology under consideration. Section 4 discusses result and discussion. Lastly, section 4 offers conclusion.

Literature review

Dividend refers to the profits of a company to be distributed to the shareholders as the reward for investments made by them towards the company. Besides, investment opportunities should be consider by the company before the dividend decisions is made. However, the company should distribute the earning to shareholder if the investment opportunity is not available. Nonetheless, there are many other views defining on dividend policy. For example Al-Kuwari (2009) stated dividend policy entails how much of an earning of the organization should be distributed out to shareholders, in the form of dividends as return to their investment in the firm and what percentage should be retained or to finance the organization's plans for future investment. Fitri, Hosen and Muhari (2016) stated that dividend policy is reflected in dividend payout ratio which the portion of profits that has to be distributed in form of dividend. While, Amidu and Abor (2006) pointed out that companies generally have two options to utilize their profit either to retain it or distribute it in the form of dividends to their shareholders.

Dividend policy has been discussed by many researchers but yet there is no universally explanation for companies regarding dividend behaviour have been accepted. Many studies have done on macroeconomics and microeconomics or internal factors on dividend behaviour. Study by Fitri, Hosen and Muhari (2016) for example have found that profitability is main factors that influence dividend policy. This indicates that profitability is important factor in determining the dividend payment. Franklin and Muthusamy (2010) however, argue that profit of the company is not significant influencing dividend.

Leverage is the company's ability to meet all obligations. Rafique (2012) highlighted that firms that have high leverage tend to retain the cash to fulfil the obligation, rather than pay dividends. The high transaction cost of the highly leverage company will make the company pay low dividend. Nonetheless, the results obtained are contrary with Fitri et. al. (2016) that

leverage is insignificant in influence dividend payout ratio. Besides that, Musiega et. Al. (2013) pointed out that dividend payment is influenced by liquidity of the companies itself. Companies will pay dividend when they have strong liquidity position. The company with liquidity problem decrease ability to pay the dividend because the company have shortage in cash. Investment opportunity is another factor that influencing the dividend payment. Musiega et. al (2013) stated that the company that have less investment opportunities will pay high dividend to avoid the manager from investing the excess cash overly.

Dividend is not just been influenced by internal characteristics of firms but it can be influenced by the macroeconomic factors such as inflation and GDP (see i.e Jablonski, 2015; Misra, 2015). While, few studies such as Gencer and Demiralay (2013), Jafarian and Safari (2015) and Thomas (2016) have focusing on the impact of oil price on the dividend payout ratio. The impact of oil prices vary across sector and will react to dividend payout ratio differently. For example, Thomas (2016) stated slumping oil prices, has led the dividend policies to be slashed or fully scrutinized. Nonetheless, this report has been done in oil and gas companies, thus the lower the lower price of oil will shrink the income of the company and lower their dividend payout ratio.

Another study which has investigated the impact of oil prices on sectoral return is Gencer and Demiralay (2013). Using 18 sub-indices from Borsa Instanbul in January 2002 and April 2013 this study has been done in Turkey. The Vector Autoregressive (VAR) and VECM (Vector Error Correction Model) are adopted to analyze the data. While, impulse response and Granger causality methods are applied to determine the structural relationship between variables. The findings show that a long run equilibrium relation of oil prices to chemical-petroleum-plastic sub index as oil prices directly affect the revenues of the sector. The empirical results reveal no long run equilibrium relation for the other sub-indices.

On the other hand, Jafarian and Safari (2015) conducts a study to examine the impact of oil price fluctuations on returns of different sectors of Malaysian stock market over the period from January 2000 to March 2014. The effect of oil prices on the return of stock market index is measure by using multifactor regression. The results show of oil prices has positive impact to changes on the Financial Times Stock Exchange Composite Index (FTSE KLCI) market return. The oil prices changes positively affect consumer staples and energy sector index returns.

Methodology

This study tries to assess the effect of oil price and the dividend payout ratio. Other internal characteristics of plantation public listed companies such as return on asset, leverage, current ratio, and market price to book value are selected as controlling variable. Thus, the estimation model is constructed as follows;

$$\mathbf{DPR_{i,t} = \alpha + \beta_1 ROA_{i,t} + \beta_2 DER_{i,t} + \beta_3 CR_{i,t} + \beta_4 PBVALUE_{i,t} + \beta_5 OP + \varepsilon_{i,t}} \qquad \mathbf{(1)}$$

The model equation in (1) consists of DPR_t represents the dependent variable which is dividend payout ratio while i and t represent samples and year respectively. Meanwhile, α indicates constant term and β means the coefficient of independent variables. The independent variables are denoted as ROA (return on asset), DER (Debt to equity ratio), CR(Current ratio), PBVALUE(Market Price to Book Value) and OP(oil price). While, i equal to sample and t equal to year accordingly. The error term is presented by Ɛ.

Data is collected based on annual financial statements of listed companies which are obtained from the DataStream database and World Bank. 14 companies are selected with data spanning from 2007 to 2016. The selection of the companies also considered based on

uniformness and the availability of the financial statement for each plantation companies in Malaysia. Panel statistic method is used to analyze the data. Three models of panel static are going to be tested in obtaining the final result. These include the Pooled Ordinary Least Square Model, the Random Effect Model and the Fixed Effect Model as stated below;

Pooled Ordinary Least Square Model - $$Y_{i,t} = \alpha + \beta_1 X_{i,t} + \varepsilon_{i,t} \quad (2)$$

Random Effects Model - $$Y_{i,t} = \alpha + \beta_1 X_{i,t} + (\varepsilon_{i,t} + \mu_{i,t}) \quad (3)$$

Fixed Effects Model - $$Y_{i,t} = \alpha_i + \beta_1 X_{i,t} + \varepsilon_{i,t} \quad (4)$$

Finding Analysis

Table 1 shows the result of correlation between the variables used in this research. The value of correlation is range between -1.0 and +1.0 in order to determine the degrees of movement of two variables are associated. In addition, the coefficient correlation for each independent variables must less than 0.8 (<0.8) which indicates there is no correlation problem exists between the variables.

Table 1: Correlation of Coefficient Analysis

Correlation	DPR	ROA	DER	CR	PBVALUE	OP
DPR	1.0000					
ROA	-0.1401	1.0000				
DER	-0.2662	-0.2376	1.0000			
CR	0.4684	0.0390	-0.6587	1.0000		
PBVALUE	0.2485	0.4016	-0.0911	0.2327	1.0000	
OP	0.0498	-0.2368	0.0980	0.1167	0.0875	1.0000

Notes: DV= Dividend Payout Ratio, IV=Return on Asset, Debt to Equity Ratio, Current Ratio, Price to Book Value, Oil Prices.

Based on the result above, it shows that current ratio, price to book value and oil prices have positive correlation with dividend payout ratio. Variables that have a positive correlation indicate that degree of movement of the variable is parallel. If one variable increases the other variable increases and vice versa. However, the return on asset and debt to equity ratio shows a negative correlation to dividend payout ratio. This indicates that when two variables are negatively correlated it indicates that if one variable increases the other variable decreases and vice versa. Meanwhile, return on asset has positive correlation with current ratio and price to book value, but negative correlation with debt to equity ratio and oil prices. The debt to equity ratio has positive association with oil prices and negative association with current ratio and price to book value. Furthermore, current ratio has positive correlation with both price to book value and oil prices. While, market price to book value and oil prices show a direct correlation.

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Table 2: THE VECTOR INFLATIONARY TEST (VIF)

Variables	VIF	1/VIF
Return on Asset	1.44	0.694637
Debt to Equity	2.06	0.484386
Current Ratio	2.08	0.481185
Market Price to Book Value	1.36	0.734774
Oil Prices	1.14	0.879297
Mean VIF	1.62	

Table 2 shows the test of the multicollinearity problem. The result reveals the mean VIF is less than 5 which is 1.62. This indicates that there is no multicollinearity problems occur among the variables used.

When testing to determine whether to choose Pooled Ordinary Least Square Model or Random Effect Model the test Breusch Pagan Lagrangian multiplier test has been applied. The hypothesis is been set as follows;

H_0: Choose Pooled Ordinary Least Square Model
H_1: Choose Random Effect model

Since the test used shows a probability of Chi^2 is less than 0.05, therefore the H0 is been rejected and the random model is used. When the analysis proceed to decide the final model of Random Effect Model or Fixed Effect Model another test Hausman Fixed Test is applied. The hypothesis of Hausman Fixed Test is as follows;

H_0: Choose Random Effect Model
H_1: Choose Fixed Effect Model

Nonetheless, the result from Hausman Fixed Test shows the Chi^2 is higher than 0.05. This indicates that H_1 is rejected than the analysis cannot proceed to Fixed Model. Therefore the final results used in this paper is based on the random as in Table 3

Table 3: Random Model

Variables	Coefficient	P-Value
Return on Asset	-0.3615336	0.005
Debt to Equity Ratio	-0.008074	0.901
Current Ratio	0.4293955	0.005
Price to Book Value	0.4238621	0.098
Oil Prices	-0.3208795	0.353
Constant	-1.092012	0.440

Notes: DV= Dividend Payout Ratio, IV=Return on Asset, Debt to Equity Ratio, Current Ratio, Market Price to Book Value, Oil Prices.

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This study have accepted the panel data analysis of Random Effect Model as Breusch and Pagan Lagrangian Multiplier Test shows the p-value of chi^2 is significant which 0.0016 lower than 0.05. Nonetheless, this study unable to proceed to Fixed Effect Model as Hausman Fixed Test shows insignificant p-value of chi^2. Hence, the final regression model formed based on the random model regression is shown as below:

$$DPR = -1.0920 - 0.3615ROA^{***} - 0.0081DER + 0.4293CR^{***} + 0.4239PBVALUE^{*} - 0.3209OP$$
$$(0.1295) \quad (0.0652) \quad (0.1542) \quad (0.2561) \quad (0.3454)$$

Based on the equation above, the value on the parentheses shows standard error of estimation. While ***, ** and *denote the significance level of 0.01, 0.05 and 0.10. The R-square of the regression model is 0.3018 which indicates that 30.18% of the dividend payout ratio can be explained by all the independent variables which are return on asset, debt to equity ratio, current ratio, price to book value ratio and oil prices.

The result show there is negative significant relationship between return on asset and dividend payout ratio which the p-value is 0.005. The return on asset and dividend payout ratio is significance at 1% level of significant. Moreover, 1% increase in return on asset will decrease dividend payout ratio by 0.3615%. The negative relationship between return on asset and dividend payout ratio may be explained by the reliance of the company on the profits to finance the continuous expansion. The profitability is expected to positively influence dividend payout ratio as earlier findings by Abor and Amidu (2006) and Fitri, Hosen and Muhari (2016). Nonetheless, the negative sign indicates that the company tend to keep surplus cash in order to finance their operation rather than distribute the cash to the shareholders. The result is consistent with the finding by Ahmed (2015) that found there is negative relationship between return on asset and dividend payout of UAE banking sector.

The debt to equity ratio and dividend payout ratio indicate that 1% increase in debt to equity ratio will decrease dividend payout ratio by 0.0081%. The finding shows that debt to equity ratio is negatively not significant related to dividend payout ratio which p-value is 0.901 respectively.

In this study, the liquidity is represented by using current ratio. The positive expected sign indicates that higher current ratio will lead to higher dividend payout ratio. In addition, p-value of current ratio and dividend payout ratio is 0.005. The results reveal positive relationship between current ratio and dividend payout ratio. The variables show that there is significance at 1% level of significant. Therefore, the null hypothesis is rejected. The coefficient estimates that 1% increase in current ratio will increase the dividend payout ratio by 0.4294%. Besides, the good liquidity position increases the ability of the firms to pay dividends. Abor and Amidu (2006) pointed that the company with good and stable cash flow are able to pay dividends easily compared with companies with unstable cash-flow position.

Market to book value is used to represent the investment opportunity of the company. The investment opportunity and dividend payout ratio reveal positive relationship p-value is 0.098. The significance of both variables is at 10% level of significance. The coefficient estimates that 1% increase in price to book value will increase dividend payout ratio by 0.4239%. The result shows a significant positive relationship between two variables which suggest that the companies with positive investment opportunity preferred to pay dividends. The positive relationship between investment opportunity and dividend payout explained that more investment opportunity will increase the ability of the company in paying the dividend. The dividend payment is done to meet the shareholder's expectation in investing at the company. Shareholder will expect the return in form of dividend from their investment. The

result obtained of positive relationship between investment opportunity and dividend payout however contradicts to the agency theory which explained that excess cash is better paid to shareholders when the company have a low investment opportunity. According to Mui and Mustapha (2016), a company should pay dividends instead of retained the cash to reduce the cost incurred from agency problem.

The major focus of the study is the effect price of oil to dividend payout ratio. The relationship between oil price and dividend payout ratio is found to follow the expected sign of negative relationship. Nonetheless, the finding shows the price of oil is insignificant influencing dividend payout ratio in Malaysia which p-value is 0.440. The result of coefficient in the random effect test state the 1 dollar increase in oil price will reduce dividend payout ratio by 0.3209%. Eventhough, the impact of oil price fluctuation is varying across the different sectors and industries nonetheless it does not give effect on dividend payout ratio in plantation sector.

Conclusion

This study is aimed to assess the oil price effect on the dividend payout ratio in the case of plantation public listed companies. Using a random effect model in panel static, the finding reveals there is negative relationship between oil price and dividend payout ratio however the relationship is insignificant. The price of oil does not affect directly on the dividend payout ratio of on public listed plantation companies. Thus, it explains the phenomenon of despite the continuous slide in oil price, most of the plantation companies in Malaysia persistently cutting the dividend. The findings also reveals only internal and common factors are significant factors in influencing dividend payout ratio in the case of Malaysia.

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THE MUFTIS' DISPOSITIONS AND RELIGIOUS CONSERVATISM IN MALAYSIA

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Abstract: *The flourishing of Islamic cultures and lifestyles among Malaysian Muslim society in the form Islamic way of dressing, Islamic greetings and mushrooming of Islamic programs or events are perceived as manifestations of conservatism. Increased conservatism however is also associated with exclusive attitude, discrimination and persecution against the non-Muslims and other minority groups. The Islamic bureaucracy in Malaysia such as the SharÊÑah courts, National Fatwa Council and the Islamic Religious Department are deemed responsible for the creeping conservatism among Malaysian Muslim society. Present study therefore focuses on the Malaysian Muftis since they are part of the bureaucracy. Apart from exploring the Muftis stances on few areas in order to measure their conservatism, this study also attempts to reassess the concept of conservatism itself. Six Muftis have been interviewed including the Perlis Mufti, Penang Mufti, Perak Mufti, Federal Territories Mufti, Pahang Mufti and Melaka Mufti. This study proposes a revised concept of conservatism based on its root word i.e. to "conserve" which means to "preserve", "maintain" and "sustain". Theologically, conservatism also denotes the idea of reliance on revelation and refutation of sole dependence on human reason in resolving issues and problems as propagated by Edmund Burke as a counter-response to the revolutionaries' ideas. In the context of present study, conservatism implies the idea of preservation of the original Islamic teachings that are based on the Qur'Én and Íadith. Conservatism therefore is not related to the negative attitudes and actions as commonly understood. Based on this concept of conservatism, the Muftis' dispositions could be categorized as conservative. They however differ in the manner of interpretation and contextualization of the revelation. Some of them are more progressive while some others are more traditional in their interpretations.*

Keywords: Mufti, Conservatism, Preservation, Revelation, Malaysia

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Introduction

The growing Islamic consciousness among Malaysian Muslim society today is visible through the adoption and practice of Islamic lifestyles and cultures. For instance the more 'Islamic' way of dressing especially among Muslim women such as the wearing of *hijab* (headscarf), *jubah* and *arbaya* (Arabic long dress); the use of Arabic words in greetings and daily conversation such as *Assalamualaikum* for greeting, *iftar* for *buka puasa*, *solat* for *sembahyang*, *Eid Mubarak* for *"Selamat Hari Raya"* and many more. The multiplication of Islamic programs are also noticeable in the electronic and social media for instance the *QÉri* Junior, *Qur'Én* hour, *DaÑi* and in the national events such *Malam Cinta Rasul*. The recent demand by the grassroots to amend the SharÊÑah Courts (Criminal Jurisdiction) Act 1965 (Act 355) also signifies that Malaysian Muslims are becoming more Islamic.

The increasing Islamic awareness among the society and the expansion of *sharÊÑah* implementation in this country somehow are perceived as undermining the rights of non-Muslims and other minority groups. Some of the *SharÊÑah* Courts' ruling for instance

seemed treating the non-Muslims unfairly. In the case of the rights of burial Moorthy Maniam or his Muslim name's Muhammad Abdullah was handled by the *SharÊÑah* court since the High Court refused to hear the application of his widow, Kaliammal Sinnasamy who claimed her late husband was a Hindu during his lifetime (Ahmad Fauzi Abdul Hamid & Muhamad Takiyuddin Ismail, 2014).

The practice of moral policing is also rampant in a more Islamic society. For examples particular dress code that is enforced at government buildings and centers and raids led by the Islamic religious departments at budget hotels in the search for unmarried *khalwat* couple and many more. The repression of unorthodox Islamic groups, people of other faiths and minority groups such as people of different sexual orientation are also often being associated with religious despotism (Fauzi Abdul Hamid, 2013). This is evident with few fatwas issued by the *muzakarah* of the National Fatwa Council related to these matters. Among the religious movements that have been issued as *Íaram* including the *Al-Arqam, Rufaqa'* Corporation Sdn. Bhd (later version of Al-Arqam), *SyÊÑah* and *Tariqat Naqsyabandiah Al-Aliyyah Syeikh Nazim Al-Haqqani* (JAKIM, 2009).

All these reflection of exclusive attitudes and discriminatory measures are associated with the increased level of conservatism among Malaysian Muslim society. Ahmad Fauzi Abdul Hamid (2014) for instance has attributed the failure of Islam Hadhari to Islamist conservatives comprised of UMNO ultraconservatives, religious bureaucrats and a burgeoning Islamist civil society that has tainted the originally moderate Islam Hadhari into a conservative doctrine. In order to determine the extent to which the Islamic bureaucracy is responsible in spreading the 'conservatism' among Malaysian Muslim society, six muftis have been interviewed for this study which represented different zones in Peninsular Malaysia. This study focuses on Malaysian Muftis since they are part of the religious bureaucracy and supposedly the agent of conservatism.

a) Northern zone:
   1.1 Perlis Mufti (Dato' Dr. Mohd Asri Zainul Abidin)
   1.2 Penang Mufti (Datuk Dr. Wan Salim Wan Mohd Nor)
b) Southern zone
   2.1 Melaka Mufti (Dato' Haji Abdul Halim Tawil)
c) Central zone
   3.1 Perak Mufti (Tan Sri Harussani Haji Zakaria)
   3.2 Federal Territories Mufti (Datuk Dr. Zulkifli Mohamad Albakri)
d) Eastern zone
   4.2 Pahang Mufti (Datuk Seri Dr. Abdul Rahman Osman)

The conservatism among the muftis, will be examined based on two main themes; Islamization trends in Malaysia and intra/inter-religious engagement. The concept of conservatism however will be reassessed based on its root words and its theological underpinning.

Conservatism: Despotism or Preservation of Revelation?

Chandra Muzaffar (2011:20) has depicted conservatism as

> …obsessed with scriptural details, that negates reason and reflection, that is opposed to distinguishing the contextual from the perennial, that refuses to admit fresh currents of thought, that denies the need for interaction with other religions, that encourages, if unwittingly, static, fixed attitudes and beliefs which in reality repudiate universal truth.

Based on these characteristics, conservatism is associated with negative attitude such as absoluteness, intolerance, patriarchal attitudes, obsession, refutation and rigidity. Noel O'Sullivan (1976) however recognized conservatism as an ideology rather than a subjective attitude. Ideology is related to an endeavour to produce an intelligible theory of man, society and the world which distinguish it from an attitude.

The French Revolution brought along the ideas that human reason and will are potent and sufficient to create new social order, operated within the framework of liberty, equality and fraternity. This revolutionaries' ideas, according to the conservatives were against the imperfect nature of man and repudiated the role of revelation. Conservatism therefore does not intent to oppose the 'change' per se but it is only meant to oppose the idea of total or radical change in the form of gratifying full autonomy to human reason that is deemed imperfect. For this reason, conservatism is known as a "philosophy of imperfection" (O'Sullivan, 1976).

The challenge to the revolutionary theorists that supported the autonomy of human reason had also been raised by Edmund Burke, the Father of Conservatism. Among Burke's counter arguments were: Both Church and State were inseparable spiritually (not mechanically) since both were derived from God; human conscience was guided by prescription, presumption and pre-judgement; life was not only meant to be free but it must also have meaning (that can be found in tradition, folklore and myth); the authority of a government lies on virtuous principles and not on a social contract; ancient wisdom that contained collective intellect were safeguarded and transmitted by culture; principles are learned through the understanding of nature and history. Theological vision of conservatism therefore envisaged that a just and fair state and society can only be achieved through God's order and not solely on human reason that deemed imperfect (Stanley Ayling, 1988).

The root word of conservatism itself is 'conserve' which is synonymous with preserve, maintain and sustain. Taking the word preservation and its theological underpinning that upholding revelation instead of human reason, conservatism in the context of present research, signifies the idea of preservation of original Islamic teachings that is based on Qur'Én and Íadith.

The Muftis' Dispositions on Islamization Trends and Intra/Inter-religious Engagement

Based on this revised concept, conservatism become the main pillar of the Muftis' thought in both themes (i.e. Islamization Trends and Intra/Inter-religious Engagement) since they are displaying their high recognition to the supremacy of the revealed sources. However, they differ in their interpretation and contextualization of the sacred text. Some of them are more progressive while some others are more traditional.

The progressive approaches in interpreting the text emphasize on the spirit, the underlying philosophy and the reasoning behind particular injunctions prescribed in the scriptures; the application of historical and sociological context of the Qur'Én and Sunnah in order to understand the values and principles of Islam; the understanding that Islam is an evolutionary and dynamic movement or process which continuously rejuvenating through the absorption of new knowledge; the openness to dialogue with other intellectual traditions in the process of 'absorption of new knowledge'; and the promotion of constant interaction with other spiritual traditions (Chandra Muzaffar, 2011).

Traditional approaches on the other hand reflect any idea that is traditional, classical and orthodox, remain loyal to the established sources of the *sharÊÑah* and *fiqh* as fixed in the *madhhab* (Yusri Mohamad, 2016).

Islamization Trends In Malaysia

Only one tendency has been identified in the Muftis' thought on the trend of Islamization in Malaysia; conservative-progressivist.

Conservative-Progressivist

The Muftis agree that the perceived Islamic expansion are not the values but actually only the labels. Federal Territories Mufti raises the issue of dualism *(sanawiyyah)* such as in thought *(sanawiyyah al-fikrah)* and in education *(sanawiyyah at-attaÑlÊm)* that was born from the labelling of organizations, institutions or systems with Islamic 'labels.' In higher educational system for instance, there are universities with Islamic names while there are universities that consist of Muslim majority but without Islamic names. He questions the level of 'religiosity' of those universities. According to him, the labelling framework is no longer relevant hence need to be changed (Federal Territories Mufti, personal communication, October 6, 2016).

Other than the issue of dualism, the Penang Mufti highlights the 'exclusiveness' that was produced by the labelling will hinder the non-Muslim from Islam since it seems those institutions or systems with Islamic labels were made exclusively for Muslims (Penang Mufti, personal communication, October 25, 2016). The same concern is raised by the Pahang Mufti who insists that the *u'mmah* is the one that needs to be Islamized and not the institution (Pahang Mufti, personal communication, October 20, 2016).

Melaka Mufti highlights the issue of priority *(aulawiyyÉt)* for instance the priority given by the Muslim society on recommended (*mandūb*) practices over what is obligatory *(wÉjib)*. He gives an example on the priority to perform *uÑmrah* over the obligation to settle the debt (Melaka Mufti, personal communication, November 22, 2016). Perlis Mufti identifies the commercial elements in today's Islamic trends which can be found in Muslim's wear, fashion and beauty products. The variety and revolution of *hijÉb* among Muslim women for instance has generated a great deal of profits for traders (Perlis Mufti, personal communication, October 14, 2016).

The current unconventional *daÑwah* methods are also subjected to the Muftis' discontentment. The mushrooming *daÑwah* programs and events apparently signifies the increasing public interest in religion but few issues are raised by the Muftis related to the methods applied by the contemporary Muslim preachers or *dÉiÑ*. Among the issues is the element of entertainment that was inserted in the *daÑwah* programs. For instance, excessive jokes, singing, and acting are part of today's *daÑwah* programs. According to Melaka Mufti this form of *daÑwah* also reflects the superficial practices of Islam since the focus is on entertainment rather than content and knowledge (Melaka Mufti, personal communication, November 22, 2016).

Perak Mufti also questions the effectiveness of the current *daÑwah* methods. According to him, despite the mushrooming *daÑwah* platforms (mass media, radio, newspaper etc.) and Muslim preachers, the effectiveness of the contemporary *daÑwah* can barely be seen (Perak Mufti, personal communication, November 16, 2016).

Intra/Inter-Religious Engagement

Even though the Muftis portray their consensus view on the Islamization trends in Malaysia, their attitudes towards intra/inter-religious engagement demonstrate two different tendencies: conservative-progressivist and conservative-traditionalist.

Conservative-Progressivist

The mufti of Penang, Melaka, Federal Territories and Perlis can be classified as conservative-progressivist. The main concern for the Muftis who belong to this category is *daÑwah*. They believe that, openness and inclusiveness will do favour to Islam not the other way around.

Education is the main principle in disseminating the correct understanding of Islam. It is also believed can reduce fear and prejudice among the non-Muslim. This view is shared by the Federal Territories and Penang Mufti since they rest assured that lack of understanding on behalf of the non-Muslim that create their hostility toward Islam.

The Federal Territories Mufti insists that Islam came to educate *(ta'dÊb)* and not to punish *(taÑdhÊb)* (Federal Territories Mufti, personal communication, October 6, 2016). The Muslims' attitudes also have been emphasized by the Federal Territories and Melaka Mufti. The Federal Territories Mufti for example emphasises that Muslims should display their *akhlÉq* as an important element for *daÑwah* as portrayed by the Prophet Muhammad's (Peace be upon Him).

The tolerance and inclusiveness of all four Muftis are also echoed in their support for inter-religious dialogue. This is evidence with some of the inter-religious programs organized and participated by the Muftis. Penang Mufti for instance had organized a program known as *'rahmah li al-aÑlamÊn'* that was intended to spread the correct understanding of Islam not only for the non-Muslim but also to the Muslim. The informal dialogue that occurred during these programs allowed Muslims to explain about Islam especially on the misunderstanding on few *sharÊÑah* issues such as the rights of women in Islam (Penang Mufti, personal communication, October 25, 2016). Federal Territories Mufti had received few visits from inter-religious groups to the Mufti's office (Federal Territories Mufti, personal communication, October 6, 2016). Melaka Mufti emphasises that *tasÉmuÍ* or tolerance should be the strength for Muslims. He adds that dialogue as part of Islamic tradition can be one of the means to demonstrate the concept of tolerance in Islam (Melaka Mufti, personal communication, November 22, 2016).

Conservative-Traditionalist

Two out of six Muftis being interviewed (i.e. Pahang and Perak Mufti) reveal the conservative-traditionalist tendency in the issue of intra/inter-religious engagement. These two Muftis for instance, stress the need for more restrictions on the presence of other religious symbols and rituals in public sphere. Perak Mufti for instance, insists that other religions rituals should not be made public (Perak Mufti, personal communication, November 16, 2016). According to the Pahang Mufti, the restrictions should also apply to Islamic school of thoughts other than *As-SyafiÑi*. (Pahang Mufti, personal communication, October 20, 2016). These two Muftis also display unfavourable attitude towards inter-religious dialogue.

Conclusion

Based on the discussion, most muftis can be considered as conservatives (in order to preserve the religion) and progressive at the same time when they demonstrate the progressive attributes such as emphasize on the spirit, the underlying philosophy and the reasoning in interpreting the sacred scriptures rather than taking it literally, application of historical and sociological context of the Qur'Én and Sunnah and openness to dialogue. There are only few Muftis that demonstrate their traditional stances on engagement with others.

Present study also reveals that any attitudes or measures that reflect despotism, discrimination, oppression and authoritarianism cannot be associated with conservatism since the real conservatism in the sense of preservation should preserve and uphold the Islamic principles comprehensively including justice, tolerance and inclusiveness as enshrined in the Qur'Én and Íadith.

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IDENTIFYING THE IMPORTANT FACTORS IN KNOWLEDGE SHARING BEHAVIOR AMONG ONLINE BUSINESS USING ANALYTICAL HIERARCHY PROCESS

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Abstract : *Searching knowledge through social network to resolve problems become very popular recently, but give restricted value without rich knowledge. Thus, there is a need to explain why people in social network choose to share knowledge with other community members. Understanding knowledge sharing behavior among online users is required to stimulate knowledge sharing through social network. A few studies were conducted to explore knowledge sharing behavior among social network users. However, research study that focuses on online business oriented users still has not been explored yet. Thus, this research is intended to identify the most important factors in knowledge sharing behavior among online business oriented users by using Analytical Hierarchy Process (AHP). AHP technique is used to prioritize eleven factors which are reciprocal benefits, altruism, mutual trust, identification, reputation, social network ties, shared vision, shared interest, computer self-efficacy, personal innovation and controllability. This problem will be solved using Expert Choice software. This study will benefit virtual entrepreneurs in order to improve their communication, business activities and contribution to the existence of long term sustainability of online business through social network.*

Keywords*: Knowledge Sharing Behaviour, Analytical Hierarchy Process*

Introduction

Knowledge sharing has been the most discussed topic and a challenge for organizations because of its importance for the success of knowledge management efforts (Amin, Hassan, Ariffin, & Rehman, 2009). Past researches have highlighted variety of factors that affect the willingness of individuals in knowledge sharing, such as incentive system, costs and benefits and also intrinsic and extrinsic benefits (e.g., Bock, Zmud, Kim, and Lee, 2005; Kankanhalli, Tan, and Wei, 2005; Wasko and Faraj, 2005). Hsu, Ju, Yen, and Chang (2007) reasonably assumed that individuals' behavior in sharing knowledge will be based on the personal characteristics and environment they are in.

In attaining the knowledge management process, the right knowledge must be presented to the right person and the person is bound and willing to learn. Thus, it must go through the process of socialization and involve social interactions in order to achieve knowledge sharing behaviour (Sulaiman, 2010). This social interaction consists of individual interactions and participation and when both of these important elements involved, knowledge sharing turn out to be more effective. For instance, Bock et al. (2005) stated that "the stream of knowledge across individuals and organizational boundaries, and into organizational practices relies heavily on individual employees' knowledge sharing behaviour". In online social network,

knowledge sharing behaviour cannot be forced but can only be encouraged and facilitated because it concerns the willingness of individuals in online social communities to share the knowledge with others through active participation (Yu, Lu, and Liu, 2010).

A few studies were conducted to explore knowledge sharing behaviour among social network. However, research study that focuses on online business oriented users still has not been explored in Malaysia. Reluctance to share is one of the main obstacles in implementing knowledge sharing in Malaysia (Singh et al., 2008). Sometimes, individuals are reluctant to share knowledge due to a sense of insecurity (Elahi and Mushtaq, 2011). This problem can also occur to online business oriented users when they fear that their ideas or entries in social network will be stolen (Ahmad, 2011). As a result, successful knowledge sharing can be difficult to achieve when open sharing of knowledge by online business oriented users is limited across social network. Therefore, Malaysian citizen need to be more open in accepting social network as one of the latest communication tools in sharing knowledge and one of the way to generate their income.

This research will concentrate on success factors in knowledge sharing behaviour among online business oriented users. Thus, the main objective is to rank success factors for online business oriented users in knowledge sharing behaviour using AHP. In this regard, this study aims to fill this gap by identifying success factors in knowledge sharing behaviour among online business oriented users. Findings were expected to expand the field of research in knowledge sharing behavior and allowing social network users especially online business oriented users to have knowledge of the successful factors in managing their social network.

Literature review

Success Factors of Online Knowledge Sharing Behaviour

The usage of internet for sharing knowledge has resulted in increasing interest among our society. This supported by (Hassandoust, Kazerouni, & Perumal, 2012) which stated that there are increasing usage of internet for learning and training purposes. Searching knowledge through internet to resolve problems are very popular, but give restricted value without rich knowledge (Chiu et al., 2006). Thus, there is a need to explain why people in social network choose whether to share or not to share knowledge with other community members. These also called as motivations in sharing knowledge. Understanding knowledge sharing behaviour among online users is required to stimulate knowledge sharing through social network. There are some theories that can help the authors in determining the success factors that can play an important role in online knowledge sharing behaviour specifically among profit oriented users in Malaysia. Hence, this study adopted two relevance theories; Social Capital and Theory of Planned Behaviour.

The Social Capital Theory perspective can promote knowledge sharing between social group if they share common values thus facilitating them to create mutual trust (Liu, 2011). This theory has been proved as capable in motivating individual to share their knowledge in social networks (Wasko and Faraj, 2005; Chiu, Hsu, and Wang, 2006; Hall and Wulff, 2008). According to Hung et al. (2011), this theory argues that cooperation and tacit understanding are formed over a long period of time, leading to the development of mutual trust and long-term relationships in groups. In the context of their study, individuals will reciprocate others' effort to share knowledge by contributing more knowledge. Theory of Planned Behaviour can be used to explain and predict individuals' attitude. This model is accepted in social psychology and posits that individuals' behaviour is determined by perceived behavioural control and behavioural intention. Behavioural intention is determined by attitude towards behaviour, subjective norm, and perceived behavioural control. Attitude towards behaviour indicates individual's positive or negative feeling about performing a behaviour. Subjective norm

indicates that individual perception is accepted, encouraged and implemented by others. Perceived behavioural control indicates that individual perception of the availability of resources or opportunities is necessary in performing a behaviour (Ajzen, 1991). Some researchers claimed that Theory of Planned Behaviour can be used as a theoretical guideline in explaining knowledge sharing intention (Bock et al., 2005) or online behaviour.

Based on two theories above, there are eleven factors in online knowledge sharing behaviour which were selected based on literature reviews. These factors are:

Reciprocal Benefits

Previous research indicated that knowledge sharing in online communities is facilitated by a strong sense of reciprocity (Wasko & Faraj, 2005). Individuals will reciprocate others' effort to share knowledge by contributing more knowledge (Hung et al, 2011). Results from Lin (2007) showed that reciprocal benefits significantly influence employee attitudes and intentions towards knowledge sharing. This finding is consistent with Scott (2000), who argued that collaboration ability depends heavily upon trust as open reciprocity, and that information and knowledge sharing will not occur freely without such reciprocity.

Altruism

The benefit of enjoying helping others is originated from the concept of altruism (Kankanhalli et al., 2005). Othman and Siew (2012) examined the individual, organizational and technology factors that affect the intention in sharing knowledge by using blog in Malaysian organization. The results show that individual participation in organization blog is produced from positive outcome expectation and also their enjoyment in helping each other. Wasko and Faraj (2005) found that individuals in the electronic networks are intrinsically motivated to disseminate their knowledge to others because they obtain pleasure in doing that.

Trust

Trust is described as an expression of confidence between several parties during whatever exchange, which means confidence that does not harm or risk through other parties' action, or confidence that is not exploited by any party (Ismail & Yusof, 2008). Hsu et al. (2007) argued that the biggest challenge in nurturing an individual's knowledge sharing behavior in virtual communities is the willingness to share knowledge with others. They concluded that self-efficacy and trust play important roles in guiding individuals' behavior. Based on Social Capital Theory, knowledge sharing between social group can be promoted if they share common values thus facilitating them to create mutual trust (Liu, 2011).

Identification

Identification is an identity based on the interests when individual's interests merge with social network's interests. Nahapiet & Ghoshal (1998) point out that trust, norms, and identification are three key factors that can define the context for knowledge sharing. According to Wen (2011), in social capital development, the passion, commitment, and identification were included in the individual of a small group. Identification is viewed as an important contextual factor affecting knowledge contribution (Chiu et al., 2006; Chow and Chan, 2008; Hsu and Lin, 2008; Kankanhalli et al., 2005).

Reputation

The contribution of knowledge by individuals occur when they believe that participation increase their professional reputation, share their expertise, and become part of the network structure (Wasko and Faraj, 2005). Reputation can be categorized as intrinsic motivators to individual in sharing knowledge (Kankanhalli et al., 2005; Wasko and Faraj, 2005). Wasko and Faraj (2005) used reputation as motivational variables to explore individual's knowledge contribution in virtual community.

Social Network Ties

Social network ties are considered as a link between two users based on one or more relation in network (Chen, Chen, & Kinshuk, 2009). Through frequent interaction of people a strong social relation between them is appeared in the form of social ties. These social ties will enhance the relationship of trust, beliefs and respect with member of communities along with sharing of useful knowledge (Elahi & Mushtaq, 2011).

Shared Vision

Community members share their ideas and thoughts. Individuals take part in online communities to secure knowledge, resolve problems, improve individual capability, absorb specialized knowledge, and create innovations (Chen & Hung, 2010). Through conversations in online community, people begin to develop a sense of belonging and collective identity (Byington, 2011).

Shared Interest

The sense of community is an essential characteristic of online communities. It also becomes a sense of belonging to a community where the members matter to one another for their commitment to be together (Martin-Niemi & Greatbanks, 2010). The characteristics of online communities vary, based on the quality or depth of their social relationships that members form with other individuals within the digital environment, as well as on their mutual goals and shared interests (Kim, Park, & Jin, 2008). Online communities can be a place for recognition, degrees of intimacy and shared understandings. Majority of the people interact with one another to resolve their problems and share their expertise.

Computer Self-Efficacy

Self-efficacy applies to computing behaviour. Computer self-efficacy, or an individuals' judgment of computing capability, is a significant influence in choosing technology, attitudes towards technology, and performance in a wide variety of computing technologies (Tang et al., 2012). Teh et al., (2010) has been done the research on the factor of internet self-efficacy affecting the individuals' knowledge sharing behaviour based on theory of planned behaviour. They concluded that expertise or capability to utilize an internet application help to increase confidence levels of an individual and this factor can motivate individuals' knowledge sharing with others.

Personal Innovation

Innovation is defined as the generation, acceptance and implementation of new ideas, processes, products or services (Kamasak, Bulutlar, Kamaşak, & Bulutlar, 2010). In our research field, innovation can be defined as a process wherein knowledge is acquired, shared and assimilated with the aim to create new knowledge, which embodies products and services (Plessis, 2007). The management of knowledge also produces new knowledge and the ability

for innovation. At the fundamental level, the sharing of knowledge should be encouraged as that further enriches resources in the public commons that support the process of creativity and innovation (Azmi, 2010). The exchange of knowledge and reconstruction of knowledge will be influenced for the better innovation (Lei & Xin, 2011).

Controllability

Controllability is defined as individual judgments about the availability of resources and opportunities to perform the behaviour (Pavlou and Fygenson, 2006; Chen, Chen, & Kinshuk, 2009). Hsu & Chiu (2004) suggested that the nature of perceived behavioural control comprises two distinct dimensions: self-efficacy and controllability. Pavlou and Fygenson (2006) have also carried out similar studies on electronic service acceptance research, using the extended version of Theory of Planned Behaviour with some additional component into perceived behavioural control: self-efficacy and controllability.

Analytical Hierarchy Process

Analytical Hierarchy Process (AHP) is a mathematical method that is used for multi-criteria decision-making. The AHP (Saaty, 1990) was proposed as a method to solve decision problems using a hierarchical structure of criteria and alternatives. AHP has become one of the most popular decision-making methods due to the use of pairwise comparisons to input qualitative information. There are numerous types of previous studies regarding AHP which enables people to make decisions including applications in knowledge management system (Greco, Grimaldi and Hanandi, 2013) online purchasing (Singh and Dash, 2016), online banking (Hossein and Mehdi, 2014), healthcare (Ahmadi et al, 2014), and government (Ravindra Kumar et al, 2015). Hence, AHP help decision makers in comparing the relative importance of the factors or criteria in a systematic and quantitative manner. Therefore, the application of AHP for this study is robust and do not constitute any bias result as the judgment on the weightage is depends on the respondents' decision.

Methodology

AHP is a MCDM approach and due to nice mathematical properties of the method, it has fascinated many attention of researchers. AHP is used to rank the preference criteria. The basic procedure of AHP consists of the following steps (Saaty, 1980; 1990):

1. Structuring a decision problem, listing and selection of criteria.
2. Priority setting of the criteria by pairwise comparison (weighing).
3. Pairwise comparison of each criteria (scoring).
4. Checking for consistency in every pairwise comparison exercise.
5. Obtaining an overall relative score for each option.

Eleven preference criteria are involved. The description of each criteria are stated in Table 1.

Table 1: The description of the criteria

Criteria	Description
1. Reciprocal benefit	Reciprocate benefits such as reputation and reward
2. Altruism	enjoy helping each other
3. Trust	an expression of confidence between several parties during whatever exchange

4. Identification	an individual's sense of belonging and positive feeling toward online community
5. Reputation	build reputation in online social network and as profit oriented users
6. social network ties	Hubungan social dalam rangkaian
7. shared vision	common understanding of proper actions and collective goals
8. shared interest	common interests in online business and gain profit
9. computer self efficacy	Individual's confidence in his/her ability to perform using computer technology
10. personal innovation	the willingness of an individual to try out a new information technology
11. controllability	Individual's belief based on available resources regarding the extent to which performing the behaviour using technology is up to the actor

The weightings of the comparison for each criterion is rated using nine scales of importance (Saaty, 1980), as shown in Table 2. The respondent's weightings of the different criteria are extracted from a pairwise comparison of the relative importance of all pairs of criteria using the AHP computer software package Expert Choice 11.

Table 2: AHP scale of importance

Preference Level	AHP scale of important
Equally preferred	1
Equally to moderately preferred	2
Moderately preferred	3
Moderately to strongly preferred	4
Strongly preferred	5
Strongly to very strongly preferred	6
Very strongly preferred	7
Very strongly to extremely preferred	8
Extremely preferred	9

Conclusion

The main contribution of this research is to enhance the knowledge of social network users to reach their full potential as online business oriented users in order to improve their ways of life by getting the income or profit through social network. Understanding these issues can also contribute to the existence of long-term sustainability of online business oriented users in developing country. Knowing important factors in online knowledge sharing behaviour is beneficial as it can be a source of knowledge and it is also beneficial to other online business oriented users' survivability.

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STRENGTHENING ISLAMIC SOCIAL FINANCE THROUGH INTEGRATED *WAQF* REPORTING SYSTEM

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Abstract: *Introduced in 2013, integrated reporting is still at a preliminary stage of implementation in most of the world except South Africa. The new method recommends the reporting of six business capitals which are manufactured capital, human capital, social capital, intellectual capital, natural capital and financial capital. Under the current financial reporting framework the main emphasis is to provide a summary of past annual performance focussing mainly on the financial component. This conventional or rules-based framework, however, is inefficient to serve the reporting purpose for waqf administration whose perspective should be future oriented. This research contributes to the existing body of literature by summarizing a review of the current reporting practice for waqf institutions in Malaysia and discussing the weaknesses related to the conventional reporting system. The study then discusses the new model for waqf reporting which is based on the Islamic reporting, accountability and integrated framework. Termed as IWRS the reporting should be prepared in a long-term perspective showing organizational performance against strategy and providing information on how various organizational capitals are used to protect and generate values for waqf assets. The new IWRS would allow stakeholders to assess the prospect of waqf institutions and provides insight into the nature and quality of the relationships with its key stakeholders to enhance the sustainability of Islamic social finance.*

Keywords: Integrated Reporting; integrated waqf reporting system; Islamic social finance; Islamic social responsibility.

Introduction

Waqf is a religious practice and could be viewed within the framework of Islamic social finance. Among the Muslim community the role of waqf is commonly understood as a voluntary way to donate assets for the benefits of the public and thus, can be termed as Islamic social responsibility. Waqf involves permanent or temporary transfers of specific physical assets (*mawquf*) including cash from a Muslim donor or settlor *(waqif)* to a Muslim recipient or administrator/trustee (*mutawalli*) through a legal instrument (*waqfiyyah*). Waqf is now common among corporate entities including universities as an instrument to provide continuous support for social financing and economic development. Any income or *usufruct*

generated from the asset is distributed to the stated beneficiaries (*mawquf alaih*) or utilized according to the instruction of the *waqif* (Malaysian Accounting Standards Board, 2014).

Administration of waqf is an infinite-term affair and its accountability is not limited to the lifetime of the donors. Waqf involves the relationship between the donor and Allah (*hablun min Allah*), as well as the relationships among individuals in society (*hablun min An-nas*) (Dahlan, Yaa'kub, Hamid, & Palil, 2014). The accountability and responsibilities of the waqf trustees include preserving of and adding to the value of the asset (Siraj, 2012) in addition to collecting and distributing *waqf* income (Shafii, Yunanda, & Rahman, 2014). Previously, only individuals were appointed as trustees but in the current practice, organizations including public and private corporations, government agencies or non-profit organizations can also act as trustees (Osman, 2010).

Potential donors should understand procedural matters, religious benefits and economic impact of the waqf (Ab Fatah, Mansor, Ripain and Endut, 2017) in order to waqf their assets. The society also needs to be informed of the value of the waqf assets through proper accounting and reporting. However, the current reporting practice under the conventional system is inefficient due to several reasons. Firstly, the reporting recognizes and reports only monetary value of measurable economic events based on historical costs (Ibrahim, 2000). Secondly, it focuses on reporting past transactions and thus, makes it less useful for planning purposes (Mansor & Mamat, 2017). Thirdly, it stresses only on financial information and lacks a comprehensive view of the potential value of assets. The reporting also excludes information on socioeconomic transactions and environmental effects (Ibrahim, 2000). The emphasis on financial information makes it challenging for the public with limited knowledge of accounting and reporting standard. Therefore, it is proposed that a new form of Islamic accounting and reporting be introduced for sustainable *waqf* management.

In 2013 the International Integrated Reporting Council (IIRC) had introduced integrated reporting but in Malaysia, it is still at a preliminary implementation stage. As of March 2017 only 30 leading organizations have pledged to adopt it. In order to promote the adoption, the Malaysian Institute of Accountants (MIA) has established an Integrated Reporting Steering Committee to oversee the implementation by 2019. The Malaysian Code on Corporate Governance also encouraged the adoption of integrated reporting to improve information quality, transparency and accountability (Securities Commission Malaysia, 2017). This research proposes a new Waqf Integrated Reporting System (WIRS) and contributes to existing literature by addressing issues related to variations in waqf reporting practices and proposes an integrated waqf reporting by taking into account the Islamic perspective of waqf and the direction of global accounting practice.

Literature review

Current Practice of Waqf Reporting

Every state in Malaysia has its own State Islamic Religious Council (SIRC). This is a government agency authorized to administer waqf properties based on state's own legislations and procedure. Selangor was the first state to have a waqf enactment. To accommodate for the rapid growth in waqf today, a number of registered companies and not-for-profit entities have been appointed by SIRCs to independently manage *waqf* properties (Malaysian Accounting Standards Board, 2014). Examples of these entities include *Waqaf An-Nur* Corporation (WANCorp) by Johor SIRC and *Awqaf* Holdings Berhad (AWQAF) by Negeri Sembilan's SIRC. In order to coordinate the administration of all *waqf* insitutions in Malaysia, the federal government has established *Waqf*, Zakat and Hajj Department (JAWHAR) in 2004.

Variations in waqf reporting practice are due mainly to differences in entities' legal forms. For example, for a registered company a *mutawalli* shall comply with approved accounting standards issued by Malaysians Accounting Standard Board (MASB). On the other hand, a *waqf* entity managed by the public sector entity would comply with the directives issued by federal and/or state reporting procedure. However, SIRCs which fall under the public sector entity would prefer to apply the Malaysian Private Entity Reporting Standards (MPERS) instead of the Malaysian Public Sector Accounting Standards (MPSAS) for waqf reporting (Malaysian Accounting Standards Board, 2014). Furthermore, at present there are no specific standards for waqf reporting for not-for-profit entities (Malaysian Accounting Standards Board, 2014). Thus, the quality and comparability of information provided by *waqf* organizations may be compromised due to variations in reporting practices.

According to Ihsan & Ibrahim (2011) and Zain, Samad, & Yusof (2012) *waqf* reporting is out-dated, he extent of reporting is limited and lack detailed (Yunanda, Shafii, & Tareq, 2016). The reports are also inconsistent (Masruki & Shafii, 2013). In addition, most SIRCs never publish their annual reports or accessible through their websites. Many studies state that *waqf* accounting and reporting system is crucial to improve the accountability because the current focus of the report is on financial aspects only. Neglecting the non-financial element and disclosures of information do not satisfy the needs of users and potential donors who would also like to know other aspects including investment risks, external environment and social impact, governance and strategy of the *waqf* administration.

The Conventional Financial Reporting

The conventional reporting is governed by a rules-based system and adopts a short-term perspective. The system provides detailed and strict rules to be followed for financial statements preparations. Its main advantage is that it reduces ambiguity and increases reporting accuracy. As for waqf reporting, the system creates unnecessary complexity and does not allow for flexibility in reporting. The conventional method is ineffective for waqf purposes due to the following reasons. First, it is based on the perspective of capitalism and individualism which emphasizes maximizing profit, ignores the social and environmental aspects and disregards the main purpose of reporting in Islam that is to discharge one's accountability to Allah (Adnan, 1996; Hameed, 2000). Second, the system stresses on short-term profits and thus, inappropriate in the case of *waqf* administration whose perspective is infinite. At the same time *waqifs* are concerned with value preservation and creation to benefit the society rather than profits (Cordery & Morley, 2005).

The conventional reporting also focuses on the disclosures of financial information that is mainly retrospective and based on current and past performance (Perrini, 2006). Thus, it is challenging for the general public and various stakeholders to use the report in planning (Mansor & Mamat, 2017). Besides, it focuses on the financial information and disregards the need for a comprehensive view of the potential value of *waqf* assets. The report does not reflect the economic reality of waqf operations or convey the management's strategic vision and projections in creating value (Hutton, 2004). Besides, the activities of waqf organization do not involve economic events only but also social and environmental aspects such as the use of natural resources and human labour (Hameed & Yaya, 2003). Hence, a new *waqf* reporting system is timely. In addition, the enhancement of *waqf* reporting could promote greater contribution from the society towards *waqf* activities.

The Islamic Reporting

This study compares the conventional rules-based financial reporting with the Islamic perspective to enhance the sustainability of Islamic social finance. The Islamic reporting comprises of two interrelated principles namely, full disclosure and social accountability (Baydoun & Willet, 2000). Table 1 provides a comparison between the objectives of integrated reporting and Islamic reporting.

Table 1: Comparison of Integrated Reporting and Islamic Reporting Objectives

	Integrated Reporting	Islamic Reporting
1.	To improve the ***quality of information*** available to providers of financial capital and promote efficient and productive capital allocation.	***Decision usefulness***: To provide useful information for users including the compliance with *Shariah* principles, the effects of economic resources and obligations, evaluation of how organizations discharge their fiduciary responsibilities in investing and safeguarding of funds, and information of how the organizations discharge their social responsibility.
	To provide for a cohesive and efficient approach to reporting drawing on different reporting strands and ***communicates the full range of factors*** that materially affect organization's ability to create value over time.	
2.	To ***enhance accountability and stewardship*** for the broad base of capitals (financial, manufactured, intellectual, human, social and relationship, and natural) and promote understanding of their interdependencies.	***Stewardship***: To assist in safeguarding of the organizational assets and enhancing managerial and productive capabilities while encouraging compliance with its established goals and policies
3.	Support ***integrated thinking, decision-making*** and actions that focus on the creation of value over the short, medium and long term.	***Accountability***: To provide an account or reckoning of those actions for which one is held responsible.

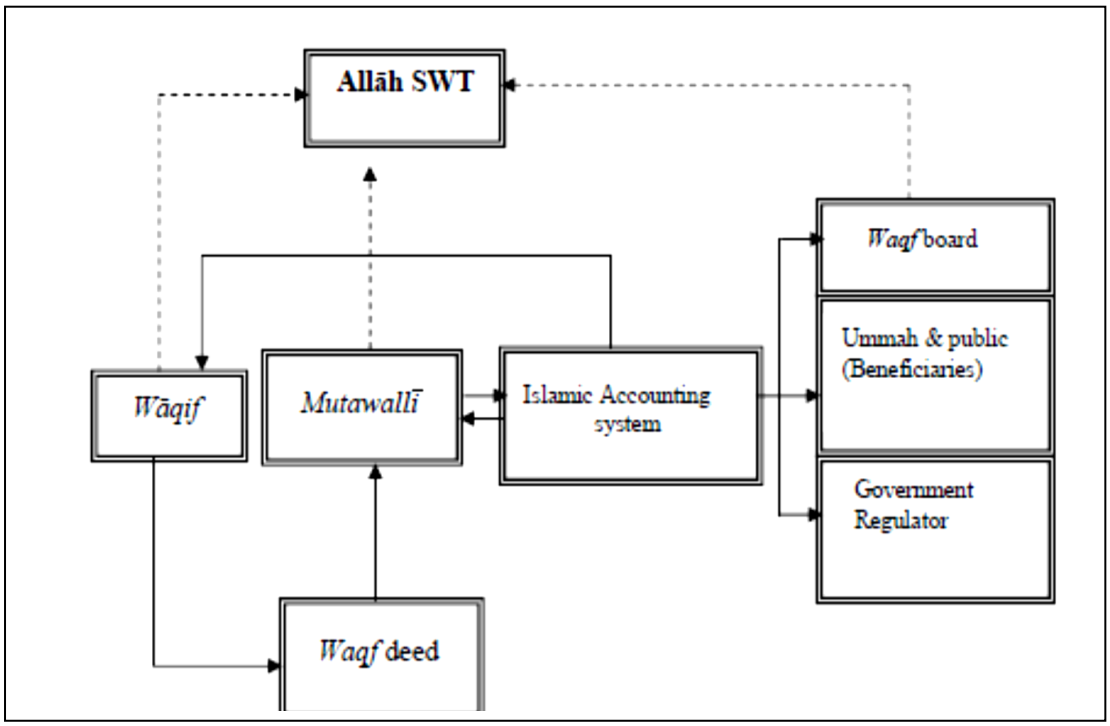
According to Ibrahim & Yaya (2005) Islamic reporting has three objectives which are: (i) to provide the information which is useful for users; (ii) to safeguard assets and enhance managerial and productive capabilities by complying with established goals; and (iii) to undertake certain actions and provide appropriate accounts. The Islamic reporting adds the religious dimension consistent with the nature of *waqf* organizations to be accountable to Allah. For that reason, the combination of both integrated and Islamic reporting is very appropriate as the basis for Integrated *Waqf* Reporting System (IWRS).

According to the conventional perspective, accountability represents the requirement to those with delegated authority to be answerable for the outcomes or the use of resources to achieve certain ends (Sinclair, 1995). Gray, Dey, Owen, Evans, & Zadek (1997), on the other hand, define accountability as "the duty to provide an account of the actions for which one is held responsible". Nonetheless, these definitions fail to demonstrate accountability from the Islamic perspective because, in Islam, the ultimate accountability (*taklif*) is to Allah since all actions will be counted on the Hereafter. This is demonstrated in the verse of the Al-Quran:

> "To Allah belongs all that is in the heavens and on earth. Whether you show what is in your minds or conceal it, Allah will call you to account for it" (Quran, Al-Baqarah 2:284)

Accountability from the Islamic perspective refers to the relationship between individuals and organization, with Allah (Othman & Thani, 2010) which extends the Islamic concept of Unity of God (*tawhid*). A dual accountability or Islamic accountability that includes accountability to Allah (*hablun min Allah)* and to individuals (*hablun min An-nas)* was proposed by Ihsan (2007) and shown in Figure 1.

Figure 1: The *Waqf* Accountability Model



Integrated Waqf Reporting System

The conventional financial statements are designed for compliance purpose but lacking information on how organizations create value in their operations. Integrated reporting, on the other hand, stresses on aligning organizational strategies with financial information to explain how resources are used by aligning them with strategies to create value in the short, medium and long term (KPMG International, 2011). It presents how organisation's strategy, governance, performance and prospects together, generate value to stakeholders (The International Integrated Reporting Council, 2013). It could either be a standalone report or presented together with other reports or financial statements.

The new reporting is intended to improve the quality of information and benefits all stakeholders including employees, suppliers, customers, local communities, business partners and the government as policy makers and regulators. The framework is suitable for waqf institutions since these organizations are socially financed. The institutions administer assets which were donated by the public for the benefits of the society. The accountability is based on purely on trust. Even though *waqif* do not anticipate any worldly reward they would be pleased to know how their contributions were utilized and the outcome or benefits acquired. Thus, in addition to improving information quality integrated reporting also enhances

accountability and stewardship of the trustees in administering the waqf assets by providing comprehensive and holistic reporting.

Administering waqf involves multi-dimensional capitals and the adoption of integrated reporting and Islamic reporting into WIRS can further improve *waqf* reporting of publicly-owned assets. Similar to integrated reporting the IWRS shall adopt the principles-based framework instead of detailing the reporting and disclosure standards as required under the rules-based approach. Using the principle based allows for increased flexibility for the waqf institutions to design their own unique reports with meaningful and relevant information for users. This reporting approach requires preparers of the reports to gather all relevant information and link them to key drivers which generate value for the organizations.

IWRS only reports material information for users to assess the performance and potential achievements of the institutions. The built-in flexibility in IWRS does not imply a lack of comparability. The reports should be consistent over time to enable trend analysis over time for each institution and to allow for healthy comparison with other entities. The basis of presentation has to be determined from the beginning including specific matters to be reported and the non-financial capitals are quantified and evaluated. At the minimum IWRS should include the following information:

a) An overview of the organisation and its external environment;
b) A governance structure, strategy and business model;
c) Business resources, risks and opportunities, how they are managed and influence value creation; resource allocation
d) Performance and achievement of strategic objectives;
e) Trend and challenges and their implications

Through IWRS, every *waqf* organization should identify its sustainable business model to achieve to specific objectives of the *waqf*. This model acts as the driver of activities of the waqf organizations and forms the foundation for its strategies. Every strategy that involves significant short term and long term risks should be disclosed in the IWRS for the benefits of the stakeholders. Value added activities also need to be balanced and driven by effective and efficient governance system. Therefore, the implementation of IWRS will ensure that *waqf* organizations pay serious attention to their governance matter since the structure and performance of governance would also be reported together with other main capitals and performance indicators.

The development and implementation of IWRS is a proactive and best attempt to enhance the accountability of the *waqf* to Allah and the society. As Islamic-based and socially funded organizations waqf institutions should strive for optimum transparency and accountability in reporting to fairly inform the society. According to Aman (2016) Islamic entities should report significant information about their operations even if the information would have an adverse effect on their own operation The fundamental goal of the development of IWRS is not only to increase disclosure but to convey useful information and allow for greater understanding of the entity's operations for the benefits of users and stakeholders.

Conclusion and Recommendation

This paper provides a recommendation for the adoption of IWRS for waqf institutions. It starts by providing an overview of the current practice of waqf reporting and highlighting the weaknesses of using the conventional financial reporting for waqf organizations. Waqf entities were established mainly to serve the Islamic social responsibility. The emphasis of reporting, thus, should be on the future activities to preserve and generate values guided by the organizational strategy and business model.

The concept of Islamic or dual accountability is used to elaborate the need of *waqf* organizations to be accountable for the administration of *waqf* assets. The combination of integrated and Islamic reporting as proposed strengthens IWRS to overcome the flaws of conventional financial reporting. Integrated reporting suggests the disclosure of comprehensive and interconnected information of the capitals with the performance of the organizations to explain value creation. It does not only focus on the reporting of financial information but also emphasis on other non-financial information to increase its usefulness. Besides, it reduces the technicality of a report so that it becomes user-friendly. The Islamic approach to IWRS reverses the profit-maximization goals of the conventional reporting to the achievement of socio-economic objectives which is parallel to those of *waqf* institutions.

IWRS could provide support for improving financial growth, waqf management efficiency, stakeholders' satisfaction, quality improvement and trustworthiness and needs further research and studies. The background of both integrated reporting and Islamic reporting is a prerequisite to the development of WIRS. The report preparers from the *waqf* organizations must have sufficient understanding and exposure to integrated reporting and Islamic reporting in order to implement WIRS. Thus, it is beneficial for all Muslim countries to joint efforts in establishing an International Waqf Reporting Board (IWRB) to lead and oversee the global reporting practice for waqf institutions for the benefits of the world community.

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A SCIENTOMETRIC STUDY OF INTER-FIRM INFORMATION EXCHANGE IN MANAGEMENT AND INFORMATION SYSTEM JOURNALS

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Abstract: *Information exchange is an emerging research issue especially in supply chain setting. Among the research, it is found that it works as performance indicator and effect factor for supply chain performance. The driver for this issue is business information management. Due to the practicality and interdisciplinary relevance of this issue, the structured discourse information is needed. In this paper we used scientometric technique to study information exchange topic which communicated through journals. We used 32 journals articles published in leading journals from 2001 – 2017 periods. Beside the topics, we analysed the position of paper published (information system and management), the most influence articles and journals and, the most productive authors.*

Keywords*: Information Exchange, Supply Chain, Scientometric*

Introduction

Scientometic study is referred as science about science (Lowry et al., 2007) or research on research (Madlberger & Roztocki, 2009). Scientometric or quantitative studies of research (Lowry et al., 2007) are considered valuable (Straub, 2006) when, a researcher can examine how researchers in certain field pursue their scientific research and publication.

Although there are scientometric studies in the field of information system (e.g: Madlberger & Roztocki, 2009, Cocosila et al., 2011, Serenko et al., 2010), none of the research on research publication specifically focused on the information exchange in supply chain. Based on the work of Monczka et al. (1998) and Moberg et al. (2002) we define "information exchange as the level of information whether operational or strategic that is being communicated to the supply chain partners which is crucial and proprietary in nature".

The main objective of the scientometric study is to understand the scientific discipline by examine the characteristic of papers related to information exchange in supply chain published in established journals. In specific, our objectives are to investigate the most published type of journal for information exchange in supply chain topics, to access the most influential papers under the topics and to examine the most productive authors.

The remainders of this paper are as follows. After explaining the methodology of scientometric study, we discuss the article collection procedure and then present sample of papers. The papers are then examined for the most published type of journal, the most influence papers and journal and the most productive researchers. After interpreting the result of our

analysis, we then discuss several key implication and observation. Subsequent to the limitation of the current study we summarizing our contribution and then we conclude our paper.

Methodology

Scientometric technique for this study is consisted of four steps. Fist we searched the articles using predetermined words. Then we grouped the articles into the types of journal whether information system or business management. Step 3 we analyzed our sample based on determined objectives. Finally, in step 4, we communicated the key observation and discussed the contributions of the study.

Selection of Papers

The objective of our research is to examine publication on the topic of information exchange in supply chain setting. So, we start our research with papers published in established journal. We choose three main key words in searching process. The words were "Information exchange", "information sharing" and "information integration". Searching engine used in this step was Google Scholar. In filtering process, basically we apply the following questions:

a) Does the paper listed in Google Scholar is journal article?
b) Does the paper examine the information exchange at firm level?
c) Does the paper discuss the relationship between firm and their partner in supply chain?

To be included as sample, all three questions needed to be answered with "Yes". Then the result from the above selection criteria, we conducted a full text review of all papers from 2001-2017 periods.

Paper Grouping

The specific objective of our scientometric study is to examine in what type of journal which the topic published most, the most influence paper and most productive researchers. Thus, to achieve these objectives, we grouped the papers into two types of journal which were; information system and business management related journal. Together within the grouping process, we recorded citation number for each paper until current date. The popular journals list in the paper group such as Decision Support System, Management Information System Quarterly, Journal of Management Information System, Journal of Information System, Journal of Information Management and International Journal of Physical, Distribution and Logistics Management.

Analysis

The method for analysis was adapted from past scientometric studies (e.g. Madlberger & Roztocki, 2009; Clark et al., 2009). Referring to other similar study, our analysis started by examining the research topic and keywords and then assigning them to information system or business management type of journal. Next, sample analysis for productivity of individual researchers under the topic took place. For this purpose, we adapted Clark et al. (2007) approach. However, a part of the approach was used while they investigated researchers' productivity on an organizational level. Lastly, we examine the most influential papers by observing the most cited paper by Google Scholar until the date of October 2017.

Result

In this section the result from the analysis are presented and discussed.

Papers Included In The Sample

The data collection resulted from 32 articles published in various established journal. The papers in our sample are listed in the Table 1.

Table 1. Sample Overview

Authors	Journals	Bus. M'gment	Info. System
Lee et al. (2010)	International Journal of Production Research (IJPR)	/	
Kauffman & Mohtadi (2004)	Journal of Management Information System (JMIS)		/
Clemon & Hitt (2004)	Journal of Management Information System (JMIS)		/
Potterfield et al. (2010)	International Journal of Physical, Distribution and Logistic Management (IJPDLM)	/	
Moberg et al. (2002)	International Journal of Physical, Distribution and Logistic Management (IJPDLM)	/	
Tai & Ho (2010)	Industrial Management and Data System (IMDS)		/
Goo & Huang (2008)	Decision Support System (DSS)		/
Cheikhrouhou et al. (2013)	International Journal of Computer Integrated Manufacturing (IJCIM)		/
Li (2002)	Management Science (MS)	/	
Zailani et al. (2008)	Operational Supply Chain Management (OSCM)	/	
Cheng (2011)	International Journal of Information Management (IJIM)		/
Ramayah & Omar (2010)	International Journal of Information Technology and decision Making (IJITDM)		/
Omar et al. (2010)	African Journal of Business Management (AJBM)	/	
Cheng & Fu (2013)	International Journal of Information Management (IJIM)		/
Baihaqi & Sohal (2012)	Production Planning and Control (PPC)	/	
Samaddar et al. (2006)	European Journal of Operation Research (EJOR)	/	
Li et al. (2006)	Decision Support System (DSS)		/
Wu et al. (2014)	International Journal of Production Economy (IJPE)	/	
Rai et al. (2006)	Management Information System Quarterly (MISQ)		/

Chong et al. (2009)	Internet Research (IR)		/
Hersberger et al. (2007)	Online Information Review (OIR)		/
Fiala (2005)	International Journal of Management Science (IJMS)	/	
Lin & Lin (2006)	Decision Support System (DSS)		/
Kim et al. (2005)	Journal of Information System (JIS)		/
Patnayakuni et al. (2006)	Journal of Information System (JIS)		/
Raghunathan & Yeh (2001)	Information System Research (ISR)		/
Sahin & Robinson (2002)	Decision Science (DS)		/
Cheng & Wu (2005)	Journal of the Operational Research Society (JORS)	/	
Klein & Rai (2009)	Management Information System Quarterly (MISQ)		/
Mishra & Raghunathan (2007)	IIE Transaction		/
Carr & Kaynak (2007)	International Journal of Operation and Production Management (IJOPM)	/	
Yu et al. (2001)	Industrial Management & Data System IMDS		/

The result from Table 1 show 20 papers in sample are related to information system and listed under information type of journals. The rest 12 papers were published under business management journal. Analysis based on journal shows that there are 3 articles published in DSS journal and JMIS published 4 papers, while IJIM, JIS, IMDS and MISQ published 2 papers each. The rest with 1 paper each. For business management related journal, only IJPDLM published 2 papers while the rest with only 1 paper each.

Most Productive Authors

Structural analysis of all 32 papers shows that only 2 papers was written by a single author while the remaining with co-author: 14 papers had 2 authors and 16 had more than 2 authors. For the whole 32 papers 85 authors involve. The analyses of the most productive author by journal reveal that MISQ show the highest density of co-authored by productive authors. Meanwhile, DSS and JMIS considered productive journal when they published more paper under the topic. Table 2 shows the most productive co-author and author.

Table 2. Most Productive Authors

Authors	Number of Papers	Journal
Rai, A	4	MISQ
Patnayakuni, R	2	MISQ
Lin, B	2	DSS

Cheng, T-H	3	IJIM
Ramayah, T	2	AJBM & IJITDM
Omar, R	2	AJBM & IJITDM
Raghunathan, S	2	MISQ

Most Influential Authors

Next we analyzed the most influential authors or papers until the date of October 2017. This category has been chosen as it represents the most cited paper counted by Google Scholar. Table 3 represents the most cited paper and their publication. The findings show that papers written in information system type of journal were cited most. From 8 papers received high number of citation, 5 come from information type journal and 3 from business management type of journal.

Table 3. Most Cited Papers

Authors	Journal	Cited number (Oct, 2017)
Rai et al. (2006)	MISQ	1371
Sahin & Robinson (2002)	DS	762
Lin & Lin (2006)	DSS	691
Li (2002)	MS	622
Fiala (2005)	IJMS	486
Moberg et al. (2002)	IJPDLM	367
Patnayakuni et al. (2006)	JMIS	353
Klein & Rai (2009)	MISQ	313

Limitation

There are several limitations in our study. Firstly, the conclusions are based on 32 journals articles under the topic of information exchange in supply chain. Analysis with larger sample size would provide a more complete picture of the academic discourse.

Second limitation is related to the duration of our investigation. Our results are limited to the papers from 2001 to 2017. Earlier publication should be taken into account to achieve deep insight into the topic. Third limitation is that in this study, we did not measure papers distributions by journal and years due to small sample which could be address for future study.

Contribution and Conclusions

As conclusion, it is believe that this paper make several contributions. First, the scientometric analysis in this study is perhaps the first study on the topic of information exchange. Second, our list of productive gurus may benefit others researchers interested towards the topic. Third, the analysis of journal publication could help the researchers to identify suitable place to publish their work under the similar topic.

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SMEs COMPANIES IN SAUDI ARABIA: CONCEPTUALIZING AN EFFECTIVE SUCCESSION PLANNING

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Abstract: *Many studies have been conducted not only to identify but also to scrutinize the underlying significance of succession planning in various organizations as well as various geographical contexts. However, the underlying role of succession planning in Saudi Arabia has been constrained to only family businesses and there is no cohesive research about the importance of succession planning in Small and Medium Sized Enterprises in Saudi Arabia. Although Small Medium Size Enterprises (SMEs) are generally well equipped with expert expatriates, but the lack of experienced and specialized local managers and executives has impeded the progress toward "Saudization". The "Saudization" process has initiated in the Saudi public and private sectors to fill the gap, however, its efficacy in dealing with the challenges of replacing of the expatriate workforces by the skilled local managers remained unknown. There is a strong need to adopt a comprehensive succession-planning framework to develop in order to engage local executives. It was in this context that the authors have undertaken the study about an effective succession planning in SMEs companies in Saudi Arabia. To do so, the gap of the study was conceptualized using an in-depth literature review and was represented as a work-in-progress summative evaluation of a "concept paper" for a doctoral research proposal.*

Keywords*: Succession Planning, Leadership, Small And Medium Sized Enterprises.*

Introduction

The paper presents a work-in-progress summary of a "concept paper" for a doctoral research proposal. The objective of producing a concept paper prior to writing up a research proposal is to brainstorm on various ideas, seek alternatives, and come to a mutual understanding on the general concept of the proposed research, between the student and the research supervisors. However, it should be noted that even if a concept paper is agreed between a student and a supervisor, it should not be taken rigidly. Flexibility should be exercised to improve the research proposal as a student goes along in the process. Concept papers can help a student to stay focused and not lose track during the preparation of the research proposal. Any comments or feedback to this paper is most welcome. This project aims to investigate the impact of succession planning on SMEs in Saudi Arabia. The specific objectives of the study are to understand the current common practice of succession planning and strategies of SMEs in Saudi Arabia, to observe and understand the factors (besides knowledge, persuasion and decision) that support the process of adoption of succession planning , to understand the role of knowledge in facilitating the succession strategy, to

understand the role of persuasion (by the management) towards people working in the organization in facilitating the succession strategy, and to understand the role of decision by the management in the organization in facilitating the succession strategy. Mentioning the fact that the current study does not want to discover the problem and challenges which are related to human rights, work conditions, anti-bribery and anti-corruption measures is very important. However, aforementioned factors are known as the seed bed of any types of healthy organization and market economy in every society. This research will be conducted in Saudi Arabia SMEs context necessitating uncovering the determinants of an effective succession planning considering the manifesting and incorporating the role of diffusion of innovation.

Background of the Study: Preliminary Investigation and Problem Recognition

Many studies have been performed in order to identify and understand the need of succession planning in various organizations (Rothwell 2010; KiatGan and Almsafir 2013; Venter, Boshoff et al. 2005; Iqbal 2015; Rahman, Yaacob et al. 2016; Galbraith, Smith et al. 2012). It has been stated that it is much better to grow out a leader from a company rather than hire one from outside (Pandey & Sharma, 2014). Hiring must be done for lower levels only, however the leaders must be grown out form the organization itself. Moreover, it has been suggested that "succession planning" as a systematic way is required in the organization to make sure employees are competent enough to develop, and following by that replace the strategic roles in organization hierarchy (Haworth, 2005). Over the last 25 years, the significant benefits have been attained because of population and exponential economic growth in Saudi Arabia. Saudi Government has identified the workforce shortage and recruits internationally for health professionals and other sectors. A mass exodus of workforce, where there is a lack of succession planning can lead to precipitate of a workforce crisis, especially in areas like management and senior positions in SMEs and specialty clinical areas. For instance, those companies, which have been running as family businesses, would be affected by two contexts of (1) how the family would influence the business and (2) small size of the company. Family-owned businesses are mostly small and medium-sized enterprises (SMEs) with less than 250 employees and less than 50-million-euro turnover, or, as an alternative to the turnover standards, the total assets carry a booked value below 43 million euro throughout their entire lifetime, which often extends across generations (European Commission, 2009). These companies have been significantly contributed to the economies of many countries. Small and medium enterprises (SMEs) have been known as engine of economic growth, which have been necessary to promote an equitable development (Johnson 2016; Krishnan and Scullion 2016; Fresner, Morea et al. 2016). The employment potential at low capital cost is the major advantage of the sectors. In comparison to large enterprises, the labour intensity of SME sectors are much higher. The sector is mostly driven by innovation and individual creativity, thus known as the nursery of entrepreneurship. SME sector has been stated as the main driving force behind wealth creation, job creation, and reduction in income disparities, poverty reduction and income distribution. SME sector has formed the vanguard of the modern enterprise sector, and presented the leading force of growth and economic modernization in the country (Aremu, 2004). It has been hypothesized that an owner-managed businesses would employ half the world's workforce and also generate more than half the world's Gross Domestic Product (GDP) (Jasani, 2002). However, often the problems, needs and prospects of SMEs have been ignored. Jasani has identified the need of change in technological innovations and management thinking where small and medium enterprises have been to enhance their competitive edge. Jasani also mentioned that while medium and large-scale enterprises have been aligning themselves to prepare for the onset of technology advancement and globalisation, the small-scale enterprises have been lagging behind in these important areas. The great strength of owner-managed and

family businesses is that they have been driven by the qualities and skills of their principals. However, they can create a challenging problems for the business, for instance there are some period of times that aspirations of owners may not be in harmony with the needs of the business. Jasani has reported that, based in his studies the majority of Malaysian families have been running businesses with small-scale enterprises employing below 52 staff, which are still very managed by the founders, and these activities have focused on retailing, construction or manufacturing. The interesting note is that even the people with six or more years of work experiences have been indicating that appropriate experience's people commenced family businesses. Further, (Jasani, 2002) has identified three key areas of concerns for these business owners, which includes professional management, succession and funding. He has asserted that, irrespective of the size of business, there is a feeling by most of people that there should be only one management successor chosen from the management or family. The other general concern is regarding the loss of control if the business owners involve outsiders to finance growth, especially among the small-scale enterprises. Maintaining a balance sheet and positive cash flow are the ongoing battles of many small business owners, which consumes almost all of their time. Therefore, retirement seems to have no place in their business plan, let alone plans to hand over the business. Studies have been suggesting establishment of a business succession plan as a beneficial factor for business owners. The Bank has stated "lack of trust" as a major factor, which makes the SME owners do not want to institute succession plans. Consequently, overwhelming majority of SME businesses have been observed to collapse because of this lack of succession planning (Garg & Van Weele, 2012; Rogerson, 2000; Ward, 2011). Small and medium scale enterprise and developing countries importance have led to reconsideration of a role of Small and Medium Scale Enterprises in the economy of nations. In 1998, among the European Union, SMEs had accounted for 99.8 percent out of 19 million enterprises, and two thirds of the jobs in the region had been created by SMEs. Creation of SMEs have been largely in association with strong performance of the US economy in recent years (Abdullah, Gatende 2014; Hashim et al. 2012; Motwani, Levenburg et al. 2006). Undoublty, the small-scale enterprises have existed in economic environment. Small and Medium Scale Enterprises are an all-time necessity. The focus of this study is on succession planning in SMEs in Saudi Arabia. Succession planning has been defined in various ways by different authors. Some of these definitions are as following:

a) Succession planning has been defined as an attempt for planning a right quality and number of managers, as well as key-skilled employees in order to cover serious illness, retirement, death or promotions. And also to plan a new positions which may be created in future organisation plans (Sambrook, 2005).
b) Hills (2009) on the other hand has suggested that succession planning is more about filling the top spots (Hills, 2009). Based on his statements, succession planning is a smart talent management strategy, which can maintain the talents throughout the organisation and ensure that organisation has all the skills it needs in place, or on hand, for being able to respond to today's business environment that has been like a rapidly shifting sands.
c) Additionally, succession planning has been also defined by Armstrong (2003), who referred to it as a process whereby an organisation makes sure that employees have been recruited and continuously developed to fill each key role in the company (Armstrong & Taylor, 2014).
d) Furthermore, interestingly, Michelson (2006) has explained succession planning as a plot that requires the right people on the bus, wrong ones off the bus, and positioning of the right people in the right seats (Michelson, 2006).

e) Meanwhile, other authors such as Rothwell (2005) and Conger and Fulmer (2003) have been discussing the fact that succession planning has been simply owning a right people in the right place at the right time (Conger & Fulmer, 2003; Rothwell, 2010).

The empirical evidence has been showing that typical succession plan comprises four phases (Sobol, Harkins, & Conley, 2007): Understanding the vision of the company's future and needs, Analyses and selection of the best candidates, Preparing a progression plan for candidates, and Individuals' transition into new position. It is important to realize that, even though the succession planning has been summarized in these four basic steps, but in order to minimize the impact of transition, plan for each company's will be different in diverse degrees of complexities. They have referred to succession plan as a fingerprints (no two are alike), which leaves an impression on everything it touch (Tetteh, 2015). Moreover, the effective succession planning requires a full support from management. Reluctance of top managers to train junior staff is one of the biggest challenges of succession planning. Because they see those junior staff as a threat to the existence of the senior management. Support of the general staff is also necessary in the efforts and activities of succession planning. Those staff with no interest of being trained and take up new superior tasks are known as the endanger of the efforts and spirit of succession planning in the organisation. Many studies have been also developed in order to demonstrate the challenges that a certain organisation has with succession planning, to name a few: intention to stay, in the end effectiveness of the organisation and career development of employees. Also, succession planning has been known as the proactive attempt to make sure that leadership will be continuous in an organisation, by indicating how these positions would be filled as both unplanned and planned departures occur (Schmalzried & Fallon Jr, 2007). Smooth continuation of business has been ensured by process of succession planning (Negrea, 2008). The main goal has been discovering and preparation of suitable individuals to fill key positions in times when people die, retire, transfer, find new opportunities outside of an organisation or resign. Human Resource Management (SHRM) has brought an important point, which says succession planning is about preparation, not pre-selection (Klein & Salk, 2013). Additionally, it has to be noted that succession planning is about understanding a certain individual would not stay with an organisation forever. Thus succession planning studies have focused on three main areas (Ganu & Boateng, 2012):

a) First, succession planning has addressed the needs of the entity as senior leadership ages and retires.
b) Second, it has helped the entity preparation for an unexpected event such as the death of a person or sudden illness in a key leadership role in the organisation.
c) Finally, succession planning has ensured that an organisation has the suitable personnel in place in order to function at peak efficiency both presently and in the future.

Thus, succession planning was explained to serve as a means to take an organisational inventory of human capital and to identify the existing or future gaps better. Succession planning is a strategic planning tool, which has been addressing the issues created by individuals' departure, as well as bridging the knowledge gap that has been created by a departure (Klein & Salk, 2013). According to Rothwell (2005), it has been stated that employee retention and succession planning are parts of HR planning, which is concerned with staffing; they both have direct influence on reducing staff turnover or even better enhancing employee retention. The present study aims to investigate the succession planning's subject area regarding innovation theory's diffusion within the context country of Saudi Arabia covering the SMEs knowledge sphere. The exponential economic and population growth in Saudi Arabia over the past 25 years has resulted in significant benefits, but there are also problems (Al Mallakh & el Mallakh, 2015). Seemingly, there seems to be some issues related to the country's business and economic industry spheres (Ramady, 2010; Rice, 2004). While Small Medium

Size Enterprises (SMEs) are generally well equipped with expert supplies and technologies, this is not supported by a local, experienced and specialised executives and managers (Atiyyah, 1993; Jannadi, 1997; Mellahi & Wbod, 2001; Metcalfe, 2008; Rice, 2004). SMEs have been represented over 90% of businesses, and accounted for 50–60% of national employment on an average amongst the developing nations (Devine & Syrett, 2014; UNIDO, 2004). However, a relatively little attention has been given to the important role that was played by SMEs in the Asia Pacific region, North America, EU and Persian Gulf countries, particularly Saudi Arabia (Al-Somali, Gholami, & Clegg, 2013b; BMI, 2016; Looney, 2004). The Saudi Government has identified workforce shortage and recruits internationally for SMEs related areas (Al-Somali, Gholami, & Clegg, 2013a; Mohammad, 2015). A literature review and an analysis of the Saudi government's formal documents show that Saudi Arabia is facing several challenges in its economy system and human resource development (HRD) programmes (Achoui, 2009). The main challenges are high dependence on oil and the petrochemical industry; high dependence on foreign labour; a low rate of female participation in employment; and a weak link between educational system output and the needs of the economic sectors, especially those of the private sector, which requires skilled and professional labour (Achoui, 2009). Recent studies in the private sector especially in small and medium size companies (SMEs) show that there is no systematic Human Resource Development activities, especially Succession planning structurally or functionally (Achoui, 2009). However, the case is different in large government and private companies. The international workforce in Saudi Arabia is multilingual, multi-cultural and has a wide range of educational preparation and this has both positive and negative impacts on the service provided to the largely Saudi population. A mass exodus of this workforce would precipitate a workforce crisis due to the lack of succession planning at all levels of SMEs sector, particularly in areas such as management and senior positions in executive and CEO areas (Abunar, 2016; Al-Adl, 2016). Recently, Saudi government has engaged in the 'localization' of human resource capital in the Kingdom of Saudi Arabia referred to as the 'Saudization'. It has been examined that the Saudization process initiated in the Saudi public and private sectors and its efficacy in dealing with the challenges of replacement of the expatriate workforce and the skill development strategy (Al-Asfour & Khan, 2014). There is a strong need to adopt a comprehensive succession planning framework to develop engage local employees and aligning it with the demands of the job market. A holistic Saudization policy is needed which can bridge the gap of talent and skills required after the removal of the expatriate workers. Accordingly, Family businesses make up a biggest portion of all Saudi companies, encompassing a vast range of firms of different sizes and from different sectors (Niblock & Malik, 2007). Most SMEs (especially micro and small enterprises) are family businesses and a large majority of family companies are SMEs (Achoui, 2009; Lukács, 2005). Moreover, lack of succession planning in family business in Saudi Arabia is stated as a big issue, which may undermine some of the country's foremost economic institutions, SMEs (Beatrice, 2013; Field, 1985; Luciani, 2005). Succession is a problem for family businesses the world over. The Family Business Institute calculates that only 30% of such businesses survive into the second generation, only 12% into the third generation and only 3% into the fourth (Bjuggren & Sund, 2001). However, the problem may be bigger in the Gulf than anywhere else. Around 80% of the companies in the region, producing more than 90% of its non-oil wealth, are family-owned or controlled. The number of relatives clamouring for a job in these firms is surging, partly because the population is so young (the average age of citizens in the Middle East and north Africa is well below the global average) and partly because governments are desperate to shift workers from the public to the private sector (in the United Arab Emirates 90% of employed citizens work for the state). These family firms are mostly fairly recent creations—the products of the oil and property booms of the 1970s and 1980s that turned people who were lucky or well connected enough to own prime bits of land

into moguls. Over the next decade up to half the region's business families, controlling assets worth perhaps a trillion dollars, will hand the reins to the next generation. That is a worrying prospect. A proper succession requires good governance. Yet too many of the region's businesses blur the line between what belongs to the firm and what belongs to the family: they spend company money as if it were their own and employ family members without subjecting them to proper vetting. In addition, if disputes occur, the region's courts are not equipped to cope. The World Bank reports that they take an average of 575 days to resolve a commercial dispute. An estimated 70% of Saudi families have at least one succession problem tied up in court (Achoui, 2009; Davis, Pitts, & Cormier, 2000). The two most obvious results of a botched succession are incompetent leaders and feuds. Family tradition often conspires against merit: families routinely favour the eldest son regardless of his ability. Locals say there are examples of incompetents "all around", though they are reluctant to name names. The scope for feuds is increased by the complexity of family structures, thanks to high fertility rates and occasional polygamy. Abdulaziz Al Ghurair, chairperson of the Family Business Network, a regional body, predicts that more than half the businesses will split over succession. A less obvious consequence is what might be called "functioning dysfunction": companies get around incompetent heads by creating parallel structures so that the real power is held by people with minor titles, or by avoiding naming a CEO at all. The evidences have shown that no research work has been done in the area of succession planning in SME businesses in Saudi Arabia, majority of them were limited to family business and monarchy family (Alwafi, 2013; Sonfield, Lussier, & Fahed-Sreih, 2015). Therefore, present research has been undertaken, considering following objectives and questions in next section. The present study has a uniqueness in which it employs several descriptive variables that have not been employed in past research on business succession planning. By examination of the impact of pertinent demographics, including the generation of the firm, presence of a Board of Directors, on succession planning processes, CEO's age and number of family members involved in the business, the study has been extending past research on business succession planning in SMEs with regard to the nature, importance and extension of succession planning in the context of Saudi Arabia. The researcher has found lack of study that has been undertaken such an in-depth examination of succession planning in SMEs in neither gulf area nor Saudi Arabia, which is surprising given that they represent the vast majority of employers worldwide.

Literature Review: Conceptualization of the Identified Gap

Succession planning and management can also be defined as "a deliberate and systematic effort by an organization to ensure leadership continuity in key positions, retain and develop intellectual and knowledge capital for the future and encourage individual to advancement (Rothwell, 2010). Second, the succession planning should also include other possible items in the tested approaches, which are considered more suitable to expand the knowledge base in the area of succession planning (Huang, 1999; Schiuma et al., 2012). We hypothesize as follows: According to Dessler (2000), succession planning is the process of ensuring a suitable supply for current and future successors for key jobs, so that career of individuals can be managed to optimize the organization's needs and the individuals' aspirations (Gary, 2010). Another definition of succession planning as defined by Kim is "the ongoing process of systematically identifying, assessing, and developing organizational leadership to enhance performance (Kim, 2003). A typical board of directors can feature a lot of Type A personalities. It kind of goes with the territory. However, succeeding on a board of directors requires using soft skills, like persuasion and consensus building (Rothwell, 2010). Committees are a great place for future board members to practice using persuasion and building consensus, as well as learning how to put their "association hat" on, rather than

representing their individual or company interests. Creating a high-performing association requires having board members who have some experience in the fine art of being a board member, and committees are a great place to gain that experience (Charan, 2005; Zajac, 1990). We hypothesize as follows: One of the most important questions a board needs to ask itself regarding director selection is the approach it needs to take — is it an ad hoc decision, is it a decision driven by a vacancy, or is it a result of planning?" (Groves, 2007) .This is likely to result in a higher turnover of directors on boards, making it important for boards to put more effort into deciding the skills, attributes and qualifications that they would like to see in a prospective director. A general observation made about the majority of family-owned companies in Saudi Arabia is that families need to justify the decision to choose members as successors, especially in listed companies (Achoui, 2009). There is a demand for greater professionalisation of the business and a separation between ownership and management. Succession planning is about securing the future and making leadership decisions based on anticipated changes to company strategy and the market and economic environment in which it operates (J. Ward, 2016). It is important to continually assess whether the previously identified CEO designate is still the 'right' person for the job. Succession planning does not mean crowning the next CEO before the time is right, but building a systematic process that engages the senior management and board in the discussion. The degree of engagement that a director can have with the company should also be taken into account, which can be substantially tied to decision process. We hypothesize as follows: Somehow, or rather, developing a leader within the organizational talent pool for the next level of leadership is a great challenge for business organization today. Implementation of succession planning in an organization has never been an easy task (Lansberg, 1988). At times, key people who were identified as successors had a tendency to resign unexpectedly, or did not live up to expectations, so the plan became invalid. Effective succession planning and management program would boost employee's confidence and commitment in achieving organizational goals. Johnson et al. (1994) stress that implementation of succession program can help to reduce firms turnover rates, improve staff morale, and place the most qualified employees into key positions (J. E. Johnson, Costa, Marshall, Moran, & Henderson, 1994). An empirical research conducted by Wallum (1993, p.44) has concluded that adoption of succession planning contributed to the following positive outcomes (Wallum, 1993):

1) Helped organization with internal resourcing.
2) Reduced attrition of high-fliers.
3) Allowed for more realistic counselling and planning
4) Prepared candidates in advance for senior appointments.

Huang (1999) concludes in his study on Taiwanese firms that there is no empirical evidence to support that firms with succession management system have better HR outcomes than those who do not (Huang, 1999). The data collected for Huang's (1999) study also suggests that the mere implementation of a succession management plan does not make a significant difference to reported business outcomes (Huang, 1999). According to Huang (2001), the success of succession, planning depends on the careful implementation process, well-planned design, commitment of top-level management, credibility of staff, and resource allocation. In many organizations, there are a huge gap between the desire for effective succession planning and its actual practice (Hall, 1989). We hypothesize as follows: Organizational readiness for change is a multi-level construct. Readiness can be more or less present at the individual, group, unit, department, or organizational level (Weiner, 2009). Readiness can be theorized, assessed, and studied at any of these levels of analysis. However, organizational readiness for change is not a homologous multi-level construct (K. J. Klein & Kozlowski, 2000). Organizational readiness

for change is not only a multi-level construct, but also a multi-faceted one. Specifically, organizational readiness refers to organizational members' change commitment and change efficacy to implement organizational change (Holt, Armenakis, Feild, & Harris, 2007; Weiner, Amick, & Lee, 2008). This definition followed the ordinary language use of the term 'readiness,' which connotes a state of being both psychologically and behaviourally prepared to take action (*i.e.*, willing and able). Similar to Bandura's (Bandura, 1997) notion of goal commitment, change commitment to change refers to organizational members' shared resolve to pursue the courses of action involved in change implementation. Because implementation is often a 'team sport,' problems arise when some feel committed to implementation but others do not. Herscovitch and Meyer (Herscovitch & Meyer, 2002) observe that organizational members can commit to implementing an organizational change because they want to (they value the change), because they have to (they have little choice), or because they ought to (they feel obliged). Commitment based on 'want to' motives reflects the highest level of commitment to implement organizational change. Like Bandura's (Bandura, 1997) notion of collective efficacy, change efficacy refers to organizational members' shared beliefs in their collective capabilities to organize and execute the courses of action involved in change implementation. Coordinating action across many individuals and groups and promoting organizational learning are good examples of collective (or conjoint) capabilities. As Bandura and others note, efficacy judgments refer to action capabilities; efficacy judgments are neither outcome expectancies (Bandura, 1986) nor assessments of knowledge, skills, or resources. Change efficacy is higher when people share a sense of confidence that collectively they can implement a complex organizational change. Several points about this conceptual definition of organizational readiness for change merit discussion. First, organizational readiness for change is conceived here in psychological terms. Others describe organizational readiness for change in more structural terms, emphasizing the organization's financial, material, human, and informational resources (Bloom, Devers, Wallace, & Wilson, 2000; Snyder-Halpern, 2001). Organizational structures and resource endowments shape readiness perceptions. In other words, organizational members take into consideration the organization's structural assets and deficits in formulating their change efficacy judgments. Second, organizational readiness for change is situational; it is not a general state of affairs. Some organizational features do seem to create a more receptive context for innovation and change (Dopson, FitzGerald, Ferlie, Gabbay, & Locock, 2002; Taket, 1994). However, receptive context does not translate directly into readiness. The content of change matters as much as the context of change. Commitment is, in part, change specific; so too are efficacy judgments. It is possible that receptive context is a necessary but not sufficient condition for readiness. Third, the two facets of organizational readiness for change-- commitment and change efficacy--are conceptually interrelated and. At one extreme, organizational members could be very confident that they could implement an organizational change successfully, yet show little or no motivation to do so. The opposite extreme is also possible, as are all points in between. Organizational readiness is likely to be highest when organizational members not only want to implement an organizational change and but also feel confident that they can do so. What circumstances are likely to generate a shared sense of readiness? Consistent leadership messages and actions, information sharing through social interaction, and shared experience--including experience with past change efforts--could promote commonality in organizational members' readiness perceptions (M. F. Klein & Salk, 2013). Broader organizational processes like attraction, selection, socialization, and attrition might also play a role (K. J. Klein, Dansereau, & Hall, 1994; Sathe, 1985). Conversely, organizational members are unlikely to hold common perceptions of readiness when leaders communicate inconsistent messages or act in inconsistent ways, when intra-organizational groups or units have limited opportunity to interact and share information, or when organizational members do not have a common basis of experience. Intra-organizational

variability in readiness perceptions indicates lower organizational readiness for change and could signal problems in implementation efforts that demand coordinated action among interdependent actors.

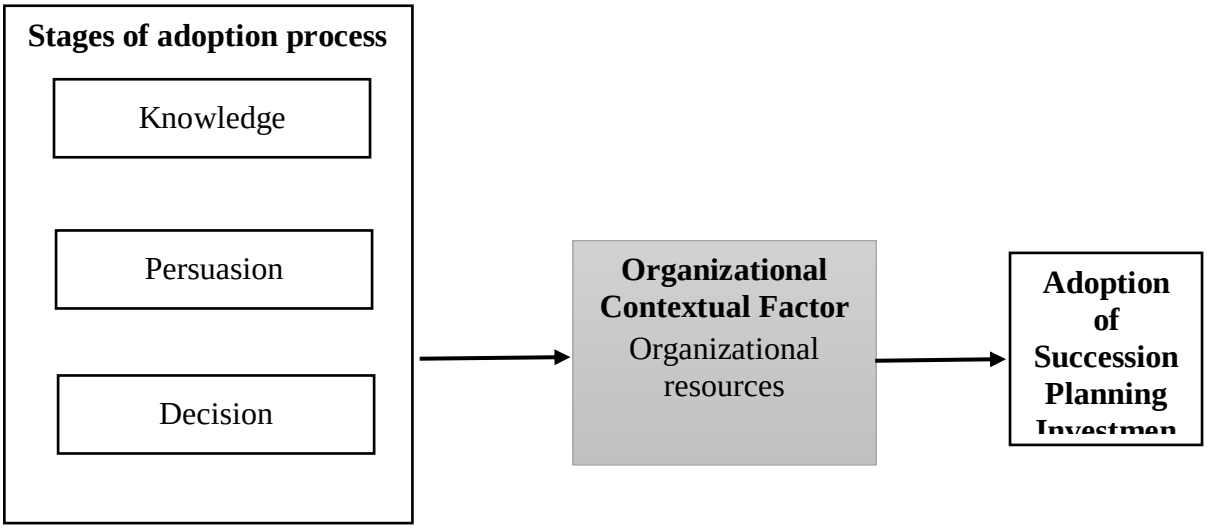

Figure1. Conceptual Framework

Conclusion

Succession plans form a vital informational input into the day-to-day decision-making in business organizations. They are also important tool for developing the management executives who will implement the organization's business strategy and achieve its organizational objectives (Huang, 1999). Succession management can lower employee turnover rates, improve staff morale, and place the most qualified candidates in key positions (Rothwell, Jackson, Ressler, Jones, & Brower, 2015). Firms that fail to treat their succession plans as living documents risk losing their continuity and the opportunity to revitalize their organizations (Getty, 1993; Salajegheh, Nikpour, Khosropour, & Nobarieidishe, 2014). It has been examined that the Saudization process initiated in the Saudi public and private sectors and its efficacy in dealing with the challenges of replacement of the expatriate workforce and the skill development strategy (Al-Asfour & Khan, 2014). There is a strong need to adopt a comprehensive succession planning framework to develop engage local employees and aligning it with the demands of the job market. A holistic Saudization policy is needed which can bridge the gap of talent and skills required after the removal of the expatriate workers. Thus, an effective succession planning would help to ensure business continuity when the ageing workforce leaves the organization. This study will contribute to knowledge on succession planning in small and medium enterprises in recommending best succession planning for small and medium enterprises within the Saudi Arabia country context. It is hoped that this research will provide a more profound and science-based understanding of the subject at hand and recommendations and solutions to one of the major problems facing the small and medium business community in Saudi Arabia. The findings and recommendations of the research will have a tremendous impact on SMEs in Saudi Arabia toward obtaining and adoption of a systematic succession planning approach. Many owners of SMEs are either not aware of the problem of succession planning or simply avoid talking about it. This makes these businesses vulnerable to succumb when the founder or owner dies or during other unpredictable circumstances.

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A CONCEPTUAL PAPER ON THE PERCEPTION OF HIJAB STYLE FROM THE EYES OF NON-MUSLIMS IN MALAYSIA

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Abstract: *Hijab styles are shared across Muslim women all over the world. The sharing of hijab styles from all around has created new styles of the hijab that have interconnected women in the Muslim world. Muslim women are using modern Western fashion and other styles from the Muslim world to meet the requirements of their traditions and religion. In today's modern times, Muslim women don the hijab with the intention not only to fulfill the religion requirement but also to look like a fashionable muslimah. Hijab wearing does not only reflect one religion beliefs, it also reflects in one's fashion choice. Hijab symbolizes a woman's commitment to her faith by covering oneself as a means self-respect and self-protection in Islam. Whereas, non-Muslim might perceive headscarves as modesty. Moreover, the trendy hijab style could confuse the non-believer about the right intention of wearing hijab. With that being said, it would be enriching to know what non-Muslims women thought about the current hijab style. This research will employ quantitative method that is survey questionnaire among working non-Muslim women. Finally, this paper attempts to explore the non-Muslim viewpoint on hijab style in terms of religious values or personal choice.*

Keywords*: Hijab, Western Fashion, Non-Muslim, Perception*

Introduction

Hijab portrays a vital symbol of a Muslim female identity. It is an epitome of modesty, virtue and respect. However, the rise of fashionable hijab style has segregate between traditional and modern hijab wearers. The increase of modern representation of hijab wearers open up two significant issues. First of all, concerns were raised weather the fashionable hijab is meeting the standard hijab wearing as per required by the Quran and Sunnah. Veil is means given by Islam to protect their modesty their modesty by enabling them to cover themselves while in public spaces and away from the eyes of onlookers who are not directly related to them. Second of all, query on the intention of fashionable hijab wearer on promoting modesty of a Muslimah image or the trendy outlook. For that reason, it is debatable that fashion set by popular hijab style may not entirely suitable on religious ground in order to uphold image of a Muslimah concurrently defying divine scripture. Therefore, this research will attempt to uncover the brand intention in promoting hijab wearers towards fashion or religious stance. The research will discuss two issues pertaining to brand and its hijab styling.

First, the issue of modesty in Islamic clothing that connected with the concept of awra'. modesty in Islamic clothing is viewed physically which is connected with the concept of awra', an Arabic term meaning 'inviolate vulnerability' or 'what must be covered' and consisting of the private body parts of a human being (El Guindi 1999, p. 142). Women's concept of awra' is more extensive compared to men. A woman's awra' that consists of her entire body such as the back, abdomen, thighs and two private parts, with the exception of her face and hands cannot be disclosed to men outside her mahrem, i.e., family members and those forever ineligible for marriage to her as well as non-Muslim women (Al-Qaradawi 1995, p. 160). Three Quranic references that discuss the ruling of hijab which is compulsory to all Muslim female and the appropriate hijab styling. Women clothing in Islam focuses on modesty of three items namely, headscarves, garment and finery. Firstly, in Surah An-Nur (24) ayah 31, the Quran uses the Arabic word khimar to refer to women's headscarves says that "And tell the believing women to reduce [some] of their vision and guard their private parts and not expose their adornment except that which [necessarily] appears thereof and to wrap [a portion of] their headcovers over their chests and not expose their adornment except to their husbands, their fathers, their husbands' fathers, their sons, their husbands' sons, their brothers, their brothers' sons, their sisters' sons, their women, that which their right hands possess, or those male attendants having no physical desire, or children who are not yet aware of the private aspects of women. And let them not stamp their feet to make known what they conceal of their adornment. And turn to Allah in repentance, all of you, O believers that you might succeed." Secondly, the outer garment or in Arabic known as jilbab must be must be loose-fitting and non-transparent clothing that covers the whole body, maybe with the exception of the hands and face as mention in Surah Al-Ahzab (33) ayah 59, "O Prophet, tell your wives and your daughters and the women of the believers to bring down over themselves [part] of their outer garments. That is more suitable that they will be known and not be abused. And ever is Allah Forgiving and Merciful." Thirdly, women are not to vaunt their accessory as stated in the Quran using the Arabic word zinah to refer to their "finery," Surah Al-Ahzab (33) Ayah 33 says that "stay at home, and do not flaunt your finery as they used to in the pagan past; keep up the prayer, give the prescribed alms, and obey God and His Messenger. God wishes to keep uncleanness away from you, people of the [Prophet's] House, and to purify you thoroughly."

In Islam, the human body is regarded as a cause of shame that must be hidden and covered, a view that relates back to Adam and Eve (Khuri 2001). Modesty and chastity are coveted and sacred aspects of one's personality and character. However, a woman's entire body is imbued with sexuality: bodily movements and the style, shape and colour of female clothing have the potency to instigate male sexual arousal (Tseëlon 1995). Advocates of the hijab highlight the distinctive masculine proclivity for untamed sexual desire and interpret the hijab as a divinely ordained solution to the seeming disparities in male and female sexual appetites. References to the Qur'an are integral to examining the hijab as 'divinely ordained', yet, although the Qur'an instructs both sexes to dress modestly, there is a particular emphasis on female modesty (Siraj, 2011). Therefore, adhering to Islamic hijab styling as per ordained by the Quran will embark lesser objectification towards women.

Secondly, these days wearing headscarf or Hijab are portrayed as a new trend in fashion Industry. High-end designer like Dolce and Gabbana producing a collection of hijabs and abayas targeting to Muslim customers in the Middle East launched in 2016 that excites the Muslim women with a taste for luxury fashion. Fashion week is another platform for Hijab to be an exquisite taste of high-end fashion (Yotka, 2016). An Indonesian Muslim designer Anniesa Hasibuan's collection presented at New York Fashion Week in September 2016 is the

first time every model walked the event's runway wearing a hijab whereby she gain a recognition as in bringing the hijab into the mainstream (Rodulfo, 2016).

The recent spotlight in Muslim fashion has transformed Hijab as a fashion statement which was never meant to be. It somehow diverts the true meaning of wearing hijab. Fashion is an expression of oneself and with the hype hijab more Muslim women tend to experiment blending modesty and personal style into their appearances. Despite the obvious contradiction with the spirit of hijab, a growing number of Muslim women are blending the two. The practise of headscarf is an essence of Islamic value. It is an act of obedience that has been clearly defined in the Qur'an and Sunnah. This recent interest in Muslim fashion also signals the changing dynamics of traditional and modern culture of the Islamic hijab. Modification in Hijab fashion can be accepted in this era as one of fashion styles. Although the stylish hijab cover everything but it does not meet the overall requirement of the hijab. There are guidelines for women to follow in wearing hijab which is covering the chest with apparent that is loose and covering your body and nor revealing the shape of your body. In addition, fashionable attire and accessory that can attract the attention of men should be avoided as it is also against the basic idea of modest clothing in Islam. With this, the significant and actual perspective of Hijab should be reinforced so that no mislead of Islamic values (Boulanouar, 2006, p. 140; Woldesemait, 2012, p. 19; Zulkifli Abd. Latiff, and Fatin Nur Sofia, 2013, p. 50; Rizvi, 2014 & Rita, 2017, p. 342).

Literature Review

According to Horchel (2013, p. 40) “a piece of fabric has become a powerful and divisive symbol worldwide.” This piece of fabric known as a veil or commonly named as hijab is being donned by Muslim Women around the globe and its part and parcel of their daily life. However, not every society agrees that the hijab represents the same symbolic meaning. Horchel (2013, p. 40) adds, “To some it symbolizes piety, to others, oppression. To some it is a rejection of western morality, to others, a rejection to modernity. To some, it is a religious statement supporting Islam as a way of living, to others, a political statement supporting violent Islamists.”

Muslim women are taught and expected to be modest; in view of that the hijab is defined as a garment that covers the body and helps in reducing the visibility of silhouette and the attraction of the body (Rafidah Khalid & O’Connor, 2011). While Zulkifli Abdul Latiff and Fatin Nur Sofia (2013) define hijab as a fabric that is worn by women of the Islamic faith that helps in covering the hair and neck and at times the face is also concealed except for the eyes. Nurzihan Hassim (2014) adds the hijab carries a unique representation of women in different roles and also to differentiate them from the males.

Most important, according to the Quran, it is mandatory for a Muslim woman to cover herself from strangers and distant relatives with a veil or hijab, this includes hair, arms, bosom, feet and other parts of the body (Abdullah, 1999). Islamic fashion can be understood as women wearing loose, non-hugging clothing that doesn’t reveal the shape of your body, long sleeves, descending to the ankle with high neckline, and head covering. In Malaysia context, adult Muslim women are expected to dress modestly when they are in the company of men who are not part of the family. Nevertheless, it remains a choice to many as the use of hijab is not compulsory despite the implementation of shariah laws. Malaysia remains as a moderate Muslim country whereby women have more freedom compare to their counterparts in the Middle East, this is due to Malaysia being a multicultural society. The country Constitution states that religion freedom is given to non-Malays. Moreover, Malaysia has dual legal system.

One that follows the British Common Law and the other follow the Shariah Laws that only govern any proceedings that relate to Islam (Salva, 2017).

In general, fashion is important to both men and women as it's able to convey information as well as a tool that leads to others forming perception of the wearer. Despite that, Muhammad Tahir and Kalthom Abdullah (2015) state the fashion market for women are much stronger and larger compare to men as women are more fashion conscious. Wearers like to dress up exclusively to look different from others and this implies each person unique characteristics. Hijab can help in playing role of enhancing one's look. Muslim's women in today's society are not only constantly checking out the latest fashion in clothing, they are also checking out the latest trend in hijab designers and the trendiest ways to don a hijab (Muhammad Tahir & Kalthom Abdullah, 2015).

In the recent years, Malaysian women have been seen to wear fashionable headscarves in bright colours and creative designs. Consequently, modest fashion is fast becoming a lucrative industry in the country. According to a report by Thomson Reuters in 2015, Muslim consumers worldwide spent $243 billion, whilst an estimated $44 billion was earmarked for modesty. Bloomberg also reported Muslim consumers globally are estimated to spend US$484 billion on Islamic clothing and footwear by 2019.

As society moves towards modernity, hijab wearing does not only reflect one religion beliefs. It also reflects in one's fashion choice. When this happens, Muslim women are stuck in a state of uncertainty as they themselves might be muddled on what is the main motive in donning the hijab at the first place. Chen, Akat, Xin and Song (2014, p. 208) state "This dilemma comes from the contrast between the traditional modesty style Muslim women are asked to show and the modern stylish hijab style that fashion industry demands."

In Malaysia, most Muslim women choose to don the hijab and yet at the same time, some choose not to do so. According to Nurzihan Hassim (2014) the practice of hijab wearing begun in the 1980s when the trend of covering ones "aurat" and the "muslimah" couture were introduced to the society. Nurzihan Hassim (2014) adds as time passes by and the "muslimah" fashion industry grew bigger, Muslim women are constantly bombarded with marketing of hijab fashion. This eventually creates a hijab wearing culture whereby Muslim women no longer wear hijab just because of the requirement of the religion but also as a fashion statement. The selections of hijab expanded from different fabrics, designs, colours and so forth.

As the hijab industry further widens, the media industry takes the opportunity to introduce hijab fashion magazines as well as websites. Media tools like these not only play the role of the informant on what is in trend, it also teaches Muslim women on how to mix and match their hijab with their clothing like "baju kurung", blouse, shoes and purse (Zulkifli Abdul Latiff and Fatin Nur Sofia (2013). Not only that, Nurzihan Hassim (2017, p. 3) states, "urban hijab representations in Malaysian media today are encouraging young Malay women to be liberated and experimental with their veiling choices in the emphasis to appear modern and unique."

According to DeSilver and Masci (2017) of Pew Research Center, as of 2010 Islam is the second largest religious tradition after Christianity and by the year 2050 the world population would be made up of 2.76 billion or 29.7% of Muslims. With such large numbers of Muslims around the globe, it does make sense for multinational brands to take the opportunity to expand into the growing segment of the market (Salva, 2017). For example, local and global designers are designing modesty, one of it is Mimpikita, a Malaysian brand founded by three sisters which made debut at London Fashion Week in 2015 featuring fashion in chic and modest clothing. Other global brands such as H&M and Uniqlo announced fashion lines for Muslim women.

Uniqlo has a steady line of Muslim wears, ranging from head scarves and tunics. These collections are made with the collaboration with British fashion designer Hana Tajima (Sharkey, 2016). Nike, the world-famous sports brand has also embarked on the Islamic clothing as well, designing sportswear for female Muslim athletes ("Nike launches hijab for female Muslim athletes", 2017). Even luxury brand like Dolce & Gabbana has started to produce hijabs and abayas especially for the customers in Middle East. Not forgetting, other luxury brands and high street fashion houses like DKNY, Oscar de la Renta, Tommy Hilfiger, Mango and Monique Lhuillier has also made collections targeted at Muslim wearers (Yotka, 2016).

Beta and Hun (2011) posited the majority of South East Asian countries including Malaysia has allowed Muslimah to express their personalities and styles and strayed away from the norms of a conservative Muslimah. This is furthered bolstered by the imageries offered by lifestyle and fashion Muslim women magazines which celebrate modern take in modesty trends. This trend, however, may not necessarily comply with the true meaning of wearing Hijab. Woldesemait (2012) mentioned the modernized representations of hijab do not meet the standard hijab wearing requirements. Modesty clothing is supposed to defer attention and not to attract man's attention. The transformation of hijab wearing in magazines could reflect how hijab wearing is redefined in the current modern society, providing social cues to Muslim women on how to dress in this modern life without renouncing their faith.

Methodology

This research will employ quantitative method that is survey questionnaire among working non-Muslim women in private higher education setting. Due to the diversity of ethnic groups plus the academic setting allowed them to perceive the issue neutrally. The objective of this study is to find out the perception of non-Muslim women towards modern hijab style in terms of religious believe or fashion choice.

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CARBON EMISSION POLICIES: CARBON TAX AND CAP-AND-TRADE

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Abstract : *The increasing amount of carbon emissions due to human activities contribute to the global warming problems. Without any policy to complicate the activities, people will keep on emitting carbon and greenhouse gases. Therefore, carbon emissions policy is an important agenda in order to slow the harmful impact on the environment. There are two types policies discussed in this study which are carbon tax and cap trade. The carbon emissions policies aimed to achieve effective environmental control. The way these policies implemented is different. Carbon tax is a policy in which the emitters need to pay for carbon emissions based on the tax rate imposed by the government while cap-and-trade is a trade market mechanism used to control carbon emissions. This study discussed the difference between these two policies. The different characteristics of the cost structure and carbon emission will lead to different responses of the business performance to the control policies applied to the business. The implementation of carbon emissions policies requires continuous accurate monitoring in order to ensure that the environmental targets are achieved.*

Keywords: Carbon Policy, Carbon emission, Carbon Tax, Cap-and-Trade

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Introduction

The increasing amount of carbon emissions due to human activities contribute to the global warming problems. The issue of global warming involves taking costly actions today to avoid adverse outcomes that will occur in the future. With the increasing importance of the impact of carbon emissions on the environment, the implementation of carbon emission policies is an important agenda. Without any policy to complicate the human activities, people will keep on emitting carbon and greenhouse gases. Therefore, carbon emissions policy is an important agenda in order to slow the harmful impact on the environment.

The Kyoto Protocol, which was adopted in 1997, was the first international agreement to mitigate climate change and aims to reduce carbon emissions by 5% from the 1990 carbon level over a 5-year period for industrialised countries (UNFCCC, 1998). Under the Kyoto Protocol, all industrialised countries are grouped under Annex I countries with a commitment to reduce carbon emission targets contained in Annex B. The UK's commitment under the first five year commitment period (2008-2012) is to achieve a reduction of 12.5% CO_2 from the 1990 levels by 2012. During the first commitment period, the countries must meet the targets set under the Kyoto Protocol through its national measures.

There are two main environmental policies with the main objective being to slow down global warming. The first policy, which employs the market-based approach, is carbon emissions trading. Another important instrument is the taxation of energy according to its carbon content, which is referred to as carbon tax (Ekins and Barker, 2001). The main difference between carbon emissions trading and carbon tax is the price and quantity

adjustment. In carbon emissions trading, the quantity of carbon emitted is fixed, and the price of emissions permit adjusts whereby with carbon tax, it is the price of carbon that is fixed, and the quantity of the carbon emitted that is adjusted (Ekins and Barker, 2001). Different policies will have a different impact on the business and all industries, and, therefore, the policy enforcement plays a significant role in managing carbon emissions. Government involvement is the main issue in implementing carbon emission policies since the carbon price and tax rate are highly dependent on government policies. The policies will therefore significantly affect the cost structure and business performance of reverse logistics as transportation and manufacturing involve a large amount of energy consumption.

Carbon Policy Issues

In approaching the end of the first commitment period, the Kyoto Protocol, which has been in force since 2008, has been criticised because of its weakness. The carbon market has been adversely affected by low prices that are failing to drive the necessary investment in low-carbon technology and a series of scandals about the integrity (Newell, 2012). Newell (2012) also states that the governance touches on the deeper politics of carbon markets, and, therefore, the role politics plays in response to climate change has to be addressed. This study, however, does not focus on the political side but on the impact of carbon emissions by quantifying the carbon emissions cost in monetary value.

Another issue concerns the participating countries. The United States is the biggest industrialised country but has not ratified the agreement even though it has the largest share of global emissions with almost 19% (IEA, 2011). The two next largest emitters – China and India – are not industrialised countries, and, therefore, not included in the Annex I countries. China has overtaken the United States as the world's largest annual emitter in terms of energy related CO_2. These three main emitters contribute to almost half of the world emissions. There are arguments between developed countries and developing countries. Some developing countries like China and India do not want to sacrifice their development by cutting the emissions. These countries have said that the developed countries should be responsible for the high level of emissions. On the other hand, the developed countries want to make sure that developing countries also participate in reducing the world carbon emissions.

The aim of reducing total carbon emissions under the Kyoto Protocol has a loophole due to the issue known as emissions leakage, which can reduce the cost effectiveness and environmental performance of the agreement. Another weakness is found in the incapacity of the targets to deal with the uncertainties surrounding climate change, especially on the side of abatement cost (Philibert, 2004). In this rapidly changing world, the emissions of some fast growing non-Annex I countries have become more than the emissions from some poor Annex I countries. The Kyoto Protocol, with a five-year time horizon in the first commitment period (2008-2012), is said to be using a short-term approach to solve a long-term problem (Olmstead and Stavins, 2011). The environmental issue is a long-term problem, and, therefore, the Kyoto Protocol does not stop at 2012. Second commitment period started at 1 Jan 2013 and will end at 31 December 2020 (UNFCCC, 2014). The aims to the countries that Annex 1 parties must fulfilled their obligations of greenhouse gas emissions limitations established for the Kyoto Protocol's first commitment period with hope that this international framework that can deliver stringent reductions in emissions.

Carbon Tax Vs. Cap-And-Trade

The carbon tax is a policy in which the emitters need to pay for carbon emissions based on the tax rate imposed by the government. Designing a tax policy is a big challenge. Metcalf and Weisbach (2009) considered three central design issues – tax rate, tax base, and

international trade concerns. The main issue in carbon tax designing is configuring the appropriate tax size (Mankiw, 2008). Several researches have been conducted on the size of the tax. Generally, the tax rate is based on different fossil fuels and according to their carbon content. Coal is taxed at a lower rate than petrol and gasoline, which normally has the heaviest tax per tonne of carbon dioxide emitted than other fuels (Pearson and Smith, 1991). The implementation of a carbon tax policy should be made by adjustment to the income tax to ensure that a carbon tax is revenue neutral and distributed neutrally.

Komanoff, as published by Yale (2009), said carbon tax can quickly drive across the board transition. For example carbon tax nations can easily offset import price with the border tax adjustment. The carbon tax system has advantages, for example, this system puts a clear price on carbon emissions for many years ahead since the tax rate is known for a specific period of time. A straight carbon tax at whatever level would be politically acceptable. The simplicity in carbon tax is seen as a different dimension, as, in reality, any tax legislation will be complex and vulnerable to loopholes. With the involvement of politics, the pressure on a carbon tax system will most likely lead to exemptions of sectors and firms, which reduces the environmental effectiveness and drives up costs, as some low cost emission reduction opportunities are left off the table.

Cap-and-trade is the most widely used trading scheme. This system has been widely proposed and implemented in many regions and countries, such as Australia, Japan, New Zealand and the European Union. The European Union Emission Trading System (EU ETS) is the largest emissions system in the world, and, currently, the global frontrunner for a cap-and-trade mechanism (Sorrell, 2010; Haupt and Ismer, 2011). In the cap-and-trade, an overall carbon emissions limit is defined and allocated by the regulator to each participant in a given period of time (Tietenberg, 2003). The crucial concern in a cap-and-trade system is the carbon permit allocation. There are three main methods to allocate carbon limit, which are grandfathering, benchmarking and public auction (Edwards and Hutton, 2001). Grandfathering, which is based on historical emissions, is said to be a feasible approach in allocating the emissions permit to each industry sector (Lee et al., 2008). The carbon limit is free and allocated after examining the history of the carbon emissions of a company. Benchmarking is the carbon limit that is calculated based on regulator's judgment. This method is more bureaucratic and difficult to apply in less homogeneous sectors. The public auction is a fairer method and could raise revenue (Edwards and Hutton, 2001). In practice many schemes are likely to use a combination of the carbon permit allocation methods.

The participants in a trading scheme are free to emit the carbon as long as their emissions amount is within their limit, or sometimes referred to as a cap. Participants who face high abatement costs need to buy additional allowances, while participants who face low abatement costs can take abatement action and sell their surplus allowances for a profit (Sorrell and Sijm, 2003). The carbon emission trading market is the place where the participants who have an additional allowance can sell these surplus allowances to the participants who need to buy these allowances. A tradable permit can provide an incentive to reduce total emissions below the allocation in order to benefit from selling excess permits on the open market. The advantage of carbon trading is that some participants can reduce carbon emissions more economically. Other participants that are facing higher costs of reducing emissions can purchase from those participants whose emissions reductions can be made inexpensively (Nordhaus, 2007). The trade, which can be either free or with restrictions, is based on the price of the carbon emission permit according to the demand and supply of carbon emission allowance at the trade market (Lutter and Shogren, 2002).

A cap-and-trade system sets a clear limit for greenhouse gas emissions and minimises the cost of achieving this target. The cap or carbon limit plays an important role as a reduction

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target. This cap is created to decline from time to time. A declining cap can provide a firm reduction target and a system for measuring carbon emissions. It can provide an affordable environmental guarantee. With a strong emissions reduction target and clear rules, this policy can achieve environmental goals. A decision on the cap is the main factor in ensuring the effectiveness of the system. Reyes and Gilbertson (2009) have shown that the decision of cap size can determine whether a cap-and-trade system will be a success or failure.

Table 1: The difference between cap-and-trade and carbon tax (Yale, 2009)

Elements	Cap-and-trade	Carbon tax
Goal	Clear goal of emissions reduction	Clear goal of using less energy and has direct responses
Revenue	Revenue is likely to be bargained away well before the first trade ever takes place	Clear amount of revenue
Politics	Political pressure will lead to different allocations of allowances, which affect distribution, but not environmental effectiveness and cost effectiveness	Political pressure will most likely lead to exemptions of sectors and firms, which reduces environmental effectiveness and drives up costs, as some low-cost emission reduction opportunities are left off the table
Economy	Specific on high emissions industry	Covers entire economy
Certainty	Delivers emissions certainty by establishing a declining emissions limit based on assessment of the reduction levels required to protect the climate	Cost certainty by setting up a fixed cost on emissions –would not provide the same level of emissions certainty during any given compliance period
Carbon limit	Sets a clear limit – legal limit on pollution	Does not have a carbon limit – guessing the level of tax
Environmental effectiveness	Can guarantee achievement of emission target	Provides greater certainty regarding costs
Price	Let market forces set a price on emissions	A clear price of carbon for years ahead

Cap-and-trade and carbon tax are both good policies, depending on the perspective. Since there are benefits and drawbacks to each, if any policy is chosen to be implemented, the regulating body has to make sure that the benefits are focused on so that the drawbacks can be minimised. A well designed cap-and-trade policy should not be overlooked while a straight carbon tax is preferable in exercising the chosen policy.

Conclusions

Despite the weaknesses, the Kyoto Protocol has the strength for using a market-based approach in reducing the global emissions cost. The carbon emission trading that has been implemented among Annex I countries helps to trade the costs between the members in the same emissions trading scheme. Philibert (2004) mentioned that the Kyoto Protocol's main strength lies in its emissions trading feature, which is the key for cost-effectiveness, environmental effectiveness and equity. The implementation of carbon emissions policies requires continuous accurate monitoring in order to ensure that the environmental targets are achieved. In protecting the environment through legislation, it is crucial to ensure that these policies do not entail a high administrative and financial burden to the participating bodies

The design of the carbon emissions system is affected by the point where emissions are regulated. In designing the carbon markets, the principal thing is to ensure that the carbon markets are constructed as a balancing act between the various elements in the loose coalition with three sorts of tension (Paterson, 2012). These tensions are over the stringency of the targets to be pursued, the environmental integrity and the tension regarding the questions between different carbon markets. The first and second tensions are more problematic compared to the third one.

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MOSQUES ECONOMIC ACTIVITIES AND ENTREPRENEURIAL ORIENTATION: A PRELIMINARY STUDY

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Abstract: *This study examines the relationship between economic activities and strategic orientation perform by the mosque's management committee. A survey method was employed to gather response from mosques' top management committee member at the State of Selangor. The outcomes of path model analysis revealed that economic activities exist among mosques in Selangor. Second, there are evidence revealed on the existence of economy activities and entrepreneurial orientation among respective respondents. The results confirm that entrepreneurial orientation is an important factors underpinning the involvement of mosques management committee in economic activities in their respective mosque understudy. The empirical evidence provides important insights that could guide researchers, mosque's management committee and state religious agencies in their understanding the mosques economic activities.*

***Keywords**: Mosque, Economic Activities, Entrepreneurial Orientation*

Introduction

Mosque is the main place of worshipping for Allah SWT and central institution among Muslim's society. The operations and activities of mosques are normally funded by the state government grant and public donation, *waqf* and other public funds. However, based on current economic development and constraints, mosques' management committee are encouraging to creatively involve in entrepreneurship and economic activities as a new fund-raising method.

Current studies about mosques' management and financial practices was focusing on the area of governance and managerial practices among mosques management committee (Nurul Huda et al., 2011; Mahazan & Abdullah, 2012), the accountability and efficiency of mosque's financial management (Fidlizan et al., 2014) and the potentials of income generating models among mosques (Mohd Yahya et al., 2014). However, there are few researchers are looking at understanding the mosque participation in economic activities and their entrepreneurial orientation. Thus, this study is motivated to explore the level of mosque involvement in economic activities and to measure the existence of entrepreneurial orientation among these social institutions.

Literature Review

Mosque is the main institution among Muslim. The core functions of mosques institutions are related as the place of congregation, centre for Islamic teaching, administrative centre, social andcommunity centre and economic centre (Joni Tamkin et al., 2011; Asharaf et al., 2012). There are more than 6,000 mosques established in Malaysia. The management and

governance of the institutions are placed under the purview of The State Islamic Religious Council (SIRC) at all states. The State Islamic Religious Department is the execution body for the policies and operation procedures while at the mosque level, Mosque Management Committee (MMC) is being appointed by the Sultan and SIRC to manage the operation, financial matters and to pursuit mosque's activities. The committee are headed by appointed Chairman and other committee members.

Mosque And Economic Activities

Traditionally, mosque received their funding from donation, alms, *waqf* and yearly grant from state government. However, due to the increased number of mosques and reduction of public funding, these institutions are highly encouraging to generate their own funds in entrepreneurial ways. The Second National Seminar on Mosque Management (2006) for example, highlighted the important of all mosques in Malaysia to be managed and developed professionally in term of organization's management and financial management.

As such, the involvement of mosques in economic activities is realized through the introduction of mosque's cooperative, as well as allocation of mosque's properties and fixed assets to be rent by outsiders and others (Joni Tamkin et al., 2011; Fidlizan et al., 2014; Mohd Yahya et al., 2014). Omar (2008) encouraged mosque management team to improve their conducts and related activities to promote mosques as the economic centre, knowledge revealed centre and community centre. While Ahmad Raflis et al, (2015) posited that selected mosques in Selangor are involved in social business activities as the strategy to gain extra income as compared to the traditional sources.

Entrepreneurial Orientation

The inclusion of mosques in economic or entrepreneurship activities is considered as the applied strategies to achieve the sustainability mission. Organizational strategy is the principles that influence the behaviours of the organization by the ways on how their management team pursue the operations that intended to gain best performance. Organizational strategy substantially influences investments activities, innovation and market focuses with the aims to gain better economic performance (Al-Ansaari, Bederr and Chen, 2015). The excellent set of strategy will provide an excellent framework for the top management to mobilise their assets, capital and human resources to offers value added services or products to their customers.

Entrepreneurial orientation is the organization strategy that related to the Contingency Theory on how firms or organization's coordinating their resources, technologies and capabilities to achieve better performance. Entrepreneurial orientation is defined as the process, practices and decision making activities towards new entry to the market, risk-taking, pro-active actions and market orientation among new or existing organizations (Lumpkin and Dess, 1996). Miller (1983) measured the entrepreneurship orientation by looking at the engagement of the organization in product or services innovation, risk taking, and pro-activeness in their action/ activities and operations.

Methodology

Administered questionnaires were distributed to the key personnel of mosque administrative committee five districts in Selangor namely District of Petaling, Gombak, Klang, Sepang, and Hulu Langat. The permission for data collection is obtained from the Mosques Management Division, Selangor State Islamic Religious Department. The purposive sampling method was used as the targeted mosques are perceived on pursuing certain type of economic project.

The questionnaire comprises of three sections. The first section is on demographic of the mosque and the second section is used to gain information about the economic activities performed by the mosque. The final section requires the respondents to evaluate certain entrepreneurial orientation factors. The economic activities are divided into five key elements which include the economic activities initiatives performed, project management skills, economic projects management, pro-activeness in dealing with economics project and risk-taking propensity. The entrepreneurial orientation is measured by applying eight constructs proposed by Miller (1983) with some modification to suit with the mosque's organization environment. The five-point Likert scale are applied to all questions in section B and C.

The data analysis was done by using the SmartPLS software. The aims are to analyse the relationship between variables with linear equations representing the cause and effects between variables. The descriptive analysis covers frequency, mean and outer loadings. Cronbach Alpha test, composite reliability and the average variance extracted was used to validate the data.

Findings

The study received feedback from 81 mosques from all five districts understudy. Table 1 revealed the demographic information about the samples. Majority of the mosques are the Kariah Mosque (82.7%) and mostly established between the year of 1981 to 2000 (48.1%). The majority of the mosques have the congregational capacity of less than 1,000 people at one time (51 mosques). Most of the mosque's management committee comprises of between 21-30 members (53.1%). This finding revealed that mosque's management committee comprises various number of manpower with different capabilities and skills.

Table 1: Demographic of Mosques

		Frequency	*Percentage*
Mosque Location	District of Petaling	30	37.0
	District of Gombak	17	21.0
	District of Hulu Langat	15	18.5
	District of Klang	11	13.6
	District of Sepang	8	9.8
Mosque's Category	Royal Mosque	1	1.2
	Institutional Mosque	8	9.9
	Jamek Mosque	5	6.2
	Kariah Mosque	67	82.7
Year of Establishment	1930 – 1980	20	24.7
	1981 – 2000	39	48.1
	2001 - 2016	22	27.2
Capacity for Congregation	Less than 500	31	38.3
	501 – 1,000	20	24.7
	1,001 – 2,000	9	11.1
	2,001 – 3,000	9	11.1
	Above 3,001	12	14.8
Numbers of Mosque's Committee Member	Less than 20	32	39.3

	21-30	43	53.1
	More than 30	6	7.4

Table 2 show the economic activities pursued by the mosque's committee. Most of the mosques have some investment account at local financial institutions (42/81) and pursuing related rental activities on their assets such as multi-purpose hall (36/81), corpse van (35/81), shop lots or bazaar (31/81) and space for telco tower (27/81). It is show that the major economic activities were the rental activities.

Table 2: Top 10 Economic Activities Performed by the Mosques

Rank	*Activities*	*Frequency*
1	Investment account at financial institutions	42/81
2	Rental of multi-purpose hall	36/81
3	Rental of corpse van	35/81
4	Rental of shop lots or bazaar lots	31/81
5	Rental space for vending machine	29/81
6	Rental space for telecommunication tower	27/81
7	Rental of homestay / roomstay	23/81
8	Conducting short courses	18/81
9	Rental of Ramadhan bazaar lots	17/81
10	Rental of equipment for ceremony	17/81

Table 3 revealed the results of the reliability test analysis. For the CA test, the value obtained were between 0.897 and 0.760 indicate that all entrepreneurial orientation factor items were strongly correlated to one another (Hair et al., 2007). CR and AVE test shown the reliability of internal consistency. All factors indicate values of more than 0.50 and considered good.

Table 3: Results of Cronbach's Alpha, Composite Reliability and Average Variance Extracted

Factor	*Cronbach's Alpha (CA)*	*Composite Reliability (CR)*	*Average Variance Extracted (AVE)*
Entrepreneurial orientation	0.841	0.877	0.510
Risk taking	0.850	0.898	0.688
Pro-activeness	0.841	0.904	0.758
Economic project management	0.897	0.923	0.707
Economic activities performed	0.879	0.916	0.733
Project management skills	0.760	0.809	0.515

Further analysis was done to measure the structural model. Table 4 shown the results of the convergent and discriminant validity analysis. It shown that all variance inflation factor (VIF) values are less than 10. Indicating that multi collinearity that suggested there are no indication of collinearity (redundancy) between the variables (Hair et al., 2007).

Table 4: Results of Convergent and Discriminant Validity Analysis

Factor	EO	RT	PA	EPM	EAP	PMS
EO	0.670					
RT	0.347	0.829				
PA	0.654	0.367	0.841			
EPM	0.584	0.343	0.570	0.871		

EAP	0.614	0.294	0.758	0.681	0.856	
PMS	0.646	0.127	0.502	0.437	0.534	0.718

Note: EO = Entrepreneurial orientation; RT = Risk taking; PA = Pro-activeness; EPM = Economic project management; EAP = Economic activities performed; PMS = Project management skills

Conclusion

The study revealed that mosques in Selangor are engaged to the economic activities especially related to the rental activities of their assets and investment accounts at the local banks. Engagement economic and entrepreneurship activities are valuable for the mosques institution to move forward in gaining some economic income and impact. There is existence of entrepreneurial orientation among mosques committee board in pursuing their economic activities as per stated in Table 4.

However, mosques management committee are still limited to the risk-taking propensity. That is due to their accountability to the funds generated from the traditional sources such as public donation, *waqf* and yearly government grant. It is understood that the committee must submit yearly financial report to the State Religious Department for monitoring purposes. In order for them to pursue various economic activities, there are still lacking in term of economic project management and numbers of economic activities performed. That was related to the prudent mechanism implied to the selected activities that may performed by the committee and the restriction set on the usage of mosque's funds and assets by the authority.

It is suggested that mosques management committee should be empowered by the authorities to performed such economic and social business activities with clear guidelines and execution policy. Investment committee should also be established for them to monitor and evaluate all economic project of the mosque. Further studies are needed to measures the economic activities and entrepreneurial orientation among mosques in other states in Malaysia since the mosques scope of activities are related to each states religious authority.

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CATEGORIZATION OF LEAN SIX SIGMA TOOLS AND TECHNIQUES BASED ON DMAIC FRAMEWORK

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Abstract: *This study seeks to explore the experiences of various organizations from various industries undertaking DMAIC activities within their organization in order to sustain the performance and maximize their value. This paper provides an overview of each tools and techniques used in DMAIC stage.*

Keywords*: Lean Six Sigma, DMAIC, Lean Management, Six Sigma*

Overview of Lean Concept

Nowadays, most organizations attempt to implement Lean concept in their business, ranging from manufacturing, service or even on public sector. Lean is an operational philosophy focuses on a business' internal needs with the ultimate aim to maximize value added activities by identifying and eliminating waste in an organization. This concept originated from Toyota Motor Corporation in early seventies and focused on reducing cycle time and waste in processes (Frank, H.James, Chuck, & Rich, 2014; Sandra, 2009b). Besides, lean is not only focusing on cost reduction while improving quality, but also serves as guidance for organization to achieve tremendous growth (Sisson & Elshennawy, 2015).

The basic fundamental of Lean concept is the ability to identify waste in the organization as waste identification and elimination is one of the ways to increase profit. Waste is typically defined as any activity that customer is not willing to pay for. Traditionally in 1988, Taiichi Ohno has classified waste into seven major categories which are overproduction, waiting, transportation, inappropriate processing, excess inventory, unnecessary motion as well as defects (Andrew, 2009; Vijaya Sunder, 2015). Additionally, Frank et al.(2014) in their book introduced nine waste with additional two waste : Underutilized people and employee behaviour.

Overview of Six Sigma Concept

Numerous businesses around the globe adopt Six Sigma as an initiative to helped company drive out billions of dollars in cost and driven productivity to higher level as the savings generated by six sigma marked a positive impact towards the bottom line of the organizations' performance. Six Sigma was developed by a Motorola Senior Engineer named Bill Smith in the mid of 1980s and become popular in United State after winning the 1988 Baldrige National Quality Award (Frank et al., 2014; Snee, 2010). As a quality improvement method, Six Sigma is a statistical process measurement symbolized by the Greek letter sigma

"σ". This σ represents the variation amount of data distribution which also called as standard deviation (Aboelmaged, 2010; Pacheco, Pergher, Vaccaro, Jung, & Ten Caten, 2015).

Since early eighties, Six Sigma from Motorola has evolved from solely a statistical term into an established methodology that has spread to other companies which providing businesses with a comprehensive toolset to improve the capability of business processes, process improvement, and quality of products and services in order to satisfied customer needs (Aboelmaged, 2010; Chakraborty & Leyer, 2013; Forrest, James, & Becki, 2001; Penelope, 2006). Six sigma has different interpretation, thus Chakraborty & Leyer (2013) classified those interpretation into four main stream : first as a set of statistical tools with the aim of process quality improvement; second as a philosophy for operational management that can be shared beneficially by every stakeholder of a company; third as a business culture which is implemented top down and lastly as an analysis methodology using scientific methods for continuous processes.

Six sigma deals with several tools and techniques to tackle quality related problem that leads to minimizing defect and meeting customer requirement in result to improve overall performance for organization. The most used six sigma tools are Design of Experiment (DOE), Measurement System Analysis (MSA), Voice of Customer (VOC), Pareto Analysis, root cause analysis, process mapping, process flowchart, Gantt chart, and histogram. At the same time, organization also use six sigma techniques such as statistical process control (SPC), process capability analysis, and benchmarking process to tackle the issues. Additionally, one six sigma techniques can employ various tools, as an example SPC is a technique that utilizes control chart, histogram and root cause analysis (Aboelmaged, 2010).

The Evolution of Lean Six Sigma

Lean Six Sigma is the offspring of two most popular performance improvement methodologies which are lean methods and six sigma approach. The concept of combining lean and six sigma began in late 90s, with the aim to blend these two methodologies into one approach of getting things done faster, better, cheaper, safer and greener (Yadav & Desai, 2016). Starting from that era, more companies are adopting Lean Six Sigma with the intention to increase process performance resulting in enhanced customer satisfaction and improved bottom line result (Snee, 2010). Lean Six Sigma is the result of evolution from quality and productivity, which then revolve into six sigma and lean concept (Sandra, 2009b). Figure 1 shows the evolution of this combined method.

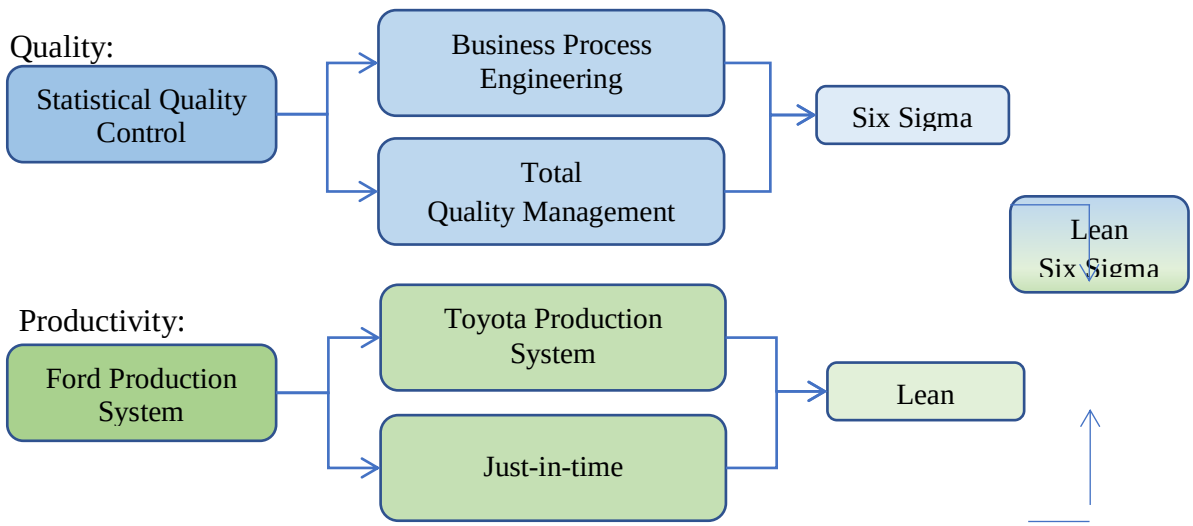

Figure 1 : Evolution of quality and productivity to Lean Six Sigma (Sandra, 2009b)

From a business perspective, Lean Six Sigma could be defined as a combination process that allows companies to drastically identify the customer needs, eliminate all non-value-added activities and reduce the variability within the production process (Chaurasia, Garg, & Agarwal, 2016; Yadav & Desai, 2016). Thus, Lean Six Sigma is needed because organizations and individuals need a methodology for improvement and problem solving (Snee, 2010). In order to choose the appropriate method, organization has to identify the nature of improvement at the first place, so that the action taken can solve the problem accordingly. In fact, not all improvement projects need Lean Six Sigma as a whole, because certain improvement projects need Six Sigma alone, while other projects need Lean Methods alone. However, based on Aboelmaged, (2010) and Gremyr & Fouquet (2012), this two dominant method are complement to each other and become a powerful framework for eliminating process waste and variation when used together rather than used alone. Thus, organization need to have a clear direction on the purpose of every single improvement project that they want to carried out. Figure 2 shows how Lean and Six Sigma approaches can be used to deal with waste reduction, non-value added work & cycle time.

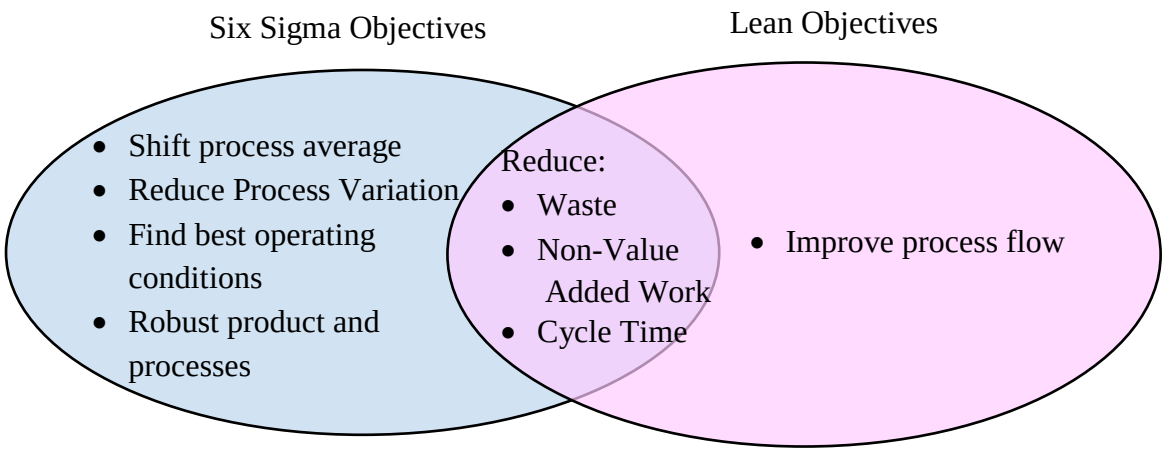

Figure 2 : Improvement Objective (Snee, 2010)

Based on the figure above it clearly shows that Lean and Six Sigma works differently, but there is a commonality between those two. Again, a standard methodology is required to integrate this Lean Six Sigma paradigm into organization.

Lean Six Sigma Tools and Technique

As the combination of Lean and Six Sigma is associated to continuous improvement, Pacheco et al (2015) suggested that lean improvement project can be manage by using DMAIC methodology. DMAIC is a disciplined, and systematic improvement approach which emphasizes on rapid project completion (Snee, 2010). In fact, Chaurasia, Garg, & Agarwal (2016) in their research also conclude that DMAIC is one of the most influential methodologies for Lean Six Sigma. DMAIC which stand for *Define*, *Measure*, *Analyze*, *Improve* and *Control* are often used as a process improvement tools for projects that aims to improve existing products, processes or services (Frank et al., 2014; S.Thomas & Kunal, 2013a; Sandra, 2009b).

As DMAIC is a structured process improvement methodology, it combines with a well-defined set of tools that are applied at various phases of the DMAIC (Shafer & Moeller, 2012).

In the first place, DMAIC is actually a modification of the PDCA (Plan-Do-Check-Action) cycle which are originally introduced by William Edward Deming, but with additional tools and methods, DMAIC has been used for many improvement projects which vary from different discipline and industry (Andersson, Hilletofth, & Manfredsson, 2014; Pacheco et al., 2015). For instance, DMAIC has been used for improvement project in medical (Toledo H. et al., 2013), financial (Sandra, 2009a), logistic (Blake, Stefan, Parker, Matt, & Sandra, 2009), inventory and asset management (Felix et al., 2009), shop floor production (Kumar & Sosnoski, 2009), automotive (Vikas & S. Vinodh, 2016), Telecom Production (Andersson, Hilletofth, & Manfredsson, 2014), Oil Production (Chaurasia et al., 2016) as well as in higher education (Marcela, Khalid, Kevin, Jose, & Sandra, 2009; Vijaya Sunder, 2016)

From those examples, it shows that DMAIC seems to be one of the most value aspects of improvements tools for any organization from various industries either for major or minor project. At such, Assarlind, Gremyr, & Bäckman (2013) describe that extensive stage-gate DMAIC cycles are utilized for large projects, while the simplified versions are used for smaller everyday improvement activities.

Firstly, DMAIC allows organization to identify a problem (Define), and then convert it into statistical problem (Measure), after that discuss and verify the cause of the problem and suspected root cause (Analyze), continue with action identification (Improve) and finally apply a practical solution (Control). Unfortunately, from the review it found out that there is no consistency of tools used throughout the DMAIC phased as there are tools that used repeatedly and few are redundant.

Define - What is important?

Define phase is the initial phase for lean six sigma project. Certainly, this phase is to identify and validate the opportunity where improvement can have a significant impact to the organization (Thomas, Francis, Fisher, & Byard, 2016; Vikas & S. Vinodh, 2016).

Table 1: Details tools for Define Phase

Authors / Year	Industry	Specific Tools Used [Define Phase]										
		Project Charter	Voice of Customer (VOC)	Stakeholder Analysis	Pareto Analysis	SWOT Analysis	Process Map	Problem Definition	SIPOC Chart	Flow Chart	Current State Map	Critical to Quality (CTQ)
Vijaya Sunder, 2016	Education	X					X					
Chaurasia et al., 2016	Oil Production						X	X				

Vikas & S. Vinodh, 2016	Automotive Component Production	X						X	X	X	X	
Andersson, Hilletofth, & Manfredsson, 2014	Telecom Manufacturing		X			X	X	X	X			X
Toledo H. et al., 2013	Medical	X		X								
Kumar & Sosnoski, 2009	Shop floor production	X			X							

Measure – How are we doing?

Basically Measure phase is where researcher identify the potential root cause of certain problems, and investigate how this root cause might affect the overall process and how to measure them (Andersson et al., 2014). Equally important, from this phase a quantitative problem statement will be developed based on the measurable data that have been collected earlier (Frank et al., 2014).

In Measure phase, the tools used is differed depends on the type of industry and type of process improvement as per shown in table 2. Overall, there is not much similarity of tools used in measure phase.

Table 2: Details tools for Measure Phase

Authors / Year	Industry	Specific Tools Used [Measure Phase]						
		SIPOC Diagram	Process Flow Diagram	Pareto Chart	Descriptive Statistics	Process Capability	Waste Categorization	Affinity Diagram
Vijaya Sunder, 2016	Education				X			
Chaurasia et al., 2016	Oil Production	X						
Vikas & S. Vinodh, 2016	Automotive Component Production					X	X	
Andersson, Hilletofth, & Manfredsson, 2014	Telecom Manufacturing							X
Toledo H. et al., 2013	Medical		X		X			
Kumar & Sosnoski, 2009	Shop floor production			X	X	X		

Analyze - What is wrong?

The third phase in DMAIC methodology is Analyze. In this phase, researcher used the data collected from the Measure phase which are the root causes to document the current performance and check on the factors that need improvement (Andersson et al., 2014; Andrew,

2009; S.Thomas & Kunal, 2013a). Analyze involve gathering and analyzing cause and effect relationship, then validate the root causes and finally develop the process capability.

Table 3 shows that in most industry, researcher tends to used Cause and Effect Diagram in Analyze phase. Cause and Effect Diagram also known as fishbone diagram or Ishikawa Diagram is one of the powerful tools to helps researcher findings the lower level of variation in order to solve the problem (S.Thomas & Kunal, 2013b). Since various root cause is already identified in previous phase, thus it is important for researcher to understand the sources of this variation, so that the problem can be solved quickly and effectively (Frank et al., 2014).

Table 3: Details tools for Analyze Phase

Authors / Year	Industry	Specific Tools Used [Analyze Phase]							
		Cause and Effect Diagram	Benchmarking	Detailed Process Map	Waste Identification	Pareto Analysis	Risk Analysis	5 Why	Affinity Diagram
Vijaya Sunder, 2016	Education	X			X				
Chaurasia et al., 2016	Oil Production	X				X			
Vikas & S. Vinodh, 2016	Automotive Component Production	X				X			
Andersson, Hilletofth, & Manfredsson, 2014	Telecom Manufacturing						X		
Toledo H. et al., 2013	Medical	X	X	X				X	X
Kumar & Sosnoski, 2009	Shop floor production	X		X					

Improve - What need to be done?

Different scholar interprets Improve Phase differently. Andersson et al., (2014) classify it as a process robust, S.Thomas & Kunal, (2013a) referred it as offline experimentation while Frank et al., (2014) called it as system improvement. After all, all this scholars agreed that the purpose of Improve Phase is to eliminate the root cause while identify improvement recommendations (Andrew, 2009; Sandra, 2009b). Improve phase involve activities such as identifying improvement recommendation, perform cost/benefit analysis, design future state, establish performance targets and project scorecard, followed by request permission for improvement implementation.

As improve phase is looking for recommendation of improvement, most industry focus on Kaizen and New Process as their approach. Initially Kaizen was developed by the Japanese to overcome the quality issues in manufacturing goods, and this concept then adopted by westerners. Kaizen comes from the term “Kai” which means change while term “Zen” means good, together they stand for continuous improvement (Raisinghani, Ette, Pierce, Cannon, & Daripaly, 2005). Again, as kaizen is a constant and ongoing improvement activity, it manage

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to create a culture of continuous improvement in organization (Sisson & Elshennawy, 2015). Additionally, Snee (2010) classified Kaizen as a rapid improvement project which typically completed in 30 days or less. Table 4 below show the details tools used for improve phase in different industry.

Table 4: Details tools for Improve Phase

Authors / Year	Industry	Specific Tools Used [Improve Phase]								
		Experimentation	Kaizen	Benchmarking	New Process	Total Productive Maintenance	Value Stream Mapping	Future State Map	Kanban	Cause Validation
Vijaya Sunder, 2016	Education			X	X					
Chaurasia et al., 2016	Oil Production		X			X	X		X	
Vikas & S. Vinodh, 2016	Automotive Component Production							X		X
Andersson, Hilletofth, & Manfredsson, 2014	Telecom Manufacturing		X			X				
Toledo H. et al., 2013	Medical				X					
Kumar & Sosnoski, 2009	Shop floor production	X			X					

Control – How we guarantee performance?

Control is the very last phase of DMAIC. In control phase, researcher will decide either the solution of improvement project is proven to success or vice versa (Andersson et al., 2014). Thus, it is crucial to record down every single possible implementation which done in improve phase so that this improvement can be documented (Vikas & S. Vinodh, 2016). Through control phase, researcher will develop and validate a monitoring and control system which taking care of sustaining improvements and represents the implementation in a full scale (Ali, Islam, & Howe, 2013; Vijaya Sunder, 2015; Yahia, 2011).

Control phase involve activities such measuring results and managing changes, continue with reporting scorecard data and creating process control plan, then followed by applying PDCA cycle and finally develop a future plan. From table 5 below, it show that in most industry researcher tend to use Control Chart and Sustainability Plan in Control phase. Control chart is a statistical process control tools which indicates the variation of the process and intensity of defects occurrence (Vikas & S. Vinodh, 2016).

Table 5: Details tools for Control Phase

Authors / Year	Industry	Specific Tools Used [Control Phase]					
		Statistical Process Control	Standard Operating	Total Preventive Maintenance	Control Chart	Sustainability Plan	PDCA Cycle
Vijaya Sunder, 2016	Education		X		X		
Chaurasia et al., 2016	Oil Production		X		X	X	
Vikas & S. Vinodh, 2016	Automotive Component Production				X	X	
Andersson, Hilletofth, & Manfredsson, 2014	Telecom Manufacturing			X			X
Toledo H. et al., 2013	Medical					X	
Kumar & Sosnoski, 2009	Shop floor production	X					

Based on the review from 6 industries education, oil production, automotive component production, telecom manufacturing, medical and shop floor production we could summaries that there is no single template for process improvement as the steps taken and tools used are vary. Thus, we summarise the finding in table 6 below.

Table 6: Tools used in DMAIC Stages

Tools	D	M	A	I	C
Project Charter	X				
Voice of Customer (VOC)	X				
Stakeholder Analysis	X				
Pareto Analysis	X	X	X		
SWOT Analysis	X				
Process Map	X				
Process Flow Diagram		X			
Problem Definition	X				

SIPOC Diagram	X	X			
Flow Chart	X				
Current State Map	X				
Critical to Quality (CTQ)	X				
Descriptive Statistic		X			
Process Capability Analysis		X			
Waste Categorization		X			
Affinity Diagram		X	X		
Cause and Effect Diagram			X		
Benchmarking			X	X	
Detailed Process Map			X		
Waste Identification			X		
Risk Analysis			X		
5 Why			X		
Experimentation				X	
Kaizen				X	
New Process				X	
Total Productive Maintenance				X	
Value Stream Mapping				X	
Future State Map				X	
Kanban				X	
Cause Validation				X	
Statistical Process Control					X
Standard Operating Procedure					X
Total Preventive Maintenance					X
Control Chart					X
Sustainability Plan					X
PDCA Cycle					X

Conclusion

Overall, this paper seeks to gather and compare the experience of various organization from various industries undertaking DMAIC activities within their organization in order to sustain the performance and maximize organization value. Thus, this paper will give a clear picture on tools & practices for each of DMAIC stages in the industries. The findings will generate an effective comparison to improve LSS practitioners in their present jobs, to acquire new techniques to embark new challenge, and to continuously improve their organization performance in a changing pace of technologies.

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DETERMINANTS OF TAX ARREARS OF THE MALAYSIAN TAXPAYERS

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Abstract: *The confidentiality requirement of the Inland Revenue Board (IRB) of Malaysia on the use of its database has led many academic researchers to depend more on self-reported behaviour and perception in which, mainly focusing on tax compliance. The purpose of this paper is to investigate the factors influencing tax arrears amongst Malaysian tax payers by using demographic variables such as: age, gender, marital status, education, income and occupation as explanatory variables. It is conducted with an aim to complement prior research through exploring possible relationship between tax compliance behaviour and tax arrears. A number of previous literatures are cited in view to confirm the relationship among these variables. Based on the analysis of the available data, this study employs a multiple regression approach for 3,469 observations which are extracted from the national survey commissioned by IRB in 2011. The results show that age and income level are able to explain tax arrears. Conclusion is then deduced that a negative relationship is observed between tax compliance behaviour and tax arrears. To improve future research, the use of secondary data is proposed for more accurate analysis. There is also an opportunity to broaden similar research to other tax related components and sectors which are still remained unexplored.*

Keywords: *Tax arrears, Malaysia, Individual taxpayers*

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Introduction

On March 1, 1996, the tax collection agency in Malaysia is formally known as the Inland Revenue Board Malaysia (IRB). It is one of the main revenue collecting agencies of the Ministry of Finance which administers direct taxes in Malaysia. IRB was established in accordance with the Inland Revenue Board of Malaysia Act 1995 to give it more autonomy especially in financial and personnel management as well as to improve the quality and effectiveness of tax administration. Other than income taxes, IRB is also responsible for administering, assessing, collecting and the enforcement of real property gain taxes, petroleum taxes and stamp duties. In this study, we are specifically looking into the area of individual or personal income tax.

Since the implementation of Self-Assessment System (SAS) in Malaysia for individual taxpayers in 2004, extensive numbers of studies have been conducted to evaluate and measure the

effectiveness of compliance behavior amongst individual taxpayers using survey methods and experimental approaches. Among the most frequently quoted key determinants to examine taxpayers' compliance behavior is by using socio-physiological factors which include demographic variables (age, gender, marital status, education, income level and occupation), tax knowledge, tax complexity, taxpayer attitude and ethics, to name a few.

However, limited access to taxpayers' database due to IRB's stringent confidentiality requirement under Section 138 ITA 1967 that stipulates "certain material to be treated as confidential", has made many academic researchers could only rely on self-reported behavior and convenience sampling which have limited the extent to which findings can be generalized. (Loo, Evans & McKerchar, 2010)

Therefore, with the availability of aggregated data in this study, we wish to expand the existing knowledge of tax compliance behavior by using demographic variables as factors influencing tax arrears. These factors will be investigated further to observe whether there is relationship between the factors and tax arrears among individual tax payers.

This paper tries to answer following questions:

1) What is the relationship between tax compliance behaviour and tax arrears?
2) What factors in tax compliance behaviour could influence the amount of tax arrears among the individual tax payers?
3) Is there any relationship between the demographic variables and tax arrears?
4) Can the demographic variables be a good determinant to ensure that individual taxpayers pay their taxes on time?

The objective of this paper primarily aims to determine the relationship between compliance behavior and tax arrears. It also tries to identify the strongest determinants which influence tax arrears and to ascertain factors which mostly contribute to the tax arrears specifically among individual tax payers.

This paper is presented in five sections. Following the introduction which highlights the background and objective of the paper, section 2 outlines the literature review. This is followed by methodology and analysis in section 3. Multiple regression analysis is applied to arrive at the results and to estimate the relationship between the determinants and tax arrears. The results are presented followed by discussion of these results in section 4. Limitations of this study is then drawn together in the concluding section with recommendation of potential research.

Literature Review

Tax compliance has been a growing area of research throughout the world since the 1970's and includes contributions from many disciplines including economics, psychology, accounting, political science, public administration, law, criminology and sociology. (Allingham & Sandmo, 1972; Clotfelter, 1983; Jackson & Miliron, 1986; Dubin & Wilde, 1988; Trivedi, Shehata & Mestelmen, 2005; Loo, Evans & McKerchar, 2010) It is, therefore, no doubt that numerous studies on tax payers' behavior have been conducted including Malaysia because it is evident that non-compliant taxpayers would reduce revenues to the country and Malaysian Government expenditures would be dampen for national development and infrastructures. To date, tax compliance research in Malaysia has predominantly focused on compliance behavior of individual income taxpayers, but due to lack of access to IRBM database, studies have limited range of variables that may or may not influence compliance behavior.

There have been quite a number of studies on the factors influencing individual tax compliance behavior, which are predominantly demographic variables. The most common variables used in tax compliance research include age, gender, education and income level (Devos, 2008). However, whether there is a relationship between tax compliance behavior and tax arrears owed by individual taxpayers is yet to be examined. Thus, this section mainly survey previous studies, which entail findings about relationship that exists between the selected demographic variables towards tax compliance. The earlier findings are compared with the current research to determine the relationship between compliance behaviors to opinion on tax arrears.

Definition of Tax Compliance

Tax compliance has been defined in many ways, encompasses many disciplines including economics and psychology. It has been studied in economics by analyzing the individual decision of a representative person between paying taxes and evading taxes. (Nicoleta, 2011) It should be defined as taxpayers' ability and willingness to comply with tax laws, which are determined, by ethics, legal environment and other situational factors at a particular time and place. (Devos, 2008) Similarly, several tax authorities, also, defined tax compliance as the ability and willingness of taxpayers to comply with tax laws, declare the correct income in each year and pays the right amount of taxes on time. (IRB, 2010; IRS, 2010)

Tax Compliance Determinants - Demographic Factors

There is considerable number of literature on the influence of demographic variables on taxpayer compliance. Demographic variables such as age, gender, marital status, education, income and occupation have an effect upon perceptions that eventually impacts compliance. As mentioned in the Statement of Problem earlier, due to lack of research in the study of determinants for tax arrears among individual tax payers, hence we would be interested to explore further to find out whether these variables could also be subjected to the reason why taxpayers do not pay their taxes on time, thus became arrears. A number of literatures based on tax compliance behavior are referred and discussed to deduce to the relationship with tax arrears later.

Age

A demographic factor such as age has been extensively studied by researches and the findings from different studies, however still remain inconclusive. For example, research on the relationship between age and compliance for Malaysian tax payers has produced various findings. Abdul (2003) found that those non-compliers are most likely to be between the ages of thirty (30) and fifty (50); Perumal (2008) found older taxpayers to be the most compliant. Older individuals are less likely to evade, partly due to increasing risk aversion. (Lee & Carley, 2009) However, other researchers have noted a negative relationship between age and compliance. (Loo, Evans & McKerchar, 2010) The same goes to studies found by Tittle (1980), Warneryd and Walerud (1982) and Wahlund (1992) that stated older people are less compliant. Nevertheless, these studies are disputed by Clotfelter (1983), Dubin and Wilde (1988) and Beron et al. (1992) who argued age was positively related to compliance. On the other hand, studies by Spicer and Becker (1980) and Porcano (1988) have found no relationship between age and compliance. Another study has also found that people have more respect for government and authority as they get older. (Alm and Torgler, 2006) These inconsistent findings are eventually explained by Torgler (2007) as first, age does not impact compliance in all tax payers; secondly, inconsistent non- compliance definitions

used in the research; third, the effect on tax payers compliance is diluted when age is associated with a number of other variables; and fourth, the assessing interaction of age with other variables is problematic. To summarize, previous studies have evidenced that age could have different effects on compliance; a negative effect, positive effect or no relationship at all.

Gender

With respect to gender, previous findings also found mix results. Some studies found that males are more compliant; however, others found the opposite. Jackson and Milliron (1986) and Mohamad et al. (2017) found that males tended to be more non-compliant than females. Males are consistently more likely to evade, purportedly due to self-confident, competitive, and anti-authoritarian attitudes. (Lee & Carley, 2009) Findings by McGee & Tyler (2006) suggested that women are more likely to be opposed to tax evasion than men. Hence, it also means, women are more compliant. However, it has also been found that no significant differences exist between males and females regarding their attitudes towards level of compliance. (Ahmad et al., 2007) Another studies by Torgler, Valinas and Macintyre (2008) stated that gender differences could be attributed to different biological, psychological and experiential realities that lead to different approaches to issues and problems, suggesting that men and women do not necessarily have different motivations. Nevertheless, Richardson and Sawyer (2001) noted that the compliance gap between males and females appears to be narrowing with the emergence of a more explanatory, non-traditional generation of women. In a survey of American tax payer, Hite (1997) focused on interaction between gender and education. Female respondents with college degrees tended to be more tolerant of non-compliance than female without college degrees. To summarize, the impact of gender on tax compliance is inconsistent, although most of the studies conducted are prone to show female scores higher than male scores in tax compliance. (McGee & Tyler, 2006).

Marital Status

In terms of marital status, there are not much relevant reviews that could be referred to deduce to a feasible conclusion. However, two previous studies mentioned that single taxpayers were found to be more intentionally non-compliant than married taxpayers. (Clotfelter, 1983; Loo, McKerchar & Hansford, 2010) In other studies, individual taxpayers, who have spouses, are found to be more compliant than unmarried taxpayers. This situation could partly be explained by the fact that women turn to be more tax compliant than men. (Richardson and Sawyer, 2001) Married women are, therefore, able to influence their male counterparts to be tax compliant as well.

Education

With respect to the education level, Beron et al. (1992) found a positive relationship between education and non-compliance, which was consistent with the findings of Witte and Woodbury (1985), but in conflict with the finding of a negative relationship by Dubin and Wilde (1988). (Loo, Evans & McKerchar, 2010) In addition, Lee & Carley (2009) reviewed education reduces propensity to evade; however, a curvilinear effect has been detected in one study. In another study by McGee & Tyler (2006) indicated that the lower educated group tends to be more tax-compliant than the higher educated group. Chan et al. (2000) on the other hand investigated the direct and indirect effects of two non-compliance opportunities, namely educational and income level. Furthermore, Chan et al. postulated that greater education is directly linked to a likelihood of compliance. They argue that educated taxpayers may be aware of non-compliance opportunities,

but their potentially better understanding of the tax system and their higher level of moral development promotes a more favorable taxpayer's attitude and therefore greater compliance. Chan et al., also, suggested that those with a higher education level are more likely to have a higher level of moral development and a higher attitudes level toward compliance and thus will tend to comply more.

While the education levels become more important in increasing tax compliance across countries, Mohani (2001) suggested that one of the measures to increase voluntary compliance is by assuring that taxpayers have a certain level of qualifications, ability and confidence to exercise their tax responsibility. In contrast, the most recent study, by Richardson (2008) also revealed that there is a negative association between education and compliance. To summarize, greater education potentially increases compliance, as educated tax payers may be more aware of their responsibility as well as the sanctions to be imposed if they were not compliant with tax laws, although other studies found a negative relationship between education and compliance.

Income

According to Lee & Carley (2009), low income and very high income individuals are more likely to evade, partly due to increased opportunities from either under-the-table income or investment-based income. It is also believed that progressive tax rates might be one of the reasons why high income group has more tendencies to evade or has non-compliance behavior due to higher taxable income, thus making the tax liabilities much higher than those in the lower income group. This is again supported by McGee & Tyler (2006) as they stated that the lower income group tends to be more tax-compliant than the upper income group. In a country where the income redistribution is not satisfactory, higher income groups tend to evade more (Mohani, 2001) because high income earners might feel the tax system is not treating them fairly.

Loo (2006) and Mohamad et al. (2017) in their study in Malaysia found that higher income earners were less compliant. These studies have evidenced that income level has a significant impact on compliance. However it is also believed that those taxpayers with higher level of education would tend to improve their tax knowledge, which eventually may improve their attitudes towards compliance. As suggested by Wearing and Heady (1997) and Torgler (2007), high income earners are likely to be more compliant rather than lower income earners. In spite of varied negative and positive relationships between income level and tax compliance, there are also studies that found insignificant results between the two. For example, Park and Hyun (2003) in their experiment in South Korea found that income levels had no significant effect on tax compliance. Another previous literature, also, suggested that direct relationship between income level and tax compliance remains unclear. (Jackson and Miliron, 1986) To summarize, while some research found income levels are the most important determinant of compliance, other previous studies however, have shown the impact of income on compliance is still vague and need to be investigated further. A higher level of education, perhaps, would lead to a better income level and would improve one's tax knowledge and consequently change one's attitude towards compliance. (Loo, 2006).

Occupation

A demographic factor such as occupation refers to an individual's employment or earning activity. (Jackson and Miliron, 1986) Sutherland (1949) argued that tax evasion is considered as a while-collar crime, committed by an individual of respectability and high social status in the course

of performing his employment. Devos (2008) also found that those in more traditional white collar occupations (i.e. professionals, associate professionals, clerical sales and retail) are most susceptible to penalties and their influence upon compliance behavior. On the other hand, Lee & Carley's (2009) studies have shown higher non-compliance when professional preparer is employed. Occupational categories have ranged from specific occupational stratums according to Mason & Calvin (1978) to broad categories (Hassledine, Kaplan & Fuller, 1994).

Another reason for the lack of direction could be the suggestion that the opportunities for noncompliance are associated with the particular occupation rather than the occupation itself. (Robben, 1990; Devos, 2008) In addition, Tax Compliance Management Program (TCMP) data also indicate "among all sole proprietors those who engaged in sales from fixed locations (car dealerships, stores, restaurants, etc) understated taxes by the greatest percentage." (Andreoni et al., 1998; Chau & Leung, 2009).

Data And Methodology

Demographic variables' dataset including Age, Gender, Marital Status, Education, Income and Occupation were obtained from the previous national survey commissioned by IRB in 2011. The survey was conducted using questionnaire as a medium, which comprise only nominal and ordinal levels of measurement. About 3,469 observations had been collected and analyzed in this research. This dataset served as the explanatory variables. Current individual tax arrears dataset was obtained from IRB's own database. Using ratio as the level of measurement, this variable is used as the dependent variable. In consideration that the cross-sectional data comprises of different levels of measurement with different set of variables for the explanatory variables and the dependent variable in one period of time, multiple regression analysis is the most suitable approach in this study.

Table 1: Correlations Matrix of Variables

		Tax Arrears	Gender	Age	Marital Status	Education	Income level	Occupation
Tax Arrears	Pearson Correlation	**1**	-.016	.043*	.013	-.012	.042*	.013
	Sig. (2-tailed)		.361	.011	.454	.462	.013	.442
	N	3468	3468	3468	3468	3468	3468	3468
Gender	Pearson Correlation	**-.016**	**1**	-.118**	-.194**	-.018	-.153**	-.013
	Sig. (2-tailed)	.361		.000	.000	.291	.000	.457
	N	3468	3468	3468	3468	3468	3468	3468

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Age	Pearson Correlation	**.043***	**-.118****	**1**	.225**	.061**	.141**	-.050**
	Sig. (2-tailed)	.011	.000		.000	.000	.000	.004
	N	3468	3468	3468	3468	3468	3468	3468
Marital Status	Pearson Correlation	**.013**	**-.194****	**.225****	**1**	.055**	.056**	-.050**
	Sig. (2-tailed)	.454	.000	.000		.001	.001	.003
	N	3468	3468	3468	3468	3468	3468	3468
Education	Pearson Correlation	**-.012**	**-.018**	**.061****	**.055****	**1**	-.277**	.104**
	Sig. (2-tailed)	.462	.291	.000	.001		.000	.000
	N	3468	3468	3468	3468	3468	3468	3468
Income level	Pearson Correlation	**.042***	**-.153****	**.141****	**.056****	**-.277****	**1**	.117**
	Sig. (2-tailed)	.013	.000	.000	.001	.000		.000
	N	3468	3468	3468	3468	3468	3468	3468
Occupation	Pearson Correlation	**.013**	**-.013**	**-.050****	**-.050****	**.104****	**.117****	**1**
	Sig. (2-tailed)	.442	.457	.004	.003	.000	.000	
	N	3468	3468	3468	3468	3468	3468	3468

Using SPSS to check whether the explanatory variables are correlated or otherwise, Table 1 displays the correlation matrix of the variables. It is observed that none of the correlation coefficients exceed the absolute value of 0.70 which implies that there is no high multicollinearity problem amongst the explanatory variables. The highest correlation registered among the explanatory variables is (- .277) between education and income level with an unexpected negative sign that is not in line with the previous literature. According to the previous literature, there is a positive correlation between these two variables as the higher the education level, the higher the income level will be. However, the correlation matrix shows a negative relationship, which we attribute to the quality of our dataset, as most of our explanatory variables are of nominal and ordinal level. This level of measurement could affect the quality of our result.

Analysis And Results

To test the significance of the model and to check the ability of the explanatory variables to explain the behavior of the dependent variable (i.e. Tax arrears), a regression analysis is performed with all the six explanatory variables. Table 2 presents the results. As the rule states: *p*-value should be compared with the significance level which we set at α= 0.10 and α= 0.05. Since the *p*-value is 0.066, we can conclude that the model is overall significant at 10 per cent. In other words, there is a strong likelihood that there is no relationship between tax arrears among individual taxpayers in Malaysia and the set of explanatory variables identified if we set at a lower *p*-value, namely at 5 per cent or 1 per cent. The adjusted coefficient of determination for the multiple regression analysis (Adjusted R Square) = 0.002 which signifies that only 0.2% of the variation of the dependent variable (Tax Arrears) is explained by the regression model (the set of explanatory variables) and the remaining 99.8% variation is unexplained by the model. It could be due to residual error or other variables not included in the analysis. The Standard Error of Estimate is also very high at 107,499.936. It means that the regression equation will not provide an accurate estimate of the tax arrears among Malaysian taxpayers. Besides, since the residuals are expected to be approximately normally distributed; therefore, about 68% of residuals will be within ± RM107,499.936.

This result implies that the current explanatory variables cannot estimate the variability in the dependent variable (Tax Arrears). Other explanatory variables should be included to predict Tax arrears amount of taxpayers in Malaysia. On the other hand, the significance of the explanatory variables is determined by observing the absolute value of their corresponding *t*-statistic. As a general rule, if the absolute value of *t* -statistic is greater than 2 (i.e. |*t* -statistic| > 2), we conclude that the variable is significant and it could be included in the model; otherwise it is not significant and can be eliminated. Based on this rule of thumb. the *t*-statistic of the explanatory variables are significant at α= 0.05 and α= 0.10 for Age and Income level, respectively.

Table 2: Regression results of ANOVA

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-20324.165	16059.188		-1.266	.206
	Gender	-1277.051	4030.487	-.006	-.317	.751
	Age	4672.251	2147.222	.039	2.176	.030
	Marital Status	658.698	5440.913	.002	.121	.904
	Education	-701.265	1731.424	-.007	-.405	.685
	Income level	2916.509	1645.231	.033	1.773	.076
	Occupation	1764.552	2558.101	.012	.690	.490

Adjusted R-square: .002
Std. Error of the Estimate: 107499.93591
F-stats: 1.971 (sig 0.066)

In our quest to develop the optimum model, stepwise backward elimination method is utilized. Table 3 shows the results. It begins with the entire set of six explanatory variables and eliminates one explanatory variable at each iteration. The least significant explanatory variable based on the absolute value of *t*-statistic is removed from the model at each step. We can conclude that the best model is Model 5 as the Adjusted R-square has slightly improved from .002 to .003 with only two explanatory variables in the model, namely Age and Income level. From Table 3, it is also observed that the significance of the model has improved from 0.066 to .004 and the F-statistics has improved from 1.971 to 5.580 in Model 5.

Table 3: Results of stepwise backward elimination method

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-20324.165	16059.188		-1.266	.206
	Gender	-1277.051	4030.487	-.006	-.317	.751
	Age	4672.251	2147.222	.039	2.176	.030
	Marital Status	658.698	5440.913	.002	.121	.904
	Education	-701.265	1731.424	-.007	-.405	.685
	Income level	2916.509	1645.231	.033	1.773	.076
	Occupation	1764.552	2558.101	.012	.690	.490
	Adjusted R-square: .002 Std. Error of the Estimate: 107499.93591 F-stats: 1.971 (sig 0.066)					
2	(Constant)	-19160.533	12863.328		-1.490	.136
	Gender	-1359.470	3972.009	-.006	-.342	.732
	Age	4723.259	2105.180	.039	2.244	.025
	Education	-690.698	1728.976	-.007	-.399	.690
	Income level	2920.941	1644.589	.033	1.776	.076
	Occupation	1748.460	2554.282	.012	.685	.494

	Adjusted R-square: .002 Std. Error of the Estimate: 107484.63668 F-stats: 2.363 (sig 0.038)					
3	(Constant)	-21489.968	10913.904		-1.969	.049
	Age	4789.275	2096.058	.040	2.285	.022
	Education	-658.627	1726.215	-.007	-.382	.703
	Income level	3003.993	1626.382	.034	1.847	.065
	Occupation	1742.367	2553.894	.012	.682	.495
	Adjusted R-square: .002 Std. Error of the Estimate: 107470.93475 F-stats: 2.925 (sig .020)					
4	(Constant)	-23090.270	10074.537		-2.292	.022
	Age	4696.120	2081.533	.039	2.256	.024
	Income level	3194.298	1547.821	.036	2.064	.039
	Occupation	1595.394	2524.365	.011	.632	.527
	Adjusted R-square: .002 Std. Error of the Estimate: 107457.67963 F-stats: 3.852 (sig .009)					
5	(Constant)	-19098.521	7848.106		-2.434	.015
	Age	4607.867	2076.664	.038	2.219	.027
	Income level	3316.935	1535.476	.037	2.160	.031
	Adjusted R-square: .003 Std. Error of the Estimate: 107448.36657 F-stats: 5.580 (sig .004)					

A summary of excluded variables with their corresponding statistics such as coefficients, t-stats, significance level, partial correlation and collinearity tolerance level are displayed in Table 4.

Table 4: Summary statistics of excluded variables

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
2[a]	Marital Status	.002[b]	.121	.904	.002	.917
3[a]	Marital Status	.003[c]	.177	.859	.003	.944
	Gender	-.006[c]	-.342	.732	-.006	.964

4[a]	Marital Status	.003[d]	.154	.877	.003	.947
	Gender	-.006[d]	-.321	.748	-.005	.967
	Education	-.007[d]	-.382	.703	-.006	.892
5[a]	Marital Status	.002[e]	.126	.899	.002	.949
	Gender	-.006[e]	-.322	.748	-.005	.967
	Education	-.005[e]	-.282	.778	-.005	.913
	Occupation	.011[e]	.632	.527	.011	.982

a. Dependent Variable: Tax Arrears
b. Predictors in the Model: (Constant), Occupation, Gender, Education, Age, Income level
c. Predictors in the Model: (Constant), Occupation, Education, Age, Income level
d. Predictors in the Model: (Constant), Occupation, Age, Income level
e. Predictors in the Model: (Constant), Age, Income level

Results from the multiple regression to test the relationship between various factors and the tax arrears among individual taxpayers in Malaysia were discussed earlier. Gender, marital status, education, and occupation are found to be statistically insignificant at 5% level. The only two explanatory variables that are proven to be statistically significant are age and income level. Both age and individual income levels have a positive impact on tax arrears among individual taxpayers in Malaysia.

In terms of tax arrears and age, previous studies have evidenced that in the context of Malaysia, older people above 50 years are reviled to be less compliant, and hence have higher tax arrears. This claim is supported by the findings of our study as the variable age has a positive influence on Tax arrears. This positive correlation could be explained as that the older the individual gets, the higher the salary he/she earns. This is due to the fact that older employees usually hold higher positions as well as have long work experience in the industry. As the salary increases, the tax rate will increase proportionately. Consequently, these senior employees end up not declaring their real salary amount as taxable income and find ways to evade the tax.

Income level is found to be significant variable, which is also positively related to Tax arrears. This can be explained in relation to the tax system. It is believed that progressive tax rates could be one of the reasons why high income group has more tendencies to evade or disobey due to higher taxable income, thus making the tax liabilities much higher than those in the lower income group. Loo (2006) in her study of Malaysia's taxpayers found that higher income earners were less compliant, and hence have high tax arrears.

The insignificant relationship between gender and tax arrears is supported in this study. The literature revealed that gender has no significant impact on compliance across 45 countries and the relationship between tax compliance and gender is ambiguous most of the time. The finding of our study, also supports that there is no significant relationship between gender and tax arrears. Although the analysis proved that omitting this variable improves the model, we can say that the initial regression analysis showed that there is a negative relationship between gender and tax arrears. The tax arrears of males is RM 1,277.051 less than the tax arrears of the females.

According to the literature review, individual tax payers who have spouses are found to be more

compliant than unmarried tax payers. However, this claim of the existence of such positive relationship between marital status and tax arrears is not supported in this study. Marital status variable turned out to be insignificant; hence being omitted from the model.

Based on the literature review, greater education potentially increases compliance, as educated tax payers may be more aware of their responsibility as well as the sanctions to be imposed if they were not compliant with tax laws. Therefore, the tax arrears is low. Even though this negative correlation between education level and tax arrears is proven to be true in our model; however, the hypothesis could not be supported as the finding showed that there is no significant relationship between education and tax arrears. Hence, education variable was excluded from the model.

A demographic factor such as occupation, which refers to an individual's employment or earning activity (Jackson and Miliron, 1986), is found to be insignificant also in this study. Hence, this variable is also being eliminated from our model.

Conclusion And Recommendations

This exploratory study has proven that there is a negative relationship between tax compliance behavior and tax arrears. Thus, when there is a lack of tax compliance, Tax Arrears of individuals will increase and vice versa. The analysis of the results also has shown that age and income are found to be significant determinants in influencing tax arrears amongst Malaysian taxpayers. Relating to previous literature, it has been concluded that age and income have negative relationship on compliance behavior. Therefore the positive relationship between age and income and tax arrears is verified.

The shortfall of our research is mainly due to the primary dataset that use nominal and ordinal level of measurement, which affect the quality of the results to a certain extent. Moreover, the existing survey was attributed to different objectives. Hence, the analysis must be interpreted with caution and further research must take into consideration of dataset which are ratio and interval level of measurement.

Using secondary data should be advocated in order to gain more feasible results especially when applying multiple regression analysis. We also consider extending explanatory variables to other areas such as tax rates, audit probabilities and penalty structures that would be useful to explore. Alternatively, expanding target groups to small medium enterprises (SME) and corporate sectors would be invaluable as there is a crucial need for more research in this area.

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COMMUNICATION OF DISEASE RISK: PERSUASIVE APPEAL OF MESSAGES IN AIRPORT BANNERS

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Abstract: *Various factors, notably health beliefs, knowledge of the disease and demographic characteristics have been found to influence public receptivity to disease risk information and their likelihood to perform actions to reduce risk. Research has shown that receptivity to disease risk messages is influenced by the framing of the messages. The health risk messages can be framed to appeal to logic, emotion or credibility of information source – referred to as the rhetorical appeals of logos, pathos and ethos respectively. This study examined the framing of disease risk messages in airport banners to identify persuasive strategies used by the Ministry of Health Malaysia to elicit health preventive behaviour. The banners with disease risk messages for Zika, Hand, Foot and Mouth Disease, Ebola Virus Disease, and Middle East Respiratory Syndrome-Coronavirus Disease were analysed to find out how appeals to logos, pathos and ethos were used to induce fear of susceptibility to the diseases and to prompt preventive behaviour. The analysis revealed that the logos appeal was the most popular as the banners were very informative with mostly information on symptoms and preventive measures. These messages were conveyed through photographs to cater to more visually oriented audiences. There was an obvious absence of appeals to pathos and ethos in the banners. From the perspective of persuasion, the disease risk messages in the airport banners may not achieve their purpose because they do not evoke an emotional response to motivate them to take recommended actions.*

Keywords*: Disease, Health Risk Communication, Persuasion, Banner*

Introduction

Various factors, notably health beliefs, knowledge of the disease and demographic characteristics have been found to influence public receptivity to disease risk information and their likelihood to perform actions to reduce risk. Research has shown that receptivity to disease risk messages is influenced by the framing of the messages. The health risk messages can be framed to appeal to logic, emotion or credibility of information source – referred to as Aristotle's rhetorical appeals of logos, pathos and ethos respectively (Christensen & Hasle, 2007; Roberts, 1954). Aristotle's principles of persuasion have been employed in studies on political speeches and campaigns (Andronicuc, 2016); Mori, 2006; Mshvenieradze, 2013), commercials (Ab Rashid et al., 2016; Emanuel et al., 2015; Nair & Ndubisi, 2015; Robberson & Rogers, 1988; Winn, 2000) as well as in complaint letters (Al-Momani, 2014; Karatepe, 2016) and argumentative essays (Uysal, 2012). These findings concur on the effectiveness of pathos for persuasion. However, health risk messages have not been analysed using Aristotle's rhetorical appeals. It is important to

examine health risk messages from the perspective of persuasion so that the health communication is more effective in getting the public to take recommended actions to reduce risk to diseases. In the context of health risk messages, the persuasive appeal needs to be situated in a framework of risk perception attitude (Rimal & Real, 2003) to understand how the rhetorical appeals work.

Theoretical Framework Of Study

To study how disease threat is presented to airline passengers, the study employed a model on threat perception, which is a construct in the established Hochbaum's (1958) Health Belief Model (Champion, 1984, 1997). "The threat perception is based on two beliefs: the perceived susceptibility of the individual to the disease and the perceived severity of the consequences of the disease for the individual" (Orji et al., 2012). If individuals perceive that they are at high risk of getting a disease, and the consequences of disease on health are severe, then they are more likely to engage in behaviours that would reduce the risk. To induce the audience of health risk messages to take action, cues to action are included. Orji et al. (2012) defines cues to action as reminder and suggestion strategies to prompt the audience to perform the target behaviour, which is labelled as Action in Figure 1. Figure 1 shows the framework on elements of health risk messages, showing how perceptions of susceptibility and severity amounts to the perceived threat posed by a disease which in turn influences intention to perform the recommended actions.

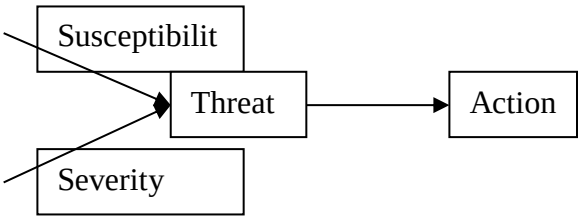

Figure 1. Elements of health risk messages based on threat perception

Purpose Of Study

This study examined the framing of disease risk messages in airport banners to identify persuasive strategies used by the Ministry of Health to elicit preventive behaviour from the audience.

Method Of Study

The disease risk messages analysed in this study were on airport banners. These banners, made of cloth-like material, were mounted on stands and placed in strategic positions in the airport where returning airline passengers would see them. These banners were photographed in the first half of 2017 in several airports (Bintulu, Sibu, Kuching, Kuala Lumpur).

Altogether nine banners on disease risk were analysed in this study comprising Zika, Hand, Foot and Mouth Disease, Ebola Virus Disease, and Middle East Respiratory Syndrome-Coronavirus. The data analysis focused on two aspects. First, the disease disk messages were analysed to find out how susceptibility, severity of disease and recommended actions are communicated. Second, the banners were analysed to identify the rhetorical appeals used as persuasive strategies, namely, appeals to logos, pathos and ethos. The two-pronged analysis would reveal how the disease risk messages were constructed to induce fear in the public to take recommended actions.

Results and Discussion

Susceptibility, Severity And Cues To Action In Disease Risk Messages

This section presents an analysis of health risk messages based on elements of threat perception, that is, susceptibility and severity leading to perceived threat from the disease, and cues to action. Appendix 1 shows an airport banner on Ebola Virus Disease (EVD). EVD was formerly known as Ebola haemorrhagic fever whereby people who are infected by the Ebola virus initially develop flu symptoms but eventually bleed from the internal organs, nose and mouth. EVD has so far posed a health threat to Malaysia two times, once in 2014 and another time in 2017 (April and May), based on news reports. In the 2014 EVD outbreak, after about half a year newspapers announced that no Ebola cases had been reported in Malaysia (The Borneo Post, 7 August 2014). That year two persons (one a Zimbabwean student and another a timber camp worker who returned from Africa) were quarantined in hospitals in Sarawak when they developed fever but later it was found that they did not have EVD (The Borneo Post, 16 September 2014).

Appendix 1 shows that the banner on EVD had elements of susceptibility, severity and cues to action. The susceptibility messages appear in two parts; firstly, people returning from countries affected by EVD (West African countries); and secondly, people in direct contact with body fluids or items contaminated by body fluids of people infected by EVD. People who are not in either category are not at risk. An example of the first category of people who are at risk can be seen in the case of the two persons who were quarantined. The Zimbabwean student had been in contact with several Nigerian students who had just returned from Nigeria. The second category of people at risk are medical personnel. With clearly defined risk groups, the general public may not feel that they are at risk to EVD infection. However, the severity of EVD cannot be ignored because the final bleeding from various parts of the body usually leads to death. Therefore, for EVD risk groups, the threat from EVD is severe and they would take action to go for medical screening to check whether they are infected with EVD when they develop flu symptoms. The recommended actions included in the banner are monitoring of health and seeking treatment should EVD symptoms present.

Appendix 2 shows a banner on Hand, Foot and Mouth Disease (HFMD) which has less severe consequences, compared to EVD. The first outbreak of HFMD in Malaysia was in 1997 (Nik Nadia et al., 2016) and the epidemic has been recurring in cycles of two to three years. HFMD is a common childhood disease with symptoms such as fever, oral ulcers and rashes on the hands and feet. However, these seemingly harmless symptoms may progress to seizures, flaccid limb weakness or cardiopulmonary symptoms and the central nervous system of the HFMD patient is finally infected (Chan et al., 2000). The Ministry of Health Malaysia considers HFMD as "an important public health disease due to its tendency to cause large outbreaks and deaths among children" (Ministry of Health Malaysia, 2007, p. 1).

The HFMD banner has clear messages on severity by listing symptoms that children infected with HFMD might have: fever, rashes on the palms, feet and diaper areas, and ulcers in the throat. The banner also has clear recommendations on actions to take if children present with these symptoms. The recommended actions are: (1) bring your child to the nearby hospital or clinic; (2) do not send your child to childcare centres, kindergarten, baby sitter's house or school; and (3) do not bring your child to public places. Inherent in Actions 2 and 3 is a message on susceptibility. Parents are advised to take their children to see a doctor and to keep them away from other people so as not to spread HFMD. This action reduces risk of other people to HFMD, and indirectly it tells the audience that they should stay away from childcare centres, kindergarten, baby sitter's house, school and public places when there is a HFMD outbreak. It is common for disease risk banners to include clear messages on susceptibility but it is indirect in this banner, possibly because

the people are already familiar with risk factors since HFMD has been around in Malaysia since 1997, which is two decades ago.

These two disease risk banners are described in detail and the characteristics of threat perception highlighted are also found in the other seven posters. The strategic position from which the disease risk banners were obtained, that is the airport, explains why the susceptibility messages target people returning from foreign countries. For the Zika banners, the risk groups are people who have visited countries affected by Zika virus and the recommended action specific to this disease is to avoid having unprotected sex for two weeks after returning from the affected countries and to protect oneself from mosquito bites. For the banner on malaria, the risk groups are people returning from Papua New Guinea, Indonesia, Solomon Island and Africa (equatorial region). In other words, the people who are susceptible to getting infected with malaria are those in the timber logging industry as many big corporations in the industry have ventured to the Pacific Islands and even Africa. For Middle East respiratory syndrome-coronavirus (MERS-Cov), the affected countries are the Holy Land or Middle-East countries and another banner directly identified the risk groups as pilgrims or visitors from these countries. As mentioned earlier, specific risk groups make the general public feel that they are not at risk of getting the disease if they have not been to specific countries named.

In terms of severity, most of the symptoms listed do not appear severe and they usually include flu-like symptoms. For example, the symptoms of MERS-Cov are listed as fever, cough and difficulty in breathing. Among the diseases, the most severe appears to be EVD because bleeding is mentioned. In actual fact, some of the diseases may lead to death, including HFMD if the affected people are not treated. However, so as not to stoke fear or to create panic among the public, the disease risk banners refrain from mentioning possible death. The consequence of this is that the public may treat the disease as not posing a threat and, therefore, they may ignore the symptoms which are flu-like, particularly if they have not visited specified countries. Sometimes the public might not be aware that they can come into contact with people who returned from the specified countries where there is an outbreak of a particular disease, and think that they are not at risk.

The recommended action by the authorities (notably Ministry of Health Malaysia and its district and divisional offices) is usually for the public to seek treatment or to get a medical examination.

Rhetorical Appeals For Persuasion In Disease Risk Messages

The analysis of the nine disease risk banners showed that the main rhetorical appeal is logos, or an appeal to logic. All the banners contain information on people susceptible to getting the disease, symptoms of the disease and recommended actions. These are facts and presented in a factual manner through text and pictures.

There was only one banner produced by Pusat Kesihatan Bintulu on HFMD which used pathos, or an appeal to emotions in order to persuade (Appendix 2). This banner says, "*Sayangi anak anda, cegah Penyakit Tangan, Kaki dan Mulut.* Translated to English, it is "Love your child, prevent Hand, Foot and Mouth Disease". This poster tells parents that if they love their children, they should take the recommended actions (i.e., to bring their child to the hospital, and to keep them away from childcare centres and public places). The other banners rely on the sensibilities of the parents to take immediate action. Pathos works well as a persuasive strategy because it connects the disease risk to the personal concerns of the audience, which is the well-being of their beloved child.

Although pathos was not used in formulating the content of the disease risk messages, some evidence of words appealing to emotions were found during the analysis. There were two strategies to catch the audience's attention so that they would take notice of the banner:

(1) Words for danger and urgency: "Caution", "*Awas*", "Please go to Health Quarantine Unit IMMEDIATELY"
(2) Use of capitalisation to grab attention: "*PERHATAN*" [Attention], "ZIKA AWAS" [Zika, caution], "CEGAH JANGKITAN EVD" [Prevent EVD infection]

Gaining attention is the first step in Monroe's (1935) motivated sequence, which is a step-by-step process to persuade audiences (as cited in Griffin, 2015, p. 290). The two strategies to catch the audience's attention are for the headline of the banner and in the recommended action part of the banner, which is the first and last part of the banner. These strategies are not used in the susceptibility and severity parts of the disease risk banners, which often occupy the space in the middle.

Finally ethos appeared in the form of the credible source of information for the disease risk banners. Only one of the nine banners did not have the source of information. Eight of the banners were produced by the Ministry of Health Malaysia or its branch offices, that is, Jabatan Kesihatan Negeri Sarawak, Pusat Kesihatan Bahagian Bintulu, Pusat Kesihatan Bahagian Kuching, and the Bahagian Pendidikan Kesihatan division of the Ministry of Health Malaysia. The Ministry of Health is an authority in health and therefore the information on the banners are trustworthy. However, other than the placement of the logo and name of the ministry, there were few attempts to exploit the credibility of the source, with the exception of two HFMD banners, one of which is shown in Appendix 2. This banner has the headline "Pesanan daripada Pusat Kesihatan Bahagian Bintulu" (Directive from the Health Centre, Bintulu Division) right on top. The other banner, incidentally also on HFMD, had the headline "Ingatan daripada Pusat Kesihatan Bahagian Kuching" which serves the same purpose to show that it is an important message coming from a health authority in the state.

Conclusion

The study on framing of disease risk messages in airport banners revealed that the banners are very informative but may not succeed in cueing disease preventive measures. The banners are packed with facts on susceptibility or risk groups, severity or symptoms of the disease, and recommended actions. In the limited space available on the banners, the audience is bombarded with many facts of disease prevention, or at least minimisation of consequences from the disease for those who are already infected. However, the logos focus of the disease risk banners may not construct the diseases as a public health threat due to two reasons. Firstly, the airport banners specify a restricted group of airline passengers who may be susceptible to the infectious diseases – those returning from foreign countries. This leaves a majority of the airline passengers feeling safe but they do not realise that they may come into contact with people who have been to those countries. Therefore, they view the airport disease risk banners as not relevant to them and, hence, not requiring their attention. Secondly, the airport banners refrain from mentioning last stage symptoms of the diseases. The banners highlight warning signs of the infectious diseases which are flu-like symptoms, with the exception of EBV which results in bleeding. Therefore, the diseases are seen as not severe and does not raise alarm. It may not be in the interest of the Ministry of Health to create public panic over the diseases by exaggerating the risks and severity of the

diseases but our analysis revealed that an emotional appeal may work better than relying on facts to prompt the public to take recommended actions. There is only one statement that appeals to the emotion among the nine disease risk banners. To increase the persuasive appeal of disease risk banners and health risk communication in general, it is may worthwhile to incorporate an element of pathos or emotional appeal.

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Susceptibility/ Risk:
People returning from countries affected by EVD (West African countries).

Severity/Symptoms:
fever, lethargy, joint pain, headache, muscle pain, vomiting, diarrhea, rash, bleeding

Susceptibility/Risk:
Direct contact with:

- body fluids of a person or corpse with EVD such as blood, vomit, stool and urine.
- objects contaminated with ebola virus such as needles and medical equipment
- body fluids of infected animals such as blood, secretion and meat.

Cues to action:
Monitor your level of health.
Get immediate treatment if you experience any of the symptoms.

Authority: Ministry of Health Malaysia

Appendix 2: Hand, Foot Mouth Disease

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Severity/Symptoms:
If your child has signs such as fever, rashes on the palms, feet and diaper areas, and ulcers in the throat, your child might be infected with Hand, Foot and Mouth Disease.

Cues to action:
If your child has signs of Hand, Foot and Mouth Disease,

- bring your child to the nearby hospital or clinic.
- Do not send your child to childcare centres, kindergarten, baby sitter's house or school.
- Do not bring your child to public places.

Susceptibility/Risk (indirectly in Actions 2 and 3).

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ISU-ISU KEMPEN PILIHAN RAYA PARTI POLITIK CINA 1974-2013

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Abstrak: Penulisan ini memberi tumpuan kepada isu-isu atau tema yang melingkari kempen Pilihan Raya Umum (PRU) di Malaysia dari tahun 1974-2013. Sebanyak 10 PRU telah diadakan sepanjang tempoh ini dan ternyata Barisan Nasional telah memenangi kesemua pilihan raya ini di peringkat Parlimen. Dalam tempoh ini juga menyaksikan PRU diadakan di bawah pentadbiran lima Perdana Menteri iaitu Tun Abdul Razak, Tun Hussein Onn, Tun Mahathir, Tun Abdullah Badawi dan Najib Razak. Ditinjau berdasarkan kaum, sebenarnya, tiada perbezaan ketara di antara parti-parti politik Cina dan bukan Cina, kesemuanya menjurus kepada hal-hal berkaitan pembangunan negara, ekonomi, perniagaan, kepimpinan parti dan negara serta sosio-ekonomi. Ini adalah kerana parti-parti Cina seperti MCA dan Gerakan berada di bawah naungan BN(parti pelbagai kaum) yang memperjuangkan manifesto bersama. Begitu juga dengan parti-parti pro-Cina seperti DAP yang turut berada di bawah gabungan parti-parti pembangkang pelbagai kaum (contoh Pakatan Rakyat) yang turut menampilkan perjuangan yang sama. Namun begitu, parti-parti Cina turut berkempen dengan menengahkan isu-isu khusus yang melibatkan masyarakat Cina seperti isu-isu pendidikan dan bahasa.serta ekonomi dan kebudayaan kaum Cina. Namun yang menariknya, dibeberapa PRU, parti-parti Cina ini sama ada di pihak kerajaan atau pembangkang ini bersatu memperjuangkan isu-isu yang menyentuh kepentingan masyarakat Cina.

Abstract: *This paper focuses on issues or themes that circles the General Election campaign (GE) in Malaysia from 1974 to 2013. A total of 10 GEs has been held during this period and it appears that Barisan Nasional has won all these parliamentary elections. During this period, the GE was held under the administration of the five Prime Ministers, Tun Abdul Razak, Tun Hussein Onn, Tun Mahathir, Tun Abdullah Badawi and Najib Razak. Based on race, in fact, there is no significant difference between Chinese and non-Chinese political parties, all of which focus on national development, economy, business, party and national leadership and socio-economic development. This is because the Chinese parties like MCA and Gerakan are under the auspices of the BN (multiracial) to fight for common manifesto. Similarly, the parties pro-China such as DAP, which also falls under the coalition of opposition parties of various races (eg PR) which also features the same struggle. However, the Chinese parties were campaigning on specific issues involving the Chinese community issues such as education, economic, language and cultural. But interestingly, in some GE, the Chinese parties whether in government or opposition parties have united to fight for the issues that affect the interests of the Chinese community.*

Pengenalan

Kempen merupakan kunci atau agenda utama bagi parti-parti politik dalam menentukan kemenangan dalam pilihan raya. Kempen pilihan raya merupakan medium utama bagi parti-parti politik menyampaikan mesej serta meraih sokongan undi, malah kempen juga berupaya menjatuhkan parti lain. Pelbagai jenis dan cara kempen termasuk ceramah di pentas terbuka, berkempen dari rumah ke rumah, melalui media-media cetak dan elektronik, namun kempen berkesan masa kini adalah melalui media sosial. Namun terdapat beberapa tatacara dan etika kempen yang harus dipatuhi oleh parti-parti politik seperti mana yang digariskan oleh Suruhan Jaya Pilihan Raya (SPR). Dalam pada itu juga terdapat banyak tema kempen yang mewarnai suasana pilihan raya sejak sebelum Merdeka hingga ke hari ini. Namun bagi parti-parti Cina tema dan isu kempen adalah yang melingkari kehendak,keperluan dan kepentingan masyarakat Cina di negara ini.

Pilihan Raya 1974

Pada PRU-1974, Malayan Chinese Association (MCA) yang berada dalam gugusan Barisan Nasional (BN),memulakan kempen dengan mengemukakan manifesto 'Barisan Rakyat Untuk Kemakmuran Malaysia,' menyeru rakyat memberi sokongan ke arah kecemerlangan Malaysia di masa hadapan (Yusop Khan, 1999) Dengan kemasukan parti-parti baru termasuk parti Parti Gerakan Rakyat Malaysia (Gerakan) yang dulunya adalah parti-parti pembangkang, BN mengharapkan sebuah kerajaan yang kuat bagi memajukan sektor sosial, politik, ekonomi serta hubungan luar. Perdana Menteri, Tun Razak bersama kepimpinan MCA dan Gerakan menyeru sokongan semua kaum dengan menyatakan bahawa kerajaan BN sekiranya menang pilihan raya akan menjadi sebuah kerajaan untuk semua kaum, iaitu "bukan kerajaan orang Melayu". Bagi Democratic Action Party (DAP), tumpuan keadilan sosial dan ekonomi menjadi perjuangan utama, namun agak berhati-hati dengan kempen mereka kerana dibayangi dengan Peristiwa 13 Mei 1969. Walaupun ternyata DAP masih mendukung semangat 1969, namun begitu terpana dengan kemasukan parti-parti baru ke dalam BN. Kempen DAP banyak tertumpu di bandar-bandar seperti Pulau Pinang, Ipoh dan Melaka. Keputusan PRU 1974, BN memenangi 104 daripada 114 kerusi parlimen di Semenanjung Malaysia serta mendapat 31 daripada 40 kerusi parlimen di Sabah dan Sarawak (SPR, 1975). Dari segi undi popular, BN mendapat 60.7 peratus daripada keseluruhan undi, manakala bagi parti pembangkang, DAP cuma memenangi sembilan daripada 46 kerusi yang ditandinginya dan Pekemas hanya memenangi satu kerusi sahaja. Ternyata keputusan Tun Abdul Razak mempelawa parti-parti pembangkang menyertai Perikatan dan menubuhkan Barisan Nasional membuahkan hasil yang lumayan. BN menang besar dan kemenangan ini besar ini memudahkan kerajaan terus dapat mengalih tumpuan kepada usaha membangun dan memajukan negara.

Pilihan Raya 1978

Manakala itu, dalam PRU-1978, tumpuan kempen DAP ialah mengenai nasib dan masa depan masyarakat bukan Melayu terutama tentang masalah pengangguran di bandar, kemasukan atau kuota bukan Bumiputera ke universiti-universiti, ketidakadilan Dasar Ekonomi Baru (DEB) dan sebagainya. Di samping terus mempromosi " Malaysian Malaysia," DAP juga mengemukakan cadangan penubuhan Universiti Merdeka bagi bukan Melayu. Sementara, kempen-kempen BN termasuk melelui parti-parti MCA dan Gerakan tertumpu pada menyediakan kerajaan yang bersedia berkhidmat kepada semua kaum di negara ini, serta terus untuk membangunkan negara, mengekalkan kestabilan politik dan perpaduan negara. Walaupun berlaku sedikit pergolakan di

antara MCA dan Gerakan terutama di Pulau Pinang, dan hal ini dieksploitasi oleh DAP, namun agenda kempen mereka tidak tergugat.

Keputusan pilihan raya menunjukkan BN menang dengan mendapat 131 dari 154 kerusi Parlimen, dengan 57.2% undi popular, kurang 3.5% dari undi yang diperolehi pada PRU 1974 (60.7%). Manakala parti-parti pembangkang menguasai 42.8% undi popular, mendapat 24 dari 154 kerusi. Bagi parti-parti komponen BN, United Malays National Organisation (UMNO) menang 69 dari 74 kerusi, MCA menang 17 dari 27 kerusi, Malaysian Indian Congress (MIC)menang tiga kerusi dari empat kerusi yang ditandingi dan Gerakan mendapat empat dari enam kerusi manakala (People's Progressive Party(PPP) tidak memenangi sebarang kerusi. Di peringkat DUN, BN menang 239 dari 312 kerusi. Parti-parti komponen BN, UMNO mendapat 174 kerusi, MCA-43, MIC-9, Gerakan-12 dan PPP-1. Sementara DAP pula berjaya memperbaiki reputasinya dengan berupaya menambah kerusi Parlimen dari sembilan kepada 16 kerusi dan mendapat 25 kerusi Dewan Undangan Negeri (DUN).

Pilihan Raya 1982

Menjelang PRU-1982, BN ketika itu terdiri daripada gabungan 11 parti politik, iaitu enam di Semenanjung Malaysia, dua di Sabah dan tiga di Sarawak. Oleh kerana pilihan raya tersebut berlangsung dalam tempoh lebih kurang setahun selepas Dr. Mahathir dilantik sebagai Perdana Menteri, isu penting yang menjadi teras kempen BN ialah berkenaan dasar yang baru diperkenalkan oleh kerajaan. Parti MCA dan Gerakan turut berkempen terutama dalam kalangan masyarakat Cina tentang keperluan dan kehebatan Dasar Pandang Ke Timur dan juga proses Islamisasi. Kempen BN turut menyentuh konsep Bersih, Cekap dan Amanah yang menekankan tentang keharmonian, kestabilan politik dan kemajuan ekonomi (Crouch, 1982).

Bagi DAP pula, isu yang diketengahkan masih sama seperti pilihan raya-pilihan raya sebelumnya iaitu tentang pengangguran di bandar, kuota etnik di universiti, sekolah dan pendidikan kaum Cina, penubuhan Universiti Merdeka dan mengkritik beberapa aspek DEB. Namun, pada PRU 1982 DAP agak lemah dan tidak dapat menyampaikan mesej kepada masyarakat dengan baik. Ini kerana mereka tidak bersatu, kekurangan sumber, tidak mempunyai pemimpin baru, kurang tenaga kerja untuk berkempen dan juga kekurangan liputan daripada media massa (Mauzy, 1983).

Setelah keputusan PRU 1982 diumumkan BN berjaya memperbaiki pencapaian mereka berbanding PRU 1978 dengan memenangi 132 daripada 154 kerusi parlimen yang ditandingi, iaitu memperoleh 60.5 peratus undi berbanding 57.2 peratus undi dalam PRU 1978. Bagi parti pembangkang, PAS hanya memenangi lima kerusi daripada 82 kerusi parlimen yang ditandingi dan DAP pula mendapat sembilan kerusi daripada 63 kerusi yang ditandinginya. Bagi pilihan raya negeri pula, 312 kerusi dipertandingkan. BN memenangi 281 kerusi, PAS mendapat 18 kerusi dan DAP memperolehi 12 kerusi (SPR, 1983).

Pilihan Raya 1986

Tema kempen BN pada PRU-1986 ialah tradisi membela rakyat, dengan memperbaharui komitmen untuk keamanan dan kestabilan, menghapuskan kemiskinan, menjamin kebebasan beragama dan budaya yang tidak akan menindas kepercayaan dan kebudayaan lain. MCA dan Gerakan turut berkempen memperjuang supaya sistem pendidikan Cina dan Tamil tidak akan dihapuskan serta menjanjikan pembangunan seimbang, mewujudkan perpaduan nasional dan keadilan sosial (Means, 1991).

DAP pula berkempen bagi menafikan kemenangan dua pertiga BN di Dewan Rakyat, seterusnya komited bagi memperjuangkan 'Malaysian Malaysia' iaitu perjuangan untuk kesamarataan antara kaum. Secara khususnya isu yang diketengahkan DAP ialah ketidakpuasan mereka terhadap dasar yang membezakan Bumiputera dan bukan Bumiputera, kuota Bumiputera dalam DEB dan isu pendidikan Cina dan India (Means, 1991). DAP turut berkempen bersama beberapa NGO dan parti-parti pembangkang lain, mengkritik kerajaan yang menyekat kebebasan bersuara dan kebebasan media, menyekat hak politik rakyat dan juga menggunakan *Internal Security Act* (ISA) untuk mengekang kebangkitan rakyat terutama dalam Operasi Lalang 1987. Operasi Lalang ini adalah ekoran daripada bantahan kaum Cina berhubung dengan isu pendidikan. Namun begitu, menariknya, dalam hal ini, DAP bersatu suara bersama MCA dan Gerakan bagi menyuarakan ketidakpuasan hati terhadap Operasi Lalang dan isu pendidikan Cina. BN memenangi 148 daripada 177 kerusi parlimen yang dipertandingkan. Parti Islam SeMalaysia (PAS) hanya mendapat satu kerusi parlimen sahaja sementara DAP pula memperoleh 24 kerusi(SPR, 1998). Keputusan ini memperlihatkan sokongan kepada BN agak merosot dengan hanya BN mendapat 55.8 peratus undi popular berbanding pada PRU 1982, BN memperoleh 60.5 peratus undi. Manakala bagi DUN, BN mendapat 298 kerusi daripada keseluruhan 350 kerusi.

Pilihan Raya 1990

Selepas PRU-1978, UMNO yang merupakan parti tonggak BN menghadapi konflik dalaman sehingga menyebabkan perpecahan dalam parti tersebut. Sementara itu pula, parti pembangkang berpengaruh seperti PAS, DAP dan Semangat 46 (S46) serta bergabung pula dengan parti-parti kecil seperti Parti Sosial Rakyat Malaysia (PSRM), Malaysian Solidarity Party dan parti baru iaitu All Malaysian India Progressive Front (AMIPF) membentuk Gagasan Rakyat Malaysia bagi menentang BN. Antara isu yang dibangkitkan oleh kempen politik pembangkang terutama DAP ialah kemelesetan ekonomi, pengabaian kerajaan terhadap petani luar bandar, penindasan terhadap golongan pekerja, undang-undang yang melanggar hak asasi, rasuah dan politik wang. Tema kempen mereka ialah selamatkan Malaysia, dengan menggesa pengundi membuat perubahan yang lebih baik (Khong Kim Hoong, 1991).

Manakala bagi BN, melalui MCA dan Gerakan cuba mempengaruhi dan menarik sokongan masyarakat Cina dengan menampilkan pencapaian rekod cemerlang BN dalam hal-ehwal pentadbiran negara. Tema kempen BN ialah keamanan, kestabilan dan kemakmuran, dengan memberi penekanan kepada kejayaan formula mereka dalam membentuk kerajaan yang terdiri daripada pelbagai etnik. Selain itu, BN juga menjanjikan pentadbiran yang demokratik, kebebasan badan kehakiman, kestabilan ekonomi, mengekalkan agama Islam sebagai agama rasmi dan juga membenarkan sekolah jenis kebangsaan diteruskan mengikut ciri budaya kaum masing-masing. Dalam kempen BN termasuk MCA dan Gerakan, mereka mengingatkan pengundi bahawa, barisan pembangkang tidak akan dapat mewujudkan kerajaan yang efektif kerana perbezaan ideologi yang ketara antara mereka (Khong Kim Hoong, 1991).

Dalam PRU 1990 tersebut, walaupun terdapat kerjasama antara parti pembangkang dan beberapa NGO dalam menentang kerajaan, keputusan PRU 1990 masih berpihak kepada BN. Daripada keseluruhan 180 kerusi parlimen yang dipertandingkan, BN memenangi 127 kerusi. Namun, ia menunjukkan peningkatan undi pembangkang yang mendapat 53 kerusi parlimen berbanding dengan PRU 1986 di mana mereka hanya memperoleh 29 kerusi. Secara umumnya, PRU 1990 ini agak menarik. Ini kerana suasana politik negara yang berubah sejak PRU 1986, iaitu menyaksikan kecenderungan pihak pembangkang untuk bersatu bagi mengahadapi BN dalam pilihan raya umum. Kerjasama pihak pembangkang yang dianggotai oleh S46, DAP dan PAS pada

PRU 1990 berjaya mewujudkan pertandingan satu lawan satu di kebanyakan kawasan. Keadaan ini tidak pernah berlaku sejak negara mengadakan pilihan raya umum selepas merdeka (SPR, 1992). Keputusan pilihan raya, dari 180 kerusi parlimen yang dipertandingkan, BN memenangi 127 kerusi. Pihak pembangkang memperoleh 53 kerusi parlimen, tambahan 24 kerusi berbanding PRU 1986 di mana mereka hanya memperoleh 29 kerusi. Di peringkat negeri juga pembangkang mencapai keputusan yang baik. Di Kelantan, PAS dan S46 memenangi kesemua 39 kerusi DUN yang dipertandingkan, manakala di Sabah BN kehilangan kuasa apabila PBS menarik diri daripada BN dua hari menjelang PRU 1990

Pilihan Raya 1995

Kempen BN pada PRU-1995 ialah wawasan, keadilan dan kecekapan bersama-sama dengan manifesto mereka iaitu menekankan tentang pencapaian dalam pembangunan ekonomi dan memastikan keharmonian antara pelbagai etnik (Chin, 1996). Bagi parti pembangkang pula, situasi parti mereka telah berubah kerana kerjasama pada PRU 1990 tidak dapat bertahan. Hal ini kerana keputusan PAS untuk melaksanakan hudud di Kelantan mendapat tentangan DAP. DAP telah keluar daripada Gagasan Rakyat yang dibentuk menjelang PRU 1990. S46 juga tidak lagi bekerjasama dengan DAP. Di samping itu, parti pembangkang juga turut mempunyai masalah tersendiri menjelang PRU 1995. Misalnya DAP tidak lagi mempunyai isu penting untuk menarik perhatian masyarakat.

Dalam kempen DAP mereka memberi tumpuan kepada isu yang pernah dibangkitkan dalam PRU sebelum ini iaitu kesaksamaan dan keadilan untuk semua kaum, kempen selamatkan Malaysia, demokrasi, hak asasi, penyalahgunaan kuasa, rasuah dan penyalahgunaan media dan jentera kerajaan untuk pilihan raya (Syed Arabi idid & Mazni Buyong, 1996; Gomez, 1996).
Pada PRU 1995 tersebut BN mencapai keputusan yang baik berbanding PRU 1990. BN telah memenangi 162 kerusi daripada 192 kerusi yang dipertandingkan, berbanding dengan PRU 1990 di mana BN memperoleh 127 kerusi daripada 180 kerusi yang dipertandingkan. Manakala PAS mendapat tujuh kerusi, DAP sembilan dan S46 enam kerusi.

Pilihan Raya 1999

Pada PRU-1999, beberapa parti pembangkang seperti PAS, DAP dan Parti Keadilan membentuk gagasan kepembakangan yang baru dinamakan Barisan Alternatif (BA) bagi memberi saingan yang sengit kepada BN. Sementara itu, banyak isu yang mendominasi kempen pilihan raya PRU-1999. Namun begitu kes perlucutan jawatan Anwar Ibrahim dari kerajaan dan UMNO merupakan isu utama yang dimainkan oleh BA, manakala bagi BN ia merupakan kes salah laku dan rasuah, juga menjadi bahan kempen bagi BN. Anwar yang sebelumnya merupakan Menteri Kewangan, yang berupaya membangunkan kedudukan ekonomi dan perniagaan (terutama di era 1995-1996) menarik perhatian masyarakat Cina. Lantas DAP misalnya dengan sasaran kempen terhadap pengundi Cina mengatakan bahawa perlucutan jawatan Anwar Ibrahim merupakan suatu kezaliman kerajaan BN pimpinan Mahathir. BA menegaskan cara Mahathir menangani kes Anwar Ibrahim adalah tindakan zalim. Mereka membangkitkan peristiwa semasa Anwar brahim dipecat, cara beliau ditahan, gambaran tentang kecederaan semasa tahanan dan juga peristiwa beliau mengalami keracunan arsenik semasa dalam tahanan. Hal tersebut juga tersebar secara meluas di Internet untuk menunjukkan kezaliman terhadap Anwar Ibrahim.

Apatah lagi Anwar Ibrahim sendiri melalui kempen sengitnya menuduh bahawa kerajaan selama ini mengamalkan rasuah, salah guna kuasa kronisme dan nepotisme ternyata

menguntungkan DAP. Malah melalui BA, DAP dan PAS berkongsi pentas "reformasi" berkempen di khalayak pelbagai kaum. Bagi pihak BN termasuk MCA dan GERAKAN bahan kempen utama mereka ialah salah laku moral Anwar Ibrahim dan kegawatan ekonomi. Anwar Ibrahim selaku Menteri Kewangan dikatakan tidak berupaya menangani masalah kemelesetan ekonomi sehingga mencadangkan meminjam dari Tabung Kewangan Antarabangsa (IMF). Malah dikatakan bahawa Anwar sering berbeza pandangan dengan Perdana Menteri berhubung isu menangani kegawatan ekonomi.

Manakala isu-isu kempen yang lain ialah BN misalnya memberi amaran kepada kaum Cina melalui MCA dan Gerakan supaya tidak menyokong PAS jika tidak mahu menjadi warga kelas kedua. PAS dilabelkan sebagai parti ekstrem yang akan melaksanakan hukum hudud dan penguatkuasaan undang-undang Islam yang boleh menakutkan orang bukan Islam. BN terus berkempen dengan menyatakan bahawa kerajaan yang memerintah sahaja yang berupaya membawa keharmonian, manakala kemenangan BA boleh menyebabkan berlaku pergaduhan kaum seperti 13 Mei 1969. BN menekankan perancangan kerajaan meningkatkan kembali pertumbuhan ekonomi Malaysia (Welsh, 2004). Dalam kempen PRU 1999, BN telah memberi fokus kepada pencapaian mereka dalam ekonomi dan keharmonian kaum untuk mendapatkan sokongan daripada rakyat.

Manakala itu, isu-isu lain yang menjadi tema kempen BA pula ialah ke arah Malaysia adil. Fokus utama mereka adalah mewujudkan keadilan untuk semua di samping menuntut kerajaan menghapuskan rasuah, salah guna kuasa, nepotisme dan kronisme (Funston,2000) dalam analisisnya mengatakan terdapat pelbagai isu yang dibangkitkan oleh BA. Antaranya ialah berkaitan Islam, kezaliman kerajaan, demokrasi yang terhad, rasuah, salah urus ekonomi, dasar luar dan reformasi. Selain itu, BA membangkitkan isu demokrasi dengan memfokuskan kepada hak rakyat untuk berhimpun dan bersuara, mengukuhkan badan kehakiman dan kebebasan media. BA mempertikaikan kebebasan bersuara yang dihadkan melalui undang-undang tertentu seperti ISA, Akta Polis, Akta Hasutan, Akta Rahsia Rasmi dan AUKU. Pada tahun 2001, telah menarik diri daripada pakatan BA kerana tidak bersetuju dengan konsep penubuhan negara Islam oleh PAS. Menjelang PRU-2004, BA hanya terdiri dari parti PAS dan Keadilan sahaja tanpa DAP.

Isu-isu kempen DAP hanyalah berkisar pada isu-isu PRU-1999 seperti salah-guna kuasa, rasuah, nepotisme dan kronisme. Walaupun DAP tidak lagi bersama Keadilan, isu pemecatan Anwar Ibrahim masih lagi digunakan sebagai bahan kempen bagi menggambarkan kezaliman kerajaan.

Manakala bagi MCA dan GERAKAN dalam gugusan BN pula isu-isu kempen tertumpu kepada personaliti bersih serta pembaharuan pentadbiran dan kerajaan Perdana Menteri baru Abdullah Ahmad Badawi.

Walaupun pembaharuan-pembaharuan oleh Abdullah seperti Islam Hadhari lebih mirip kepada nilai-nilai Islam, namun pengundi-pengundi Cina dapat menerimanya kerana ia merupakan suatu langkah murni ke arah pembangunan manusia dan fizikal. Apatah lagi, apabila mereka melihat ketokohan dan personaliti bersih Abdullah, suatu transisi besar daripada zaman Mahathir yang dikatakan zalim dan sebagainya. Abdullah Badawi juga telah menjadikan slogan anti rasuah sebagai tunggak utama pentadbiran beliau. Dalam ucapannya kepada kakitangan kerajaan, beliau berjanji untuk menghapuskan rasuah, memperbaiki sistem penyampaian awam, mengurangkan karenah birokrasi dan meningkatkan keberkesanan dalam sektor awam (Abdul Rashid Moten & Tunku Mohar Mokhtar,2006). Menjelang tahun 2004, pencapaian ekonomi Malaysia telah menunjukkan kadar pertumbuhan yang memberangsangkan. Misalnya pada 25 Februari 2004, Bank Negara telah mengumumkan pencapaian Keluaran Dalam Negara Kasar (KDNK) Malaysia

bagi tahun 2003 telah meningkat lebih dua peratus daripada jangkaan 4.5 peratus. Pertumbuhan ini adalah disebabkan oleh peningkatan eksport dalam sektor pembuatan dan juga peningkatan dalam pelaburan. Malaysia juga telah mencatat perolehan yang tinggi melalui indeks komposit di BSKL. Pada 18 Mac 2004, indeks komposit telah mencapai tahap 900 mata, iaitu tertinggi dalam tempoh empat tahun (Abdul Rashid Moten &Tunku Mohar Mokhtar, 2006).

Pilihan Raya 2008

Kempen PRU-2008 terutama oleh pihak pembangkang lebih terarah kepada isu-isu yang menyelubungi pentadbiran Perdana Menteri Abdullah Ahmad Badawi terutama dalam tempoh 2006-2007. Terlalu banyak isu-isu yang dijadikan bahan kempen terutama mengenai kenaikan harga barang, kenaikan kadar tol, peluang-peluang pekerjaan, kenaikan kos sara hidup, di samping isu-isu peningkatan kadar jenayah, penyalahgunaan kuasa dan rasuah serta tuntutan pilihan raya yang adil dan bersih.

Manakala di pihak BN pula berkempen berdasarkan manifesto 'Selamat, Aman dan Makmur' dengan memberi penumpun terhadap faktor ekonomi seperti menangani kesan kenaikan harga bagi menjamin kualiti hidup rakyat yang bermutu, memupuk dan membantu 1 juta syarikat dan usahawan IKS dalam masa 5 tahun,menjana lebih 2 juta peluang pekerjaan yang bermutu dalam masa 5 tahun, mengurangkan lagi defisit fiskal Negara, melaksanakan pelan pembangunan lima koridor ekonomi. Dari segi keselamatan pula BN berkempen untuk mengurangkan indeks jenayah Negara, menangani isu pendatang asing tanpa izin, menambah 60,000 anggota polis menjelang 2011 dan membina 150 balai, meningkatkan keselamatan di sekolah-sekolah, taman-taman permainan dan tempat-tempat awam. Dari sudut urus tadbir kerajaan BN berjanji untuk memerangi rasuah tanpa gentar atau pilih kasih, mengukuhkan pemantauan dan penguatkuasaan oleh BPR, kastam, Lembaga Hasil Dalam Negeri, dan pihak berkuasa tempatan (PBT). mengurangkan kadar kemiskinan keseluruhan kepada 2.8% menjelang 2010, Di samping itu kempen BN juga menjurus kepada menyediakan rumah lebih bermutu dengan harga yang mampu dibeli dengan akses kepada perkhidmatan kesihatan moden dan bermutu, menaik taraf pengangkutan awam dan mengurangkan kesesakan lalu lintas, merapatkan jurang digital dan meningkatkan perkhidmatan internet jalur lebar, dan pelaksanakan Pelan Induk Pembangunan Kampung-kampung Baru.

Namun begitu, keresahan masyarakat massa diterjemahkan melalui beberapa siri demonstrasi dan pernyataan bangkangan serta kritis terhadap kerajaan. Isu-isu perkauman, pentadbiran kerajaan dan ekonomi telah awal diperkatakan rakyat di luar musim pilihan raya 2008. Kemunculan organisasi Gabungan Pilihan Raya Bersih dan Adil (BERSIH) pada November 2006 ternyata menyemarakkan lagi bangkangan terhadap kerajaan terutama apabila bermulanya demontrasi BERSIH 1 pada November 2007. Gabungan BERSIH yang terdiri dari beberapa parti pembangkang termasuk PAS, DAP serta beberapa NGO melaungkan pilihan raya yang bersih dan adil iaitu tuntutan bagi menyemak semula daftar pemilih yang sedia ada, menggunakan dakwat kekal dalam proses pengundian, memansuhkan undi pos dan liputan media yang adil untuk semua parti politik. Keputusan pilihan raya BN memenangi 140 kerusi Parlimen daripada 222 kerusi yang ditandingi manakala di peringkat DUN, BN hanya memenangi 307 kerusi daripada 505 kerusi yang ditandinginya. Daripada jumlah ini UMNO memperoleh memenangi 78 kerusi Parlimen, MCA 15 kerusi, MIC 3 kerusi, sementara Gerakan 2 kerusi dan PPP tidak memenangi sebarang kerusi. BN hanya mendapat 51.2% undi majoriti dan gagal untuk memperolehi 2/3 majoriti di Parlimen. Manakala itu di pihak PR, kerusi Parlimen,DAP memperoleh 47 kerusi, PAS (67), PKR (97).

Pilihan Raya-2013

PRU-2013 sering diungkap sebagai pilihan raya 'media sosial' atau juga seperti mana diakui sendiri oleh Perdana Menteri Najib sebagai "Malaysia's first media election." (The Malaysian Insider, 2013b). Lantas, sememangnya dalam kempen PRU-2013, kesemua parti-parti politik yang bertanding menmanfaatkan sepenuhnya media sosial. Namun begitu, kesemua parti-parti politik yang bertanding bukan sahaja mengaktifkan laman web atau blog tetapi turut berkempen melalui akaun Facebook, Twitter dan sebagainya. Najib sendiri misalnya pada Januari 2012 membuka akaun Facebook, Ah Jib Gor bagi mempengaruhi masyarakat Cina. Namun begitu, parti-parti Cina seperti MCA, Gerakan dan DAP selesa menggunakan pentas konsert, jamuan makan serta ceramah terbuka dalam kempen-kempen mereka.

Dengan manifestonya "Menepati Janji Membawa Harapan", BN termasuk komponen MCA dan Gerakan berkempen mengutarakan 17 teras utama termasuk diantaranya ialah perjuangan ialah menangani kos sara hidup, meningkatkan kehidupan warga bandar, peluang mendapat kemudahan kesihatan berkualiti, menyediakan rumah mampu milik, meningkatkan kecekapan pengangkutan awam, pembangunan infrastruktur bertaraf dunia, memperkasa penyertaan wanita dan transformasi luar bandar. Manakala menurut Thock Ker Pong Tan Yen Yee (2016) kempen MCA masih bergantung kepada retorik lama untuk meraih sokongan orang Cina. Politik ketakutan diterapkan oleh pucuk pimpinan parti agar kaum Cina tidak mengundi PR. Mereka menguar-uarkan bahawa mengundi DAP bererti memberi undi kepada PAS yang bakal menyumbang kepada pembentukan negara Islam di Malaysia. Selanjutnya mengundi pihak pembangkang bakal membawa kekacauan kepada Malaysia.

Manakala bagi DAP yang bersekutu bersama PAS dan Keadilan dalam Pakatan Harapan berkempen terhadap isu-isu isu rasuah, kronisme, penyalahgunaan kuasa, menurunkan kadar jenayah, menurunkan harga minyak, menghapuskan tol, memansuhkan akta zalim, memastikan pilihan raya adil, bersih dan telus, pendidikan percuma untuk rakyat serta mewujudkan kebebasan media. Keputusan pilihan raya, BN hanya memenangi 133 kerusi daripada 222 kerusi parlimen iaitu gagal mendapat majoriti dua pertiga Dewan Rakyat Manakala Pakatan Rakyat pula mendapat 89 kerusi (DAP 38, PKR 30 dan PAS 21). BN kehilangan lapan kerusi berbanding PRU 2008

Kesimpulan

Banyak isu dan tempen kempen yang melingkari parti-parti China sejak 1974 hingga ke tahun 2013. Bermula dengan tema asas seperti perniagaan, pembangunan, ekonomi, sosio-ekonomi sehinggalah kepada isu alam sekitar, perpaduan, pendidikan dan sebagainya. Namun yang menariknya isu dan tema yang mendominasi sesuatu pilihan raya adalah yang berkaitan dengan isu-isu semasa beberapa tahun awal menjelang pilihan raya tersebut. Dalam pada itu, sebenarnya isu-isu ini adalah berbeza di antara satu pilihan raya dengan pilihan raya yang lain, namun dalam beberapa pilihan raya isu-isu yang diketengahkan adalah hampir sama seperti PRU 2008 dan 3013. Ternyata juga ketegasan serta eksploitasi isu-isu memperlihatkan jatuh-bangun sesuatu parti politik. Namun begitu bagi parti-parti politik Cina, sama ada di pihak pembangkang atau kerajaan, kadang-kala mereka mengambil pendirian sama dan berdiri teguh atas kepentingan masyarakat Cina.

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OBSTACLES IN SHARIAH IMPLEMENTATION IN ISLAMIC BANKS

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Abstract: *Malaysia is a well known hub for Islamic banking and finance since in the 1980's. However, until today, only 2 full fledged Islamic banks have been established in the country, Bank Islam and Bank Muammalat. The rest of the Islamic banks are in the form of Islamic subsidiaries of conventional parent banks. These Islamic subsidiaries operate under the same branches as their conventional parents. The staff who is performing the Islamic banking tasks are also performing the tasks for the conventional parent bank. The branch manager, who is supposed to implement the Shariah ruling, must also follow the directives from the top management from the conventional parent bank. Thus, there exist conflict of interest between the Islamic bank's objectives and the objectives of its conventional parent bank. Theoretically, the main objective of the Islamic bank is to abide by the Shariah rulings (providing benefits to the whole society). On the other hand, the main objective of the conventional bank is to maximize the wealth of its shareholders (profit maximization). As the Islamic subsidiaries have to follow directives set by their conventional parents, the objective of both Islamic subsidiaries and conventional parent should be converged, thus it has to be profit maximization. Under this situation, only mimimal Shariah compliance could be achieved by Islamic subsidiaries. Thus, it is important for the managers and staff who are working in Islamic subsidiaries of conventional banks to receive adequate training and exposure both on Islamic banking and Islamic teaching so that Shariah compliance could be realized at its maximum level.*

Keywords*: Shariah Implementation, Conflicts Of Interest, Islamic Subsidiaries, Malaysia*

Introduction

Islamic finance and banking had been founded 40 years ago. However, until today, there has been many unresolved issues and the emergence of new issues that goes hand in hand with the development of Islamic finance even though there are many avenues for Shariah scholars, practitioners, and academicians to discuss the ongoing issues. One of the main reasons for the unresolved issues is due to the fact that there is no clear separation between Islamic banking and conventional banking as both banking systems coexist in the same economy. Even though Islamic finance had been founded as early as in the era of Prophet Muhammad SAW, its development was much slower than its conventional counterpart. Conventional banking and finance had been accepted and practiced in most countries around the world for centuries. Therefore, the development of Islamic finance has partly been benchmarked from conventional banking. In country such as Malaysia where there exist Islamic banks, the co-existence of conventional banks could hardly be avoided as these banks were initially established as conventional banks. The

opening of Islamic window is to meet the growing demand and interest of the public with Islamic banking products.

The successful implementation of Islamic banking system in the Middle East has encouraged the Bumiputra Economic Congress in setting up Islamic Banking in Malaysia. As a result, in 1983, the Islamic Banking Act was enacted in Malaysia and the first full-fledged Islamic bank, Bank Islam Malaysia, was established. In 1999, the second Islamic bank, Bank Muammalat was established. Until toady, these are the only full-fledged local Islamic banks in Malaysia.

In 1993, Bank Negara Malaysia provided an option to conventional banks to open Islamic windows which offered Shariah compliant banking products to customers through their conventional branches. As a result, 21 Islamic banking windows were established by their conventional parents. In 2002, Bank Negara Malaysia had allowed conventional banks to open Islamic subsidiaries to replace the existing Islamic windows and these subsidiaries are governed by the Islamic Banking Act 1983 (Mohamed Ariff, 2017).

As time passes by, there has been growing issues related to Islamic banking due to the existence of conflicts between Shariah objectives and business objectives. The former is built around Islamic concepts but the latter is based on capitalist economy. Shariah scholars tasks are to ensure compliance of Islamic banks to Shariah objectives. On the other hand, the managers are the ones who are responsible in the implementation of Shariah rulings. At the same time, managers are also responsible to adhere to the corporate objectives as set by the board of directors. Therefore, managers are stuck in the middle between meeting Shariah objectives and business objectives. This conflict may lead to the lack of Shariah compliance in Islamic banks. Besides the differences between business and Shariah objectives, the background of the managers can also play an important role in ensuring Shariah compliance in Islamic banks.

This paper intends to discuss the obstacles of Shariah implementation in Islamic subsidiaries of conventional banks due to divergent objectives between both entities. The paper is organized as follows. The next section outlines Maqasid al-Shariah in Islamic Finance. The next two sections discusses the divergent objectives between Islamic subsidiaries and their conventional parent banks and the obstacles in Shariah implementation in Islamic subsidiaries. The final section concludes the paper.

Maqasid al-Shariah in Islamic Finance

Shariah objectives are based on Al Quran and Hadith and emphasizes on activities that would benefit to society as a whole. Shariah objectives in Islamic finance are as follows: (1) circulation of wealth; (2) continuity of the investment of wealth; (3) achieving comprehensive communal prosperity; (4) financial transparency; (5) preventing harm and hardship in wealth and finance and (6) ensuring justice in circulation of wealth in business transaction. (Lahsasna, n.d). Shariah aims achieving various goals which benefit the society, and result in peace, prosperity, and happiness in life. As such, business transactions should free from the elements of riba, gharar and maisir.

Laldin and Furqani (2012: 4) define Maqasid al-Shariah as follows:

"…all the goals and objectives of Islam as a system of life that constitutes standards and criteria, values and guidance based on divine revelation (*wahi*) to be applied in practical life to solve human problems and guide the direction of human life."

According to Imam Al-Ghazali, as quoted in Dusuki and Abdullah (2007),

"The objective of the Shari`ah is to promote the well-being of all mankind, which lies in safeguarding their faith (din), their human self (nafs), their intellect (`aql), their posterity (nasl) and their wealth (mal). Whatever ensures the safeguard of these five serves public interest and is desirable.

Literally, maslahah means seeking benefit and preventing harm. Imam al-Ghazali, as quoted in Dusuki and Abdullah (2007), defines maslahah as

"Maslahahis essentially an expression for the acquisition of benefit or the repulsion of injury or harm, but that is not what we mean by it, because acquisition of benefits and the repulsion of harm represent human goals, that is, the welfare of humans through the attainment of these goals. What we mean by maslahah, however, is the preservation of the Shariah's objectives."

Maslahah is further divided into three categories: (1) Necessities or Essentials (daruriyat); (2) needs (hajiyat); and (3) complementary (tahsiniyat).

According to Lahsasna (2013), daruriyat (necessities) are fundamental need of human being and without them the society will be in chaotic. Daruriyyat contains five elements which are (a) protection of religion (al-*din*); (b) protection of life (al-*nafs*); (c) protection of dignity or linage (al-nasl); (d) protection of intellect (al`*aql*); and (e) protection of wealth (al-*mal*). Protection of *Al-din* means that the religion be should protected and safeguarded in society from violation and destruction. Protection of life is divided into two parts: imposition of punishment to someone who hurt the life, killing or injuring others and the encouragement of marriage to ensure the continuity of the mankind on earth. Protection of progeny and dignity includes the protection of human rights and showing respect to one's privacy. Protection of intellect or mind refers to the prohibition of drinking wine and consumption of other products that may harm the soundness of one's mind which may result in misconduct against Shariah rulings. Protection of property is achieved through a set of permissible transactions and to prevent it from damage through a set of prohibited transactions.

Needs or hajiyat refers to supporting needs required in life, if absence, would lead to difficulty in life but not to the extent of total life disruption. Tahsiniyat refers to the elements that would lead to betterment and perfection of life, if they are realized (Dusuki and Abdullah, 2007). Movement from maslahah daruriyyah to maslahah hajiyyah to maslahah tahsiniyyah reflects an increase in the society well being. The more benefits are achieved and the more harm is eliminated, the better the well being of the society will be (Laldin and Furqani, 2012, pp. 10-11).

In summary, Maqasid al- Shariah aims to protect the interest of mankind and to prevent the evil from them. In other words, the objective of Shariah is to realize the public benefit for the society as a whole.

Divergent Objectives Of Islamic Subsidiaries And Their Parent Conventional Banks

Business objectives are based on capitalist economy as proposed by Adam Smith in his book The Wealth of Nations. Under capitalist system, individuals are not restricted to make profits and allowed to pursue their self-interest. Built on Adam Smith's capitalist economy, the main objectives of a firm are profit maximization and increase market share. In other words, the objectives of a firm is to maximize the wealth of the shareholders who contribute capital to the firm and expect profits in return for their investment. Shareholders appointed managers, who are the agent, to ensure the day to day operations of the firms are in line with the objectives of the firm.

The objectives of conventional banks are in line with an economic theory as proposed by Friedman (1970). As Friedman (1970) argues: the corporate executive or the manager is hired by

the owners of the business and they have direct responsibility toward the owner of the business, who is their employer. They have the responsibility to carry out the business to maximize the profits for the company while conforming to the basic rules of the society (as required by the law or ethics).

In line with Friedman's (1970) theory, the primary objective of the parent conventional bank is to maximize the shareholders' wealth. On the other hand, the primary objective of establishing Islamic bank is to comply with Shariah rulings and provide benefit to society as a whole (Warde, 2000). Therefore, there are divergent objectives between the parent conventional bank and its Islamic subsidiary.

On the other hand, the primary purpose of the establishment of Islamic banks is to comply with Shariah rulings. In other words, the establishment of Islamic banks is religious based. While profit making is only the secondary objective of Islamic banks. The commercial aspects of Islamic banks are complementary to the religious and Shariah-based substance (Engku Rabiah Adawiah, 2013). Therefore, Islamic banks must re align their objective with the objective of Shariah.

Shariah compliance means adherence and conformity with Shariah principles. In the case of Islamic financial transactions, all the transactions must comply and conform with Islamic law and rules of commercial transactions. The sources of Islamic laws include the primary sources: Al Quran and Hadith and the secondary sources such as ijma' and qiyas (Engku Rabiah Adawiah, 2013).

The willingness of customers to pay premium price for Shariah compliant products and services contributes to the high profitability in Islamic banking business (Lee and Ullah, 2008, 2011). Past literature has also proven that shariah compliance is the priority of customers who seek Islamic banking products and services (see for instance, Mohd Dali (2014), Adara et al. (2013) and Sadek et al. (2010)). However, Arshad et al. (2011) discover that Islamic banking officers in Pakistan do not realize the main objectives of the establishment of Islamic banks are jurisprudence and profitability as most of them do not agree that Islamic banks must adhere to the profit maximization principles.

In a study by Ullah et al (2016), the following dimensions have been used to check the consistency between the objectives of the managers and Shariah board: social welfare, ethical investments, fairness and justice, philanthropy, unity principle, profiteering, secured investment and conventional reciprocity. Based on the interview results, they found that managers place moderate relevance and importance to social welfare, fairness and justice, philanthropy and unity principle. On the other hand, the Shariah board place high importance on these areas as their main objective is to earn the will of God. In terms of profiteering, managers believe that profit maximization is the main reason for the establishment of Islamic banks and they are willing to forgone fairness and justice to gain high profit. In terms of secured investment, managers prefer financial instruments that are convenient, secured and provide fixed return on investments. The managers do not prefer profit sharing instruments such mudarabah and musharakah as these instruments are risky and provide uncertainty in the return on investment. To be able to compete with the conventional banks, managers of Islamic banks choose to offer products that are similar to conventional banks to meet customers' need. Shariah scholars argue that managers even ask them to find ways to make all conventional products Shariah compliant. Since the managers have more power in decision making compared to Shariah scholars, the former use several coercive strategies to influence the latter accept minimum Shariah compliance level on matters related to Shariah.

Given the stiff competitive environment where Islamic banks have to compete with conventional banks in terms of product innovation, the easy solution is to rely on lenient Shariah board so that Islamic banks can compete with conventional banks in the lucrative market faster. The hard way is to improve management and introduce differentiated products (based on the profit and loss sharing (PLS)) (Warde, 2010, p. 153). As evident from the above literature, many Islamic banks choose the first solution. As a result, Shariah compliance, which is the backbone of Islamic banking, has to take a back seat.

Business objectives and Shariah objectives are clearly opposite of one another. The former tends to promote greed, monopoly and inequalities in wealth distribution in society. The latter emphasizes on equalities, fair distribution of wealth and justice.

Challenges In Shariah Implementation In Islamic Banks

Profit Maximization

The main challenge face by conventional banks in the process of conversion to Islamic banks is the compliance to the Shariah principles (Shafii, Shahimi, and Said, 2016). It has been argued that the operations of Islamic banks are similar to that of the conventional banks, except that the former has to comply to Shariah rulings (Haniff, 2011; 2014). Under the current setting, Islamic finance tries to tap profitability and efficiency from its conventional counterpart through the modification of the external structure. Modification of this type is not sufficient without changing anything in substance since the objectives of capitalist system are maintained. For instance, the present Islamic financial products are modified from their conventional counterparts to meet Islamic legal requirements (Laldin & Furqani, 2013, p. 32-33).

According to Al-Atyat (2007) and Al-Atyat and Hakeem (2010), as cited in Ahmed and Hussainey (2015), the main reason for converting from conventional to Islamic banks is to tap on the profitability from Islamic banking as many studies have proven that Islamic banks are more profitable than their conventional counterparts (see for instance, studies by Khediri, Charfeddine, & Youssef (2015), Ramlan & Adnan (2016)). This is also consistent with the motivation of the managers to enter into Islamic banking industry is to tap on the profitability from the industry and not to meet the Shariah objectives from holistic business model (Ullah et al., 2016).

Al-Omar and Iqbal (1999) has raised the issue on the genuineness of the operations of large multinational banks in Islamic banking industry. Their participation in Islamic banking industry is purely commercial to tap on the profitability of the Islamic banking business. Another concern is on whether conventional banks are following Shariah rulings strictly and abide by the Islamic banking rulings. It has been argued that the main factors that influence traditional bank conversion into Islamic banks are risk and profitability (Al-Alani and Yaacob, 2012).

Previous studies, as cited in Shafii, Shahimi and Saaid (2016), have proven that the environment where Islamic banks are operating side by side with conventional banks is not fully supportive for Islamic banks to completely comply to Shariah principles as these banks are based on conventional economic system (see for instance studies by Al-Oqool (2011); Al-Atyat (2007); Al-Martan (2005); Al-Omar & Iqbal, (1999); and al-Rbaia (1989)).

Managers Background

According to Azid, Asutay, and Burki (2007), there are two main responsibilities of the managers in a firm. They are (1) maximizing the profit of shareholders and (2) protecting the

interest of the stakeholders. The second role is consistent with maqasid of Shariah. Stakeholders not only include employees, customers, and suppliers but also society and the environment.

Given the state of Islamic banks which is built as separate window and part of the bigger conventional entity, the managers are stuck in the middle between following the directives from the top management/board of directors or conforming with Shariah rulings as passed by the Shariah board as the main requirement as an Islamic entity.

Another main issue is the background of the managers themselves. It has been argued widely that managers of Islamic banks do not possess Shariah background and they also lack Shariah knowledge and exposure as they may come from the conventional background. The implementation of Shariah rulings needs to go through tough times if the persons who are supposed to abide by the rulings do not have clear understanding of Shariah principles.

Conclusion and Recommendations

Islamic banking and finance had been founded nearly four decades ago. However, until today, there has been many unresolved issues and the emergence of new issues that goes hand in hand with the development of Islamic finance. One of the main reasons for the unresolved issues is due to the fact that there is no clear separation between Islamic banking and conventional banking as both banking systems coexist in the same economy. Even though Malaysia is known as an Islamic banking and financial hub, there are only two full-fledged Islamic banks; Bank Islam and Bank Muammalat that exist. The rest of the Islamic banks are Islamic subsidiaries of large conventional banks (for instance, Maybank Islamic, CIMB Islamic Bank and RHB Islamic Bank).

The establishment of Islamic subsidiaries of conventional parent banks have raised many unresolved issues. This could mainly due the divergent objectives between the parent conventional banks and their Islamic subsidiaries. The main objective of the conventional parent bank is profit maximization (maximizing the shareholders' wealth) while the main objective of the Islamic subsidiary is to comply with Shariah rulings (besides the profit motive). The managers who are supposed to implement and abide by the Shariah rulings have also need to follow the directives from top management that comes from the conventional parent bank. In addition, the Islamic subsidiaries are operated under the same branches with their conventional parent banks. The staff who is performing duties for conventional parent has also need to perform the duties for Islamic subsidiaries. Under such situation, conflict of interest could hardly be avoided.

Another glaring issue is the dual board position for both conventional and Islamic subsidiaries. Even though the Islamic subsidiaries are required to appoint directors with Shariah background, they are minority as majority of the board of directors also sit on the board of the conventional parents. The managers of Islamic subsidiaries have to follow the directives set by the top management from their conventional parents.

Given the fact that most Islamic banks in Malaysia are subsidiaries of conventional banks and the existence of conflict of interest among the managers and staff in performing their conventional and Islamic banking tasks, the best solution could be to train the managers and staff by giving them in depth exposure and knowledge of both Islamic banking and Islamic teaching. By having proper training in these areas, the managers and staff could realize the importance of abiding to the Shariah rulings to the maximum levels.

In conclusion, minimum Shariah compliance is not enough in achieving Maqasid al-Shariah. The Islamic spirit should be built in the heart of the managers and staff of Islamic banks (sincerity, honesty, truthfulness) in achieving the objectives of Islamic banks.

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DOES SOCIAL CAPITAL INFORM PARTICIPATION IN PLANNING? EVIDENCE FROM SUBANG JAYA, MALAYSIA.

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Abstract: *The practice of involving public in planning has been in place since the birth of modern town planning in Malaysia. It is strongly felt that social connectedness among members of a community and positive feeling towards neighbourhood do have influence in making people to be more participative in planning. This study attempts to establish relationships between participation and social capital which is characterized by factors such as sense-of-belonging, trust, norms of reciprocity and voluntary association. It is evident from this study that some elements of social capital differed significantly between active and less active residents. This paper concludes that to make participation works, future strategies should not only focus on improving the participation mechanism, but emphasis should be equally given on social capital building.*

Keywords*: Public Participation, Social Capital, Urban Planning*

Introduction

Principle 1 of Rio Declaration reads "Human beings are at the centre of concerns for sustainable development" (Oldham United Nations, 2010). The declaration, among other things, put emphasis on providing platforms to allow the general public to be included in decision-making process by encouraging public awareness and making information widely available. The Local Agenda 21, good governance and the most recent one in Malaysia. "people first", as well as "people-centric"-all these are emphasizing on the importance of creating opportunities for the lay people to get involved in governmental decision-making process. In general, public participation refers to the practice of consulting and involving members of the public in decision-making of organizations or institutions responsible for policy development. The concept of public participation is seen to be able to diminish the line that separating the urban managers and the public; thus promoting shared responsibilities between government and those being governed, and also shifting the accountabilities of urban decisions to the public. The modern planning Act-The Town and Country Planning Act 1976 has given a new dimension in urban planning practice in Malaysia. Throughout the many amendments that had been taken place since 1976, the Act has improvised the ways of improving the urban planning practice as a whole which includes a more systematic approach on how to involve the public in urban planning process more effectively. Despite having a systematic way of involving the public, however, from past studies, it is noted that most of these publicity exercises receive lukewarm response from the public. Goh (1990) and Kamarudin (1991) emphasized that one of the pre-requisites of it vital to ensure the success of

public participation is that the public should be knowledgeable about planning process. Past studies offered many possible explanation on barriers of participation and many have highlighted that one major barrier to quality participation lies in the public themselves. One of the factors associated with this phenomenon is the fact that people nowadays are leading more individualized and impersonal lifestyle and this has result them to be disassociated with their neighbourhood. The absence of social connectedness, which some describe as social capital, seems to be the possible answer on why it is so difficult to get people to be involved in matters that affect their living environment. The notion of social capital (Putnam, 1995) that stresses on social networks, interactions, trust and reciprocity are the basis that foster sturdy social connections among members in a community.

Literature Review

Bourdieu (1984) in Adam and Roncevic (2003) introduces the notion of social capital as "a capital of social connections, honourability and respectability". Although his introduction of social capital lacks systematic empirical analysis, Adam and Roncevic recognizes Bourdieu's contribution as the pioneer who laid down the frame of reference for theorizing and research in this area. Coleman (1990) asserts that:

a. "Social capital is defined by its function. It is not a single entity but a variety of different
b. entities, with two elements in common: they all consist of some aspects of social structures,
c. and they facilitate certain actions of actors-whether persons or corporate actors-within the
d. structure" (Coleman, 1990, p.98).

Drawn from the working definition of social capital introduced by Coleman that focused more on sociocentric perspective (Adam and Roncevic, 2003), Putnam offers the definition of social capital as "features of social organization, such as trust, norms, and networks that can improve the efficiency of society by facilitating co-ordinated actions" (Putnam, 1993: 167 in Adam and Roncevic, 2003).

Robert Putnam later on elaborates in his book entitled "Bowling Alone: The Collapse and Revival of American Communities" on what distinguishes social capital from other forms of capital:

a. "Whereas physical capital refers to physical objects and human capital refers to the
b. properties of individuals, social capital refers to connections among individuals-social
c. networks and the norms of reciprocity and trustworthiness that arise from them".
d. (Putnam, 2000, p. 19).

In conceptualizing social capital, Putnam develops an instrument to measure social capital which includes four themes: membership of voluntary associations, networks, trust and norms of reciprocity. Paxton (1999) as quoted by Adam and Roncevic (2003) in her study of social capital in United States expands the measurement of social capital by categorizing the indicators into two measureable components: objective associations between individuals and subjective type of tie, which must be reciprocal, trusting, and involving positive emotions (in Adam and Roncevic, 2003,

p. 162). The first is measured by three variables which include spending evenings with neighbours, spending evenings with friends, and total number of memberships of voluntary organizations. The second is measured by trust in individuals such as helpfulness, trustworthiness and fairness of people; and trust in institutions (Paxton, 1999 in Adam and Roncevic, p. 163). Her findings challenge Putnam's findings as from what she observes, though in general the social capital in the United States is declining, but only in one aspect-trust in individuals while trust in institution remains the same.

Linking Social Capital and Participation

From the definition of social capital discussed in the previous section, it is clear that social capital relates to the nature and depth of existing social relationships. One major problem that have been highlighted by many researchers in studying public participation in planning, is to actually get people involved in a large scale (Timothy O'Riordan in Sewell and Coppock, 1977; Berry et al., 1993). While there are some remarkable progress that see many people are getting more involved and enthusiastic to participate in governmental decision-making, however in general, most people at large still do not see why they need to worry themselves in neighbourhood problems.

There are many reasons associated with the lack of interest for public to participate in local affairs. One of the reasons that has been established on why people shun away from getting involved in community affairs is lack of ties or relationships among members of a community, and this phenomenon is more apparent in urban and metropolitan communities. According to Louis Wirth (1938) in his essay "Urbanism as a Way of Life", urban communities have their own "urban way of life" and "urban personality". From his observation, he feels that city people, though more socially tolerant, are more impersonal and less friendly as compared to rural people. The development of urban personality or urbanism is a result of the three key characteristics of cities – large population size, social heterogeneity and population density. Large population size contributes to large number of individuals participation in a process of interaction. By having large number of individuals, there is a greater potential differentiation or variation between them. The existence of wide range of variations among the urbanites weaken the bond and kinship and of neighbourliness due to the lack of common trait between each community member (Wirth, 2003).

In some ways, what Putnam proposes in his social capital theory is an updated version of Wirth's work. The urbanites are no longer connected to one another though collective action as people in rural area. Past studies has shown that all measures of social engagement such as political voting, participation in voluntary organizations and even neighbourliness ties, seem to grow weaker. The urban dwellers are getting more impersonalized. Berry and Thomas (1993) states that people nowadays able to live next to each other without being neighbours. This phenomena is decribed by Berry and Thomas as "urban crisis" which he feels can be remedied if people could work together and revive the spirit of togetherness in modern communities.

Alejandro Portes (1998, cited in Fahmy and Young, 2006, p.103) observes that:

a. "As a property of communities and nations rather than individuals, social capital
b. is simultaneously cause and effect. It leads to positive outcomes, such as economic
c. development and less crime, and its existence is inferred from the same outcomes".

From the above explanation, it is clear that an abundance stock of social capital bring many good things for a community. In Putnam's own words, he stresses that social capital allows citizens to resolve collective problems more easily (Putnam, 2000).

Study Area and Empirical Investigation Design

The study took place in Subang Jaya, a suburban area located about 50 km from Kuala Lumpur, the capital city of Malaysia. Ranked as the fifth largest metropolitan in Malaysia (Jamaliah Jaafar, 2004), Subang Jaya has a fast growing community with an increase of 20 percent in ten years. There are approximately 152,068 people living in Subang Jaya with the population density of 60.5 people per hectare. The community of Subang Jaya is plagued by many problems associated with rapid urbanization such as traffic and crime. On top of that, by being strategically located within crossing of expressways, Subang Jaya has faced extreme pressures of development that threatened the community's quality of life. Out of the struggle in guarding their quality of life, a group of residents in formed an informal residents association in 1991, known as USJ Residents Association. The committee members took a step further to function more effectively by registering the association with the Registrar of Societies in 1993. The association, until today, is actively working on big community issues especially in trying to garner support from the residents in challenging local authority's planning decisions.

The single case study was chosen in this research project. One rationale for using a single case study is when the case is "critical for testing a well formulated theory" (Yin, 1994, p.38). In this light, Subang Jaya communities provide a good case study as these communities had their success stories of public participation. One thing notable about the communities of this suburb is that they have an abundant stock of social capital and this fact is proven by the number of residents' alliances which had been working hand-in-hand in confronting the local council in various planning issues.

Using non-proportional quota sampling, a household survey was done to identify the extent of residents' participation in planning either through formal or informal channels. The survey include questions on socio-economic profile and social characteristics such as sense of belonging, sense of community, collective efficacy, generalized trust, community awareness and engagement and awareness on planning. The main objective of the survey was to explore the relationships between social capital and participative attitude.

Using the results of 319 questionnaire survey, this study explores to what extent people participate in planning. The definition of "participation in planning" in this research however is not limited to participation within formalized planning channels but it includes other channels such contacting community representatives and politicians, contacting media or resorting to informal channels such as petition signing and street demonstration.

Results and Discussion

Actions Taken

To gauge the extent of participation in planning decision, the respondents were asked to tick all the actions they have made in the past three years to influence planning decisions. As shown in Table 1, more than half of the respondents have never done anything to influence planning decisions. This is expected as it has been proven in many previous studies that many communities are made up of the non-participants (O'Riordan, 1977; Sidney et al., 1987; Wandersman et al., 1987).

Table 1: Actions done by the respondents in the last three years to influence planning decisions

List of Actions	Frequency	%
Never done anything	195	58.7
Contacted local authority	58	17.5
Contacted community representatives (JKP)	56	16.9
Attended meeting with fellow residents	54	16.3
Signed protest petition	50	15.1
Contacted non-governmental organization	33	9.9
Attended public hearing	33	9.9
Contacted State Assemblyman	28	9.4
Contacted local councilor	29	8.7
Discussed in community online forum	25	7.5
Took part in public protest and demonstration	19	5.7
Contacted Member of Parliament	18	5.4
Contacted mainstream newspaper	18	5.4
Contacted community newspaper	10	3.0

The Nature and Magnitude of Social Capital and Its Link to Participation

As discussed earlier, there is a wide range of indicators that had been tested in past studies to measure social capital. This paper, however, discuss only two aspects of social capital; sense-of-belonging and trust, and its possible associations with participative attitude.

Sense of Belonging

Sense of belonging refers to the feeling that one belongs in the community and is willing to make sacrifices for the community (Pooley et al., 2005). In the context of participation in planning, participation is time consuming. The willingness of the participants to spend time scrutinizing the local plan, or attending public hearings or meetings, may indicate participants' connection to the community, which is central to the concept of social capital. Key consideration in this study include the following: whether the 'connectedness' of the urban society is achieved in the neighbourhood in this study, and to what extent this feeling of connectedness predict the behavior to participate.

According to Hampton (1970), the feeling of sense-of-belonging is likely to increase witk the length of time spent in the home area. The sample consists of quite a balanced composition of 'newcomers' (having resided in the neighbourhood for less than 5 years) and long-time residents (those who have resided in the neighbourhood for more than 10 years). This is a useful finding as the availability of a balanced composition between the newcomwers and long-time residents will provide an opportunity as to whether length of residence plays a role in determining one's extent in participation. However Hampton feels that length of residence alone may not able to promote a feeling of being home, but perhaps previous residence in the immediate area may also be a

contributory influence. The survey indicates that the population of Subang Jaya is largely contributed from the people who moved into the town from other places such as from other towns but the same district (22.0%), from other parts of Klang Valley (29.8%) and other wider localities such as other state and country. In terms of type of home ownership, a large proportion of respondents own their houses.

To answer the research question on which sense-of-belonging factors contribute to one's extent of participation, variables that measured sense-of-belonging (Table 2) were compared among respondents with low, medium and high level of participaton.

Table 2: Variables Measuring Sense-of-Belonging

Variables used to measure sense-of-belonging	Description
• Years of stay	1= Less than a year, 2= 2 to 5 years, 3 = 6 to 9 years, 4 = 10 to 15 years, 5 = More than 15 years
• Previous place of stay	1 = In this neighbourhood, 2 = In other neighbourhood in Subang Jaya, 3 = In this district, 4 = In other district in Kiang Valley, 5 = In other state, 6 = In other country
• Type of home ownership	1 = Own house, 2 = Rented, 3 = Owned by a family member / friend, 4 = Other
• The feeling of attachment to neighbourhood	A scale of 1 to 5 with 1 represents "None at all" and 5 represents "Very Strong", and 0 indicates "Not sure"
• The feeling of attachment to Subang Jaya	A scale of 1 to 5 with 1 represents "None at all" and 5 represents "Very Strong",
• Feel part of the community	A likert scale of 1 to 5 with 1 represents "Strongly Agree" and 5 represents "Strongly Disagree",
• Feel sorry to leave the neighbourhood	1 = Very sorry, 2 = Sorry, 3 = Do not know, 4 = Not sorry, 5 = Not sorry at all
• Number of neighbours known (based on the number of houses)	1 = Many (more than 10 houses, 2 = Not so many (about 5 to 9 houses), 3 = Few (about 1 to 4 houses), 4 = None (do not know any neighbor)

The study indicates that residents with higher level of participation have longer length of residence. The findings also indicate that residents' who have higher level of participation tend to feel more

attach to their immediate neighbourhoods and Subang Jaya. Those with higher level of participation tend to know more of their neighbours and they feel that they are part of the community. It also appears that those who own the houses in Subang Jaya have higher level of participation. This findings correspond with many previous findings on the positive association between the rootedness in the community and involvement in community activities (Hampton, 1970; Sidney et al., 1987; Wandersman et al., 1987).

Trust

Trust is the first component in social capital and is usually measured by expressions of generalized trust in people and in institutions. Trust in an important element for a society to be able to work together towards achieving a common goal in their society. Rahn and Transue (1998, cited in Fahmy and Young, 2006) claims that generalized trust is pivotal to virtually all cultural definition of social capital, referring to "a standing decision" to give most people — even those whom does not know — the benefit of the doubt" (Rahn and Transue 1988 in Fahmi and Young 2006: 103).

The prevalence of trust in a community may contribute to the formation of shared values (Fahmy, 2006), which may induce higher level of participation in planning. It has been mentioned in many previous writings that trust in government and community representatives may heighten a person's motivation to play a more active role in planning as they feel that their participation may produce something fruitful and beneficial to the community they are living in. In contrary, there are also perceptions that it is distrust that actually induce participation as the lay citizen do not have faith that the government and their representatives are doing enough to safeguard their interests and needs (Dennis, 1977).

The survey respondents were asked to state their agreement on a likert scale to the statement "most people in my neighbourhood can be trusted". It was found that the residents have high level of trust in their fellow neighbours with more than 50 percent of the respondents agree to the statement. The respondents were then requested to state their agreement on a series of questions to gauge their trust on their community representatives and politicians.

Another two statements that marked significant differences of agreement among the three groups belong to the "trust in local authority" category. It is observed that those who belong to the active group have lower agreement on the statement that the local authority is transparent in its decision-making process and that it is not necessary for them to participate as the local authority knows better than them. These findings may hint that it is actually the lack of trust in the local authority that encourages them to participate. The sentiment of distrust and that "the government just won't listen" kind of perception may be attributed from the past experiences when the resident feel that their participations were fruitless as the government still approving projects that the residents did not favour.

Implications Of The Study

This study finds some relationships between positive feelings towards neighbourhood and level of participation where people who feel more belonged to their neighbourhoods tend to have higher awareness and participation in planning. The strategy that can be drawn from this finding is for the local government to facilitate physical changes to improve the overall living quality of the neighbourhoods. Among improvements that can be made are by revitalizing parks and playgrounds, improving the traffic situation, cleaning up the neighbourhoods and making the neighbourhoods free from graffiti and money lenders advertisements. All these initiatives must not be done alone by the government, instead they should be done together with the residents. These

efforts will not only lead to the enhancement of the physical appearance and quality of life in the neighbourhoods, but also creating chances for interactions to occur, hence will make it easier for all parties to interact and co¬operate in more serious things such as in plan or policy-making.

These initiatives are seem to be taking place in Subang Jaya. Many community programs had been launched in the past. However, those who participate in these social programs are the same people who appear on public participation program. Thus, more publicity shall be made to invite more residents to join the programs. The community reps do have an important role in generating a more participatory attitude among the residents. The community must be educated and encouraged on how they can get involved.

Komito (2004) suggests that increased technology usage over 3 years in Ireland lead to increased social capital building activities, measured by increased amount of informal communication and information transfer among members of the community. Thus, the planners, community leaders should take advantage of online medium to engage with the public, instead of just monitoring from outside on the discussions made. It is worth repeating here that this medium must be made known to all residents to avoid the issues of certain groups monopolizing discussions and pursuing their own agenda, while others remain oblivious about what is going on.

Conclusion

There are just so much more needed to be done to improve the quality of participation to a higher level, but in short, the strategies must target on strengthening both parties: the public and the government. While it is important for the public to be made aware on planning process and the planners need to be creative in engaging public, what equally important factor is that the public need to be more connected to their neighbours. While it is not the planners job to foster community solidarity, however they are in position in helping in making the neighbourhoods a much more desirable place to live in which may help in promoting sense-of¬belonging. As this case study revealed, sense-of-belonging is indeed a factor that correlates with interest to participate. To sum up, planning needs collaboration and for people to engage more effectively in planning, they need to work together in order to achieve common goals and objective. Therefore, apart from focusing on improving public participation process, future policies should also be directed on social capital building.

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A SURVEY OF JAPANESE POLICY ON ISLAM AND MUSLIM COMMUNITY IN MALAYA, 1941-1945

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Abstract: *Japanese occupation of Malaya is considered to be a departure point in Malaysian history which marked a shift of colonial rule from British to Japanese. In the context of Malaya, following the successful Japanese subjugation of the land in February 1942, the High Command in Tokyo had issued a number of directives to be implemented in the occupied areas including Malaya. The High Command in Tokyo, among others had specified that regional commanders need to respect the indigenous' religion and folk customs in the occupied areas. As far as Islam is concerned, the Japanese Military Administration in Malaya seemed to have departed from Tokyo's orders in its dealing with Islam and Malay-Muslims as a whole. It seemed that the Japanese had no well-planned policy on Islam and Malay-Muslims in Malaya, nor were they sensitive to Islam and relevant issues concerning Islam and Muslims in the country. Rather Islam was used for propaganda purposes such as the frequent presence of Japanese officials in surau or mosque precincts for mobilizing people's support and occasional use of surau or mosques as storehouses.*

Keywords*: Japanese occupation, Islam, Malay-Muslims, Malaya, policy*

Introduction

During the Second World War, Japan had conquered many countries in Southeast Asian region including Malaya and Indonesia or East Indies. These two countries were merged under one administrative body during the early 1940s. The Japanese war efforts here basically aimed at accumulating the resources from the countries in Southeast Asia. For instance, Malaya was rich with minerals and forest produce while Indonesia with bauxite and oil. Japan successfully entered Malaya through Thailand and their swift action caught the British by surprise. By early 1942, the Japanese army was able to pin down the British troops in Malaya, resulting in the total surrender of the latter in February of the same year.

Having secured Malaya, the Japanese now had to administer the country which was left vacant by the British and at the same time to deal with the local Muslims who made up the major proportion of religious groups in Malaya. This paper will look at Japanese policy towards the Malay-Muslim community in matters related to Islam and Islamic practices such as the issue of observance of daily prayers i.e. Friday prayer, Muslim religious festivals such as *Eid al-Fitri* and *Eid al-Adha*, as well as marriages and divorces among Muslims. It is interesting to see to what extent was the policy subject to a greater aim of the Japanese occupation, that is to garner popular support from the locals to their rule in Malaya, and whether the implementation of the policy towards Islam and Muslims in the country was in any way effective and systematic.

Literature Review

The most significant literature in the researchers' attempt to address the issue is an article written by Yoichi Itagaki and Koichi Kishi entitled *Japanese Islamic policy-Sumatra & Malaya*. One of the authors of this article, Yoichi Itagaki used to serve as one of the research department's personnel attached to the Japanese administration in Malaya. Fundamentally, the research departments (*Chosabus*) were founded in July 1942 following a notification from the vice war minister to the Southern Army (*Nanpogun*) dated 31 July 1942 that "a decision had been made to organize *chosabus* attached to Southern Army Headquarters to serve its newly established *Gunsei* Superintendent's Office (*Gunsei Sokambu*) and *Gunsei Kambu* in the occupied southern territories".

The creation of *chosabu*, in the context of Malaya, was primarily to compile necessary information about "the overseas Chinese, the Islamic religion and its customs as well as statistics and ordinances of British colonial government" which would then be used by *Malai Gunsei Kambu* (Malayan Military Administration) in policy-planning in Malaya. Yoichi Itagaki served as the Deputy Head of Ethnic Affairs Section which was attached to *Chosabu* administration and one of the staffs of the General Research Department. In this respect, he is the most authoritative person to refer to in investigating this topic. Together with Koichi Kishi, Yoichi Itagaki has written an important literature in this field based on his knowledge and experiences having involved in the Japanese Military Administration in Malaya.

Another crucial literature in the field is a book written by Yoji Akashi entitled *Japanese Military Administration: Its formulation and evolution in reference to Sultans, Islamic religion and Moslem-Malays, 1941-1945*. This book is fundamentally based on the author's analysis of the existing Japanese documents on the occupation of Southeast Asia and Malaya in particular. This book is indeed instrumental in providing relevant information on the topic under study. The author, having the expertise and substantial knowledge of the Japanese occupation of Malaya elaborates quite extensively on matters pertaining to Japanese policy towards Malay Sultans and Islamic affairs.

That said the researchers however found that in his study, Yoji Akashi did not employ a sufficient number of local records as compared to few writers like Abu Talib Ahmad whose works deal with the impact of Japanese occupation on the Malay-Muslim population. In writing his works, the latter used various records from Department of Religious Affairs of selected states in Malaya. Accordingly, there was insufficient information in Akashi's study especially on issues related to social development of Malay-Muslims during wartime period. Most importantly, the researchers found that Yoji Akashi did not provide adequate facts on matters pertaining to Japanese policy-making nor methods used by Japanese authorities in executing policies or directives concerning Islam and Muslims in Malaya.

Furthermore, there is another significant article or literature in the field written by Akashi Yoji together with Yoshimura Mako entitled New Perspectives on the Japanese Occupation of Malaya and Singapore 1941-1945. The researchers found that this work is very substantial in providing necessary information regarding the war efforts of Japanese in Malaya and Singapore which include their policy in administering these two areas. This work also revealed the official thinking of Japanese authority, at certain point, towards the Malay-Muslims and the Malay Sultans as to secure their support and cooperation. In writing this work, both authors have utilized a variety of primary sources i.e. official documents and oral sources (interviews with eyewitnesses during the war period) which are available in Japanese and English language. These primary materials are obtained from archives in Japan, Britain, Malaysia, Singapore, Australia, USA and India. Nevertheless, the Japanese policy on Islam and Malay-Muslims was not discussed in depth possibly because one of the authors, namely Akashi has discussed the issue quite extensively in his other work mentioned previously, Its

formulation and evolution in reference to Sultans, Islamic religion and Moslem-Malays, 1941-1945.

Moreover, a work written by Abu Talib Ahmad entitled 'Japanese Policy towards Islam in Malaya during the Occupation: A Reassessment' was also essential in writing this paper. The researchers found this article very useful in the sense that it provides a kind of survey on Japanese policy in the occupied areas towards Islam practices of Malay-Muslims and the position of Islam itself. The article principally relies on existing local records found in Religious Affairs Departments of several Malay states. The article also examines the social issues of the Malay-Muslim population during the occupation period such as the rate of divorce and the issue of absenteeism during Friday prayer. The researchers however found that Abu Talib's study did not use a satisfactory number of Japanese sources, perhaps due to language barrier, which contributes to the lack of external consistency regarding the information on the Japanese policy in Malaya.

Another noteworthy work written by the same author is "The Impact of Japanese Occupation on the Malay-Muslim population", in a book edited by Paul H. Kratoska, '*Malaya and Singapore during the Japanese Occupation'*. In writing this article Abu Talib relied greatly on records of the Johor Religious (Affairs) Department to discuss matters concerning Islam in Malaya and this explains the lack of comparative analysis in regards to the Malay-Muslim practices in other states that might be different in one way or another from those in Johor. The researchers are also of the view that Abu Talib's article provides a very brief discussion on possible factors for the lack of consistency shown by the Japanese authorities in its policy towards Islam and Malay Sultans. A basic understanding regarding the shift of Japanese policy before and after 1943, which was characterized by at first 'hard-line policy' and then 'relaxed policy', as a result may not be able to be clearly understood. The author also failed to mention about the impact of Japanese occupation upon Islamic education which has been an integral aspect of the Malay-Muslim population even before the Japanese occupation of Malaya.

The other relevant work which is also written by the same scholar is *Malay-Muslims, Islam and the Rising Sun: 1941-1945*. In this book, Abu Talib (2003) has stretched the discussion on Islam and Malay-Muslim population with reference to Japanese policy to include the educational development of Malaya during the occupation like the teaching of Japanese language or *Nippon-go*, while also touched on Islamic religious instructions which were permitted by the Japanese to be taught at schools. Such information was absent in his earlier works. Another aspect which has been adequately addressed in this book was on the religious life of Muslims during the wartime like the laxness of Malay-Muslims in religious matters such in attending Friday prayer and the issue of increasing divorce rate among Muslims.

However, there was no further clarification made on how and what kind of directives imposed by the Japanese administration on religious teachers who were given the freedom to continue with the teaching of Islamic subjects at schools. Like the other work, Abu Talib (2003) also heavily focused on the religious life of Malay-Muslims in Johor like marriage and divorce patterns rather than providing adequate survey or comparative survey on other states as well. On his part, the author argued that the lengthy discussion on Johor is because it is the only state where data on marriage and divorce during the occupation is still available, although incomplete. Given the over emphasis on Johor, a generalization of the religious life of the Malay-Muslims in Malaya cannot therefore, be established. The author also has not adequately addressed the organizational set-up and the areas of jurisdiction of the Religious and Education Department or *Bunkyo-ka* formed by the Japanese. These aspects are indeed crucial in order to determine the extent of Japanese interference on Islamic religious matters.

Another no less important work in this field is a paper written by Saliha Haji Hassan entitled *Dr. Burhanuddin al-Helmi, 1911-1969*. In this work the author discussed the background of Dr. Burhanuddin al-Helmi, a renowned Malay nationalist in the 1930s and

1940s Malaya, including his education, his characters and personality, as well as his political involvement in Malaya's politics. The work mainly deals with political matters where the author has classified Dr. Burhanuddin's involvement in Malayan politics into two phases; the first phase from 1939 till 1950 and the second phase from 1955 till 1969. With respect to the topic under study, the author mentioned that Dr. Burhanuddin had been appointed as Japanese Advisor on Malay culture and customs and that he was somewhat involved in certain incidents or matters related to Islam and Muslims during the Japanese occupation of Malaya. In writing this work, she has extensively utilized a number of oral sources which include interviews with Dr. Burhanuddin's family, relatives and friends. Moreover, the author has also made use of his speeches and writings in order to assess his political ideas and views during the period of pre-independent Malaya.

In appraisal of this work, this writing owed its origin to the author's working paper presented at *Seminar Biografi Malaysia* held at University of Malaya, from 26-28 April 1986. Using a limited number of official documents available in Kuala Lumpur and London, the paper is essentially a biographical work as reflected in the title of this paper. Given the nature of the article, accordingly there is insufficient information pertaining to the Japanese rule in Malaya. Only a brief explanation was given on the position of Dr. Burhanuddin in the Japanese administration during the occupation period without details on the extent of his role and influence with respect to Islam-related matters.

Last but not least, Nabir Haji Abdullah has also written an article on a religious figure named Ustaz Abu Bakar al-Baqir who, as with Dr. Burhanuddin, was appointed as an Advisor to the Japanese administration on Malay culture and customs. In writing this article entitled '*Ustaz Abu Bakar al-Baqir Dalam Kenangan'*, the author has utilized various primary sources for instance, interviews with the subject, his relatives and friends, as well as local newspapers. In relation to the topic of study, the author mentioned that apart from acting as the Advisor to the Japanese, Ustaz Abu Bakar together with other Muslim individuals within the Japanese administration had successfully organized Islamic Conference in 1944. Nevertheless, the bulk of this article has been devoted to Ustaz Abu Bakar's roles in developing and fostering education in Malaya, specifically the Islamic religious education besides his involvement in few prominent political parties during the occupation and post-war period in Malaya. Therefore, there is only scanty information available with regard to the role of Ustaz Abu Bakar as Advisor to Japanese administration on Malay custom and Islamic religion.

Methodology of Study

Essentially, this paper is a qualitative study in nature. As a historical research, this study employed a wide range of primary sources and substantial number of secondary sources. Among the primary sources are government records and documents, and personal accounts in the form of memoirs or diaries. These materials are relevant and indispensable as they provide significant information on the administrative structure of Malaya under Japanese rule and socio-economic features of the Malayan population. Moreover, the authors have made use of interviews with a few scholars in the field notably Prof. Dr. Khoo Kay Kim and Prof. Abu Talib Ahmad. Lastly, this study also utilised library research methods by searching and gathering various materials available in both electronic and printed repositories.

Japanese Policies: Aims and Objectives

The slogan 'Asia for Asians' showed that the Japanese in their campaign favoured Asians rather than Europeans and at the same time portrayed the image of Japan as a saviour of the Southeast Asian countries from the clutch of Western colonial rule. This slogan formed part of Japanese propaganda activities in the occupied areas including Malaya. While the slogan promoted a noble objective that is to liberate the colonized Asian countries, the Japanese

authority in a way also made use of the slogan to justify its imperialistic aim i.e. to turn the Southeast Asian region into the so-called 'Greater East Co-Prosperity Sphere' in which Japan would be the leader. Having established their rule over Malaya by early 1942, it was time to devise and impose suitable policies in the occupied area while making sure local support to their rule. This in turn would facilitate the rise of Japan as the leader of Asia.

Regarding the Japanese policy towards Islam and Malay-Muslim population in Malaya, one notable scholar in this field, Yoji Akashi (1969) suggests that basically there was no initial step taken on the part of Japanese High Command in Tokyo to formulate such a policy. However, the above situation changed considerably by 1943 when the tide of war turned against Japan, thus compelled them to design a workable policy on Islam and the Malay-Muslim community.

In this regard, the first evidence of the Japanese military consideration for the issue of Sultans and Islamic religion in Southeast Asia could be traced in a paper devised by a three man study group set up by the First Bureau (Operation) of the Army General Staff. Formed in February 1942, this study group was chaired by Colonel Obata Nobuyoshi, who was at that time Chief of Staff of the Imperial Guard Division entrusted with the military conquest of Northern Sumatra. The other two fellow members were Lt. Col. Nishimura Otoji and Lt. Col. Tofuku. Lt. Col. Nishimura was the one who drafted the section on Malay Sultans and Islam in Malaya before he went to serve as chief of the General Affairs Department, Military Administration in Java, in 1944.

The work plan formulated by the group in March 1941 is called "Principles for the Administration of Occupied Southern Areas". According to this proposal, Malaya was to be positioned under the authority of the Japanese administration and formed a part of the Japanese Empire. This principle outlined that "Sultans are to be left alone" and that as the symbolic rulers, they would be supervised by the military government which shall be substituted with a consultative body once public order has been restored. Plus, it also maintained that "strict measures must be taken to respect the freedom of religion and belief as well customs in order to win the hearts of the local inhabitants". Akashi (1969), however, observed that Japan's attention and concern over the Islamic religion was relatively recent that it went back to mid-1920s and that the main Japanese interest in Islam and Muslims was essentially restricted to the physical region of the Middle East until the occurrence of Pacific War.

In line with the above principles contained in the proposal, the High Command in Tokyo adopted a 'non-interference policy' in matters concerning the Malay customs and Islamic religion. However, throughout the Japanese occupation of Malaya, one could observe that the Japanese military commanders had the liberty to make a decision regarding the manner in which a policy on Islam and Malay-Muslims was to be implemented hence, resulting in Islamic-related issues being treated in a similar fashion with other administrative matters. This situation was particularly visible in Japanese Malayan Military Administration under the leadership of Col. Watanabe Wataru. Due to his strict and bold leadership, Yoichi Itagaki and Koichi Kishi (1969; 4) maintained that:

> Strictly speaking, there was no Islamic policy proper under the Japanese Military Administration and that which was called the Islamic policy formed in fact only a part of those administrative measures which were taken for the purpose of obtaining control over the occupied people as a whole.

Moreover, in order to understand the overall attitude of the Japanese authority in Tokyo and in the Malay Peninsula towards the Muslims and Islamic religion, one may look at a number of essential policies which were laid down before 1943, that is before the Japanese was forced to become defensive in their war against the Allied forces. These policies are (1)

"*Nampo Senryochi Gyosei Jisshi Yoryo* (Principles Governing the Administration of the Occupied Areas)"of November 1941 which outlined the central codes of Japanese military administration, and (2) "*Gunsei Sokan Shiji* (Instructions of the Superintendent General of Military Administration)" of 1942 which provided the detailed regulations that need to be implemented in the occupied areas. Moreover, in the early half of 1942, the following regional rules for administration were drawn up by Japanese military forces in charge of the occupation [in Malaya and Sumatra], such as "*Dai-Nijiugogun Gunsei Jisshi Yoko* (Principles for Enforcing Military Administration by the 25th Army [Malaya and Sumatera])" and "*Marai Oyobi Sumatora Tochi ni Kansuru Shiji* (Instructions on the Administration of Malaya and Sumatra)".

Yoichi Itagaki and Koichi Kishi (1969) mentioned that the *Gunsei Sokan Shiji* (Instructions of the Superintendent General of Military Administration) of 1942 basically called for deepest respect pertaining to any indigenous religious customs and refraining from compelling the local people to believe in Buddhism or other religions. Furthermore, a similar gist prevailed in the *Dai-Nijiugogun Gunsei Jisshi Yoko* (Principles for Enforcing Military Administration by the 25th Army [Malay and Sumatera] whereby its clause on religion mentioned that, "we should protect existing religions and try as far as possible to respect folk customs based on the religions", and that "in doing so we should put the people at rest and persuade them to cooperate with our administration and policies". These directives essentially demonstrate that the central attitude of the Japanese military authority was that of non-interference policy, in order to ensure support from the people of the occupied areas. Following the occupation of most of Southeast Asian countries, in March 1942 the above policy was confirmed in a top confidential position paper, named "Fundamental Principles Relative to the Execution of the Military Government of Occupied Areas".

Apart from mustering popular support, Itagaki and Kishi (1969) maintained the policy was initially designed simply to control Muslims who formed a significant portion of the population in the country. That is, the Islamic policy was meant to facilitate Japan to conduct counter measures against nationalist and independent movements which were on the rise in the 1940s. Despite its slogan to liberate Malaya and other countries in Southeast Asia, Japan had no intention to do as illustrated in the dissolution of a Malay nationalist group, KMM (*Kesatuan Melayu Muda*) in June 1942. Furthermore, the policy was also used as a means of rallying the material and human resources of the area for the benefit of Japan in that through the support of the Malays as a result of the 'non-interference' policy, it would facilitate the acquisition of resources by Japan, which was vital to its national defence.

In relation to the religion of Islam, the issue of Malay Sultans also occupied a central position in Japanese policy given the traditional role of Sultans as the head and symbol of Islam. As outlined in the order of the central Japanese High command in Tokyo, the Sultan's religion position was to be respected since this too would facilitate the Japanese in securing support from the Malays. As mentioned by Akashi Yoji (1969) "sultans offered at least in transitional period of the occupation years, a convenient utility value to the military for pacifying and winning the indigenous Malay Muslims". That said, within the ranks of Japanese military administrators in Malaya, there were different interpretations on the role of the Malay Sultans which only shows the lack of knowledge among the officers of Malay culture and tradition. A few Japanese commanders perceived "Sultans as only secular leaders and neglected their religious authority". Given the different understanding of the socio-political aspect of Malay society, it is no surprise that this led to inconsistency in the implementation of general policy emanated from the Tokyo government.

In formulating the relevant policies, Akashi (2008) observed that there was a research department (*Chosabu*) which was responsible for compiling field reports required for policy formation. He further added that Malaya was placed under the "*Toshodai Chosabu*'s territorial

area of research" whose headquarters was stationed at Fort Canning. This research team was attached to the 25th army *Gunsei Kambu* in Singapore and it was the duty of the team to conduct study on several aspects of Malay community in Malaya and provide reports and proposals.

In terms of administration, Malaya was commissioned to the 25th Army division under the leadership of Lt. General Yamashita Tomoyuki. While the military administrative duties were entrusted to Major General Manaki Keishin, who was the deputy chief of staff of the invading army and concurrently chief of the military administration, Akashi (1969) noted that the real man behind the administration was Col. Watanabe Wataru, who simultaneously served as deputy chief of the military administration. He was given an authority to articulate and implement administrative policies by General Yamashita.

Watanabe for one viewed that it was essential to impose the policies on the indigenous people with tenacity at the beginning of occupation in order to meet the necessities of military operation. He further noted that it was deemed inappropriate to embark a military administration with a 'nonsense' policy by giving them rosy assurances and compassion. In his words, since "they [the locals] had been subjugated to British rule for so long was God's punishment. They must examine themselves to show their repentance". In view of his harsh and condescending attitude towards the local people, Watanabe felt that "the Principle Governing the Military Administration of Occupied Southern Areas" fell short of his expectation. He noted, "I could not find in the document, the principles for the construction of the Great East Asian Co-Prosperity Sphere, nor the guiding spirit for the administration of southern region". For the policy pertaining to the Sultans, he made fun of it, by saying that a policy to offer them due respect and to utilize them in obtaining Japanese aims was ridiculous. Furthermore, Akashi (1969) stated that Watanabe made a comparison between Japanese military administration in Malaya and that of East Indies by noting that "The training of personnel, indoctrination, and formulation of the military administrative policy [in Malaya] were hardly started when the invasion took place in the early morning hours December 8, 1941". On the contrary, the 16th army which was in charge of the occupation of the East Indies had planned, prior to seizure of Java in March 1942, for a religious department staffed with a number of Japanese experts on Islam for easy administration of the area.

Despite what he saw as incoherent or unsystematic policy in Malaya, Watanabe according to Akashi (1969) had complied with the instruction of the higher army circles in "respecting and protecting them in order to pacify people and to induce them to cooperate with the Japanese". Apart from Watanabe, the general policy of non-interference was also adhered to by other Japanese officials. For instance, Akashi (1969) noted that Director General of Military Administration, Lt. General Kuroda Shigenori had ordered Japanese officers "to use extreme circumspection not to impose Buddhism or other religions or Japanese morality and customs, and not to change names hastily or to institute public holidays".

Measures and Implementation of Policies

In terms of implementation of policy towards Islam and Muslim population in Malaya, again the Japanese showed lack of organisation or well-designed plan. For instance, as noted by Yoichi Itagaki and Koichi Kishi (1969), there was no particular *Shumubu* (Religious Affairs Department) in the Japanese military administration office in charge of Islamic or Muslim affairs. The Religious Departments established in Malay states during the British era were maintained and it was these bodies that regularly dealt with Islamic-related matters. In order to ensure that the States' Religious Departments did not involve in any unwanted activities that might jeopardise the interests of Japan, the so-called Japanese Advisors were appointed to oversee the proceedings conducted and matters discussed at the Religious Departments. Attached to *Bunkyo-ka* or Religious and Education Section of the Japanese Military Administration, the role of the advisors was consequently viewed by some Muslims as

interventionist, hence contradictory to the official Japanese policy of 'non-interference' in matters related to Islam and Malay customs. Abu Talib (2003) in his study on Islam and Muslims in Johor remarked that the state's Religious Department during the occupation had to deal with the "a new intruder", referring to a Japanese advisor who also acted as "the chief of *Bunkyo-ka* (religious and education section) within the Johor's state administration". Not only did the advisor attend a number of important meetings held at the department, his *Bunkyo-ka* office was also involved in the screening "of all important speeches, including those of the Sultan of Johor".

In an interview with Prof. Khoo Kay Kim, he maintained that one possible reason for Japanese advisor to be present in the meetings of the States' Department of Religious Affairs, like in the case of Johor, was because the Japanese authority wanted to ensure that no effort or attempt made by the Malay religious leaders to arouse anti-Japanese sentiment, hence threatened Japanese interests. One notable advisor appointed by the Japanese to render advice was Dr. Burhanuddin al-Helmy. He was chosen as MMA's (*Malai Military Administration*) advisor on Malay customs and religion, and stationed at Taiping. It is possible that the appointment of Dr. Burhanuddin was not merely a result of his knowledge of Malay culture and customs but more importantly, due to Japanese effort to keep a nationalist like him busy with some administrative tasks. By doing so, the Japanese could easily monitor his action thus preventing him from involving in any activities geared towards or related to independence movement.

Another person appointed as Japanese advisor similar to that role of Dr. Burhanuddin was Ustaz Abu Bakar al-Baqir, who according to Saliha (1997) and Nabir (1976) was attached to the Japanese Military Headquarters in Taiping. To what extent the post had a weight on the policy concerning Islam and Muslims, Abu Talib (2002) maintained that the position of advisor as held by Dr. Burhanuddin Ustaz Abu Bakar was simply as intermediary "of conflicting interests", namely between the Malay Sultans and Japanese authorities. The conflict can be seen for instance during one occasion where Dr. Burhanuddin was demanded by the Japanese Military Administration to petition Malay rulers to abolish the five daily prayers incumbent upon Muslims. This consequently led to uneasy feeling among Malay Sultans and masses alike.

Meanwhile, regarding the role of *Bunkyo-ka* in the administration of Islamic or Muslim affairs, Abu Talib (2002) maintained that there was no evidence as to indicate that the *Bunkyo-ka* influenced directly or indirectly the ways through which the Religious Department discharged its work, particularly over the writing of Friday prayer's sermons though some sort of screenings were made from time to time. In Johor, a few imams were reported to have prepared their own sermons and instead of submitting the sermons to Japanese authorities for checking, they were required to submit the copies to the Johor' Religious Department. Nevertheless, he mentioned that in several other states such as Terengganu and Kedah, the Japanese authority had paid a close attention on the imams though it is unclear whether the prepared sermons were screened or not for inappropriate materials.

As to whether the implementation of Japanese policy towards Islam and Muslims in Malaya was effective or systematic, evidences so far suggest that it was not. Akashi (1969), commented that there was no uniformity in the Japanese policy on Islam and Muslims as a whole as its implementation differed from one state to another. Part of the problem stemmed from the lack of knowledge about Malay custom and tradition among Japanese military administrators. The central military command in Tokyo had specified some general codes for the Japanese Military Administration in Malaya to implement. In implementing the policy however, Akashi (1969) asserted that each Japanese military commander had his own interpretation and own way in carrying out the policy. This consequently resulted in different orders and instructions concerning Islam and Muslims in different Malay states. In addition, Yoichi Itagaki and Koichi Kishi (1969) have also asserted that there was no specific department

formed by the Japanese to cater for a variety of issues concerning Islam and Muslims in Malaya, plus there were no Japanese individuals who were experts on Islam-related matters despatched to Malaya from Tokyo to advise the Japanese administration on such matters.

By the mid of 1943 some changes in the Japanese policy could be noted. Not only was the Japanese administration seen trying to be more accommodating towards the Malay-Muslim population, but also friendlier in their treatment of Islam and Muslim affairs. One such change was the formation of consultative organs in some Malay states and cities, which was announced by the Japanese authorities on October 2, 1943. Abu Talib Ahmad (1995; 2001; 2002; 2003; 2007) also noted that the Japanese implemented a number of the so called 'positive measures' such as by showing respect to the fasting month of *Ramadan*, permitting Malay-Muslims in government service to finish their working day two hours earlier than normal time, conceding breaks to Malay civil servants to celebrate *Eid al-Fitri* and *Eid al-Adha* as well as paying one month's salary in advance to the workers so that they could prepare for the religious festival.

The same moves were noted by Akashi (1969) who stated that the Japanese authority in September, 1943 had recognized and expected decline in the productivity of Muslim workers employed in the Japanese government agencies during the fasting month of Ramadan. Such accommodating attitude was also displayed by highest-ranking Japanese military administrator in Malaya, Colonel Watanabe who issued an instruction to governors and mayors whereby he asked them to pay the Muslim employees' salaries "for the month of October, along with bonus before October 10, because October 12-13, 1943 was their religious holidays". Moreover, other 'positive measures' affected by the Japanese include for instance, the presence of Japanese officers at mosques "during certain religious festivities" to provide moral support, authorizing the Sultans "to hire religious officials such as *kathis*, and reopening of Quranic classes in religious schools", the formation of state religious councils, and last but not least the organisation of two Islamic conferences, first held in Singapore (April 1943) and later in Kuala Kangsar (December 1944).

On top of all these changes, the Japanese military administration had also inaugurated the observation of Muslim holidays from March 21, 1943 onwards. These were as follows; "the Islamic New Year (January 7), January 16th of tenth day of the New Year, Prophet Mohammad's Birthday (March 18), the ascension Day of Prophet Mohamad (July 30), *Hari Raya Besar* or *Eid al-Fitri* (September 30), and *Hari Raya Haji* or *Eid al-Adha* (December 7)". Akashi (1969) described these positive gestures as signs of a more rational policy on the part of the Japanese which paved the way for the improvement of "the organization of Mohammedan Law, Mohammedan religious courts, religious education and religious authority". He also observed that the changes also affected the Malay Sultans that they recovered back some of their religious and political authority. At the same time, the Japanese administration initiated the program of re-training Islamic religious functionaries at a Japanese training school, which modelled after the re-educational activity of the Islamic *kiais* which had been ongoing in Java.

Akashi (1969) observed that the shift in the policy, which was evident from 1943 onwards, also saw the restructuring of the Japanese military administration, a process which appeared however, more superficial than real. It involved the transfer of personnel at the top leadership in the months of March and April 1943. Specifically, The *Tomi* group (25th Army division) was moved to Sumatra, while the *Oka* Group army was entrusted with the responsibility of supervising Malaya under direct control of SEF (Southern Expeditionary Forces). MMA'S director-general, Watanabe was also replaced by Major General Fujimura Masuzo in March 1943. Fujimura was not regarded a politico-military officer as his predecessor, and he was willing and prepared to get along with local civilians. He further mentioned that following the removal of strict Japanese Military Administration under what could be called as "the Watanabe Gunsei era" and the initiation of some reforms, the newly

established administration embraced a more constructive but cautious move in support of the Islamic religion in Malaya.

To understand why the favourable changes were introduced by the Japanese authorities, one cannot but to assess the general situation Japan was in at that time namely, in mid of 1943. The Japanese who had previously been victorious in the early war campaigns had now suffered from successive attacks by the Allied Powers. Consequently, they needed more and undivided support from the people of the occupied areas to sustain their rule and that required some relaxation in their policy towards the local population. This also applied to matters related to Islam and Muslims in Malaya where favourable policy would likely result in greater support to the Japanese rule.

However, it should be noted here that amidst the introduction of more friendly policies, some precautionary measures were implemented by the Japanese government. For instance, while Muslims were allowed to celebrate religious festivals they were required to obtain beforehand permits from the Japanese authorities. Abu Talib (2003) further asserted that any religious official, who wished to give any public talks, whether at mosque or other places, was required to secure prior approval from the Japanese administration. While the acquisition of permits and approval from the Japanese government ensured that such public events would not involve any anti-Japanese elements, there were also instances of the Japanese being sheer insensitive with regard to Islamic practices, which leads one to question their sincerity in introducing the more friendly policies. This can be seen in the case cited by Abu Talib (2002) where Dr. Burhanuddin was ordered by the Japanese during the late period of occupation to petition Malay rulers to abolish the obligatory five daily prayers. Furthermore, Abu Talib (2002) asserted that previously in Selangor, the Japanese authority through *Hodosho* (Office of Help-and-Guide), which comprised of important local Malays including Pak Samad, yet was headed over by the Japanese governor, had tried to acquire a decision that Malay-Muslim soldiers were to be permitted not to fast during the coming of *Ramadan*. However this demand was politely declined by the Malay-Muslim members of the *Hodosho.*

More indications of the shift in Japanese policy towards Islam and Muslims are the Conferences of Muslim leaders held in Singapore and Kuala Kangsar in 1943 and 1944 respectively. In relation to these events, Akashi (1969) observed that the conference held in Singapore on April 5-6 and attended by representatives from Malaya and Sumatra was made to look as if it was planned by the Muslims themselves, though in actual fact, it was organised and sponsored by the Planning and Education sections of the Japanese Military Administration. The aim of this meeting was to secure the confidence of Muslim public through Muslim leaders, to instil the Japanese interpretation of the world into the people's thoughts, and to tie "all religious groups, including Mohammedans, Christians, Buddhist and Hindus" into one large community under Japanese rule.

The agenda of the Japanese was clear. This is reflected in the opening remark of Major General Isoya Goro, a new Director of the Japanese administration during the conference who reiterated the respect that Japan had for that "local religions, customs and cultural heritage" and called the Muslims "to share the burden of the war to its end and share difficulties of food shortages and daily necessities". It appeared that the conference did arouse some satisfactory and positive comments from the participants and religious leaders of both Malaya and Sumatra. Akashi (1969) mentioned that one of the participants expressed his disbelief that he could actually join the event attended by high-ranking Japanese officials, since the locals had never been invited to participate in such an event under the colonial administration, either of the British or the Dutch. The meeting was said to have been successful enough even to encourage some of the Japanese officials to take a more positive step in mustering the people's confidence by allowing the Malay-Muslims to have more voice in matters concerning their politico-religious affairs.

The second conference held in 1944 at Kuala Kangsar was attended by religious leaders of different Malay states (except Perlis, Kedah, Kelantan and Terengganu-that had been transferred to Siam and former Straits Settlements of Penang, Melaka and Singapore). At this conference, the Muslim religious elites elaborated on the following points, namely "the need for uniformity regarding the Muslim calendar for all states"; the necessity "to establish a 'national' committee of Islam for the whole of Malaya"; and "provisions allowing religious authorities to take legal action against Muslims in Melaka, Penang and Singapore (the former Straits Settlements where there were no Malay rulers) who openly defied Islamic laws". In addition, the representatives also discussed the necessity of allowing religious authorities to punish Muslims, who were involved in vice such as gambling; the need to put pressure on the MMA to permit Muslims in the army to fast during *Ramadan*; and a proposal on "approval for teachers to conduct religious classes among army/police personnel". Lastly, the Muslim religious authorities did also forward their suggestion for Muslims to be allowed adequate lunch time so that they could perform their Zuhur and Friday prayers.

It is noteworthy that during the conference, the Muslim religious delegates decided to ask their fellow Malay-Muslims to cooperate with Japan in order to accomplish the final aims of the Greater East Asian war by:

(1) requesting donations for war needs (something the Pahang religious elites did energetically in early in 1945);
(2) instructing people to collaborate wholly with *Dai Nippon*;
(3) persuading people to increase food production;
(4) safeguarding the law and order continuously so as to remain effective in Malaya; and
(5) praying for the speedy end of the war with victory for Japan

Abu Talib (2002) observed that it was something uncertain whether these resolutions had been accepted by the MMA, although he noticed that some State Islamic Councils later became more active in administering numerous aspects of pre-war Islamic enactments, bringing to Shariah court a number of individuals who were absent during the Friday prayer without any legitimate reasons, and charging Muslims who were found to be involved in gambling activities. Abu Talib (2002) also noted that in the aftermath of the conferences, there was less signs of MMA's intervention in religious matters although Japanese officers were still constantly attending State Islamic Councils' meetings in various Malay states. For example, in Pahang, there were six Japanese representatives including the Japanese governor, Hashigawa, who had attended the council meeting on 25 July 1945, sitting at the same table with the Sultan and the Tengku Besar of Pahang (who was in charge of the Department of Religious Affairs for the State of Pahang). In this meeting, there were only three state religious officers present, namely the State Mufti, the Kathi of Pekan, and an officer named Haji Muhammad Daud.

Apart from the deteriorating wartime circumstances, Akashi (1969) asserted that the shift of Japanese policy was probably due to the increasing difficulty faced by the Japanese authority in their pacification of anti-Japanese elements within the county, spearheaded by the Malayan People's Anti-Japanese Army (MPAJA), and the growing grievances among the locals who started to voice complaints against the Japanese Military Administration following "economic difficulties, spiralling inflation and scarcity of daily necessities".

In calling for support from the locals, it is noteworthy that the Japanese also attempted to accommodate Islamic teachings with Japanese ideas. Following the Conference of Sultans in January 1943, Abu Talib (2002) observed that the Japanese commander (*Gunshireikan*) had mentioned three key issues in a lengthy speech that according to him resembled a Friday sermon. These three issues were namely, the real teachings of the Quran, the similarity between Islam and Shinto, and the Greater East Asian war as a holy war. Abu Talib (2002) noted that

generally, the Japanese tried not to touch on the issue of the divinity of the emperor, which he maintained as an object of detestation to Muslims, but no such reservation displayed in the speech of the *Gunshireikan*. He said to the delegates that "in essence all religions were the same, and the teachings of the Quran were similar to those of Shinto, Japan's indigenous religion".

Abu Talib (2002) further added that in this occasion, the Japanese Commander concluded by highlighting a strong similarity between the Quranic revelations and the character of the *Tenno* (Japanese emperor), which according to Japanese belief, originated from the sun goddess or *Ameterasu Omikami Sama.* Abu Talib (2002) mentioned that the representatives would definitely have found these declarations hard to accept, for at times the *Gunshireikan's* descriptions found to be near equal to an act of blasphemy, particularly when he linked Japan's war efforts to the Prophet Muhammad's (pbuh) *jihad*. However, he noted, at that occasion no one was courageous enough to refute his understanding. This shows the ignorance on the part of Japanese officials of the true nature of Islam since they mainly concerned with more than anything else, how to do propaganda in order to get people to support their rule rather than the real truth.

Conclusion

In retrospect, one may observe that the Japanese policy on Islam and Malay-Muslims in Malaya was rather politically motivated that is it was mainly designed to serve the Japanese's war aims. They realized the fact the Malay-Muslims made up a substantial number of Malayan population and therefore, to secure their support and cooperation would be a matter of grave importance for the Japanese authority in Tokyo and Malaya. It can be observed the Japanese policy on Islam and Sultan was merely declarative and superficial in nature where it was occasionally altered depending on the force of circumstances and changes involving Japanese military personnel in Malaya throughout the war.

Another interesting thing to observe is that in principle, the Central High Command in Tokyo had made it clear that it was the intention of the Tokyo government to give due respect to local customs and religion in the occupied territories including Malaya. Nevertheless, during the early years of Japanese occupation in Malaya, there were a number of occasions where the Japanese authority did not strictly observe what had been deliberated in Tokyo in relation to non-interference policy in matters concerning Malay customs and Islamic religion including their treatment towards the Malay Sultans. They did so, undoubtedly quite in a subtle way. As the course of war changed unfavourably towards Japan, it eventually forced the Japanese authority in Malaya to alter their way of dealing with Islam and Malay-Muslims that is to be more accommodating and obliging than before.

All in all, this paper demonstrates that the Japanese authority, having no conclusive policy on Islam and Malay Muslims by the time they first stepped into Malaya, left the MMA in the occupied territories in general and Malaya in particular to its own devices on how to work out and implement the directives coming from Tokyo, which eventually resulted in an ineffective and to a certain extent, insensitive policy towards the indigenous religion and people.

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DETERMINANTS OF BORROWER'S INTENTION TO REPAY THE PTPTN LOAN: PLS-SEM METHOD

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Abstract: *This study investigates the determinants of borrower's intention to repay PTPTN loan. Using questionnaire and partial least squares (PLS) structural equation model, this study examines the relationship between roles of media, human interaction, attitude of borrower and repayment alternatives that influence the borrowers' intention to repay the loan. The results show that borrower's attitude, awareness from media and repayment alternatives influence the borrower's intention to repay PTPTN loan. In terms of gender comparison, this research indicates there are differences between males and females with regard to awareness from media, borrower's attitude and repayment method. The results obtained from this research hopefully will help PTPTN and policymakers to develop better strategies to ensure the repayment conditions would not become a burden to both government and the public.*

Keywords*: Education Loan Repayment, Attitudinal Influence, And Behavioural Intention.*

Introduction

When students start to enrol in higher education institutions, they will obtain educational loans to pay tuition fees and living expenses. In view of the increasing number of students obtaining educational loans from government agencies, concerns regarding loan repayment have also increased as loan default is undoubtedly a growing problem which leads to high research attention in the past decades (Ismail, 2011). Moreover, Subashini and Duraisamy (2016) revealed that educational loan repayment is an issue which has been frequently discussed in the mainstream media. Furthermore, according to Dillon and Smiles (2010), the occurrence of economic downturn and a tight job market increase the difficulty of borrowers to make repayment.

The National Higher Educational Fund Corporation (also known as Perbadanan Tabung Pendidikan Tinggi Nasional or PTPTN) was formed in 1997 by the Malaysian government to

distribute loans to local students who study at polytechnics as well as public or private tertiary education institutions. Borrowers who graduated with 1st class honours received a waiver of PTPTN loans from 2015 onwards. Over the past decade, a tremendous increase in the approval of loan applications was observed, from 88,372 in 2000 to 193,922 in 2015 (Ong, Jonathan, Chew and Dickson, 2016).

Repayment of educational loans has recently gone up, but it still remains a major problem for Malaysia which makes Malaysia one of 70 countries that suffer from a high educational loan default rate (Ismail, 2011). More than 80% of Malaysian students took PTPTN loans but a total of RM5.4 billion borrowed by 661,262 borrowers remained unpaid as at 29th February 2016 (Malay Mail Online, 2016). However, as at 31st January 2017, the outstanding amount decreased to RM4.7 billion as revealed by Zainudin (2017). Despite this, Zainudin (2017) further indicated that the repayment rate is still considered low as PTPTN has granted a total of RM48.7 billion in loans since 1997 but only RM10.8 billion has been repaid by the borrowers.

In a study conducted by Abu, Masud and Jusoh (2006), they indicated that borrowers' intention to repay educational loan is still an interesting topic for further investigation as borrowers' willingness is more important than their abilities to make repayment. This statement is also supported by Volkwein and Szelest (1995). Ismail, Singh and Sahiq (2012) further added that if policy makers over-estimate or make overly optimistic assumptions of borrowers' willingness to repay, it may cause the whole educational loan scheme to be misplaced and goal unachieved. Hence, it is imperative to study the borrowers' intention to make repayment and the underlying factors.

This research aims to examine the relationship between the roles of media, human interaction, and attitude of borrower and repayment alternatives that influence Malaysian borrowers' intention to repay loans, by distributing questionnaires to educational loan borrowers from all states in Malaysia. The results of this study are useful for policy makers to design a better loan repayment scheme by knowing the factors that influence borrowers' intention to make repayment. Policy makers can also carry out a series of corrective actions to boost loan repayment rate among Malaysian borrowers once they understand the reasons behind low repayment intention. Consequently, higher loan repayment rate could be observed and thus, more funds could be lent to local students to enrol in tertiary education institutions. Other than that, this study serves as a reference for academicians who intend to conduct similar research in the context of other countries.

The research objectives are stated as below:

1. To examine the relationship between awareness from media and borrower's intention to repay education loan.
2. To examine the relationship between human interaction and borrower's intention to repay education loan.
3. To examine the relationship between attitude of borrower and borrower's intention to repay education loan.
4. To examine the relationship between educational loan repayment alternatives and borrower's intention to repay education loan.

This study is organized in the following manner. The next section includes a comprehensive review of existing literature on awareness by media, human interaction, attitude and repayment alternatives towards intention of repayment of education loan. Section 3 describes the details of the questionnaire, procedures of data collection, sample selection and data analysis method. Section 4 reports the findings, followed by a section that concludes the study.

Literature Review

There are various factors that can influence the intention to repay educational loans. The awareness created by media, human interaction, attitudes of the borrowers and alternatives on loan repayment are some of the main factors.

Intention To Repay The Loan

Education loan is the main source of financing among college and university students. A study by Hira, Anderson and Peterson (2000) found that more than half of the respondents stated educational loan helps them to have a better life. In the same study, those students who are unable to estimate their total debt are more concern about their debt repayment. They also believe that the size of the borrowed loan will influence their decision to purchase new car, married and had children. Some studies in the U.S. also found that students have little knowledge on certain aspects regarding their loan (Hira et al., 2000). According to Ajzen (1991), in order to predict the actual behaviour, intention can be one of the factors. For instance, students that have a positive evaluation of loan repayment will have a greater intention to repay their loan.

Awareness Created By Media

Awareness on loan repayment refers to the consciousness of the student in having enough information regarding their responsibility in paying their debt. Volkwein et al. (1998) discovered that students perceive that their loan is compulsory. Moreover, families and students admit that education loan is the indispensable target (Ismail, Serguieva and Singh, 2010). Thus, loan default is not because of consciousness and misinformation. They also found that three out of four students are not aware of the options regarding loan deferment. Furthermore, a study by Hira et al. (2000) found that even if students are in the same course in the same university, their awareness regarding the debt they borrowed is different. Information received by the student is from many sources. Hence, assessing these sources enables one to gauge their effectiveness in engaging the awareness on debt among youngsters (Grolnick and Slowraczek 1994). Students are now becoming information technology (IT) literate, and depending on the internet to get faster information. As a result, it will increase the awareness amongst young people because of this effectiveness in getting the information. Therefore, this study hypothesizes that:

H1: There is a significant relationship between awareness from media and borrower's intention to repay education loan.

Human Interaction

Jessor and Jessor (1977) have identified that parental influence can be direct or indirect. They also added that generally, youngster's behaviors are influenced from their parent's support. Otto (2000) in his study discovered that ninety-three percent of the respondents had the same views as their parents when they were asked regarding the value of a college education. Moreover, teenagers who always talk with their parents about positive attitudes will behave with positive attitudes compared to those teenagers who seldom talk with their parents. Since childhood, human behavior and attitudes are learnt from family and remain throughout their life (Hakwan, Robert, Patrick and Richard, 2004). Loan agreement is a contract between two parties, which is the organization as the creditor and the student as a debtor. Abu et al. (2006) discovered that university students are knowledgeable regarding the loan agreement and repayments. Most of the students were familiar with the NHEFC loan agreement, and there

was only a small percentage who had no knowledge of or did not understand the loan that they had. Volkwein and Alberto (1998) found that, in the western context, in the case of default on loan repayment, lack of knowledge is not a strong factor. A survey by them revealed that ninety-three percent of borrowers realized on the loan that need to be paid; on the other hand, one out of four borrowers were confused on the repayment terms and process. Several studies in the USA found that senior students have better knowledge compared to first-year students regarding certain aspects of their education loan (Hira et al., 2000). Lamkin (2004) and Fossey and Bateman (1998) stated that education loan might affect the future life of borrowers upon their graduation if they do not understand the agreement well. Students that are funding their education with loans are accumulating debt that can affect their life decisions and career for years to come. Therefore, this study hypothesizes that:

H2: There is a significant relationship between human interaction and borrower's intention to repay education loan.

Attitude On Loan Repayment

Attitude on loan repayment can be either positive or negative. Hence, for the debt repayment, positive attitude is found to be an important predictor. According to Livingstone and Lunt (1992), borrowers repay their loan because they are more concerned about their self-direction and personal achievement. Furthermore, students will have a positive attitude on loans when they believe that loans can give value in their life. Several studies found that student loans are beneficial to them when they can achieve good things in their life through borrowing (Baum & O'Malley, 2003; Christman, 2000). Conversely, there are also studies that found student loans to have negative effects, where borrowers feel burdened and not very satisfied with the advantage of borrowing. For instance, African-American students and students with low-income family background agreed that they felt burdened on their loan (Boyd,1997; Volkwein &Szelest, 1995). A study by Abu et al. (2006) in one public university in Malaysia for undergraduate students, found that students have a negative attitude with regard to repaying their loan. In the same study, 51% of respondents agreed that loan repayment is not easy. Furthermore, a negative attitude towards loan instalment has been identified amongst African-American, unemployed, female and married (Yieh, 1996).

H3: There is a significant relationship between attitude of borrowers and borrower's intention to repay education loan.

Alternatives On The Repayment

In order to facilitate and encourage borrowers to pay their educational loan, several incentives were given to the borrowers to repay the PTPTN loan. A fifteen percent discount would be given for full settlement of outstanding debt and a ten percent discount would be given for payment of at least fifty percent of the outstanding debt. Another incentive is that, borrowers who are repaying their debt directly or through salary deduction will enjoy a ten percent discount. Therefore, this study hypothesizes that:

H4: There is a significant relationship between educational loan repayment alternatives and borrower's intention to repay education loan.

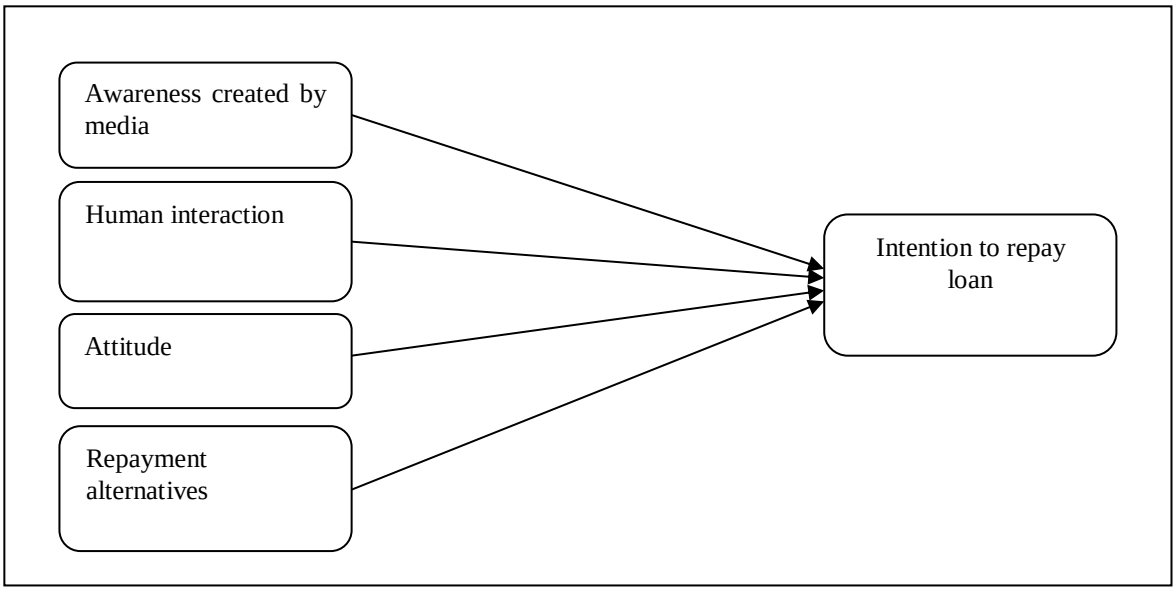


Figure 1: Research framework of the determinants of borrower's intention to repay the PTPTN Loan

Research Methodology

Data collection

The data was collected using structured questionnaire survey. The survey instrument was developed by adopting survey validated questions used in previous studies and were assessed using 5-point Likert scale. The developed questionnaire consists of three sections: in section A, the focus is on collecting information related to demographics of the respondents. In section B, the main focus is to collect data related to sources of information (such as awareness from media, human interaction, and attitude) towards intention to repay education loan among university staff. Section C is related to respondents' comments on further steps for loan provider to collect the educational fund effectively. A total of 500 questionnaires were distributed to academic and non-academic staffs in the whole of Malaysia by using convenience sampling technique out of which 215 responses were collected.

Data Analysis

This study employed the sample size of 215 respondents with the following descriptive characteristics: 40.9 percent males and 59.1 percent females. The majority are single respondents within 25 years old to 35 years old. Most applicants applied for one-time PTPTN loan for their bachelor degree in which the range fell between RM10,000 to RM30,000. Around 40 percent of the applicants will select deduction method from salary to repay their PTPTN loan.

Table 1: Demographic profile of respondents

		Frequency	Percent
Gender	Male	88	40.9
	Female	127	59.1
Ethnicity	Malay	57.2	57.2

	Chinese	38.6	38.6
	Indian	0.5	0.5
	Other	3.7	3.7
Age	<25	51	23.7
	25-35	112	52.1
	36-50	51	23.7
	>50	1	0.5
Marital Status	Married	94	43.7
	Single	121	56.3
Salary	<RM2500	64	29.8
	RM2501-RM3500	49	22.8
	RM3501-RM4500	38	17.7
	RM4501-5500	25	11.6
	>RM5500	39	18.1
Education Level	Diploma	15	7
	Bachelor Degree	168	78.1
	Master	29	13.5
	Other	3	1.4
Occupation	Academic Staff	66	30.7
	Non-Academic Staff	149	69.3
Times Loan Application	1 time	167	77.7
	2 times	47	21.9
	3 times	1	0.5
Total Borrowing	<RM10000	21	9.8
	RM10001-RM20000	60	27.9
	RM20001-RM30000	61	28.4
	RM30001-RM40000	37	17.2
	>RM40001	36	16.7
Repayment Method	EPF	25	11.6
	Discount	13	6
	Deduction	87	40.5
	Exemption	8	3.7
	Randomly	82	38.1

All collected data were analysed using Statistical Package for Social Science (SPSS) version 23 and partial least squares (PLS) structural equation model. Partial Least Squares (PLS) model analyzes and interprets in two stages. In the first stage measurement model evaluates and in the second stage structural model evaluates. The measurement mode evaluates the relations between observed items and latent variables. The measurement variable model examines through assessment of validity and reliability of the construct measures in the model. This ensures that only reliable and valid constructs' measures are used for assessing the nature of relationship in the overall model.

Measurement Model

Convergent validity

First, the convergent validity, which is the degree to which the multiple items that are used to measure the same concept are in agreement, was tested. As suggested by Hair, Black, Babin and Anderson (2010), the factor loading, composite reliability and average variance extracted were the indicators used to assess the convergent validity. The loading for all items exceeded the recommended value of 0.6 (Chin, Gopal and Salisbury, 1997). The composite reliability values (see table 1), which depict the degree to which the construct indicator indicates the latent construct, ranged from 0.791 to 0.889, which exceeded the recommended value of 0.7 (Hair et at., 2010). The average variance extracted, which reflects the overall amount of variance in the indicators accounted for by the latent constructs, were in the range of 0.432 to 0.652, at least in the point of the recommended value of 0.5 (Hair et al., 2010).

Table 2: Factor loading and reliability

Items	Loading	Composite Reliability	Average Variance Extracted	Cronbach Alpha
a1	0.655	0.801	0.446	0.696
a2	0.685			
a4	0.662			
a5	0.676			
a6	0.664			
b1	0.603	0.791	0.432	0.683
b2	0.661			
b3	0.637			
b4	0.679			
b5	0.702			
c1	0.863	0.882	0.652	0.820
c2	0.866			
c4	0.751			
c7	0.742			
d2	0.619	0.853	0.596	0.768
d3	0.861			
d4	0.842			
d5	0.741			
e1	0.747	0.889	0.572	0.850
e2	0.790			
e3	0.786			
e4	0.788			

e5	0.689
e7	0.733

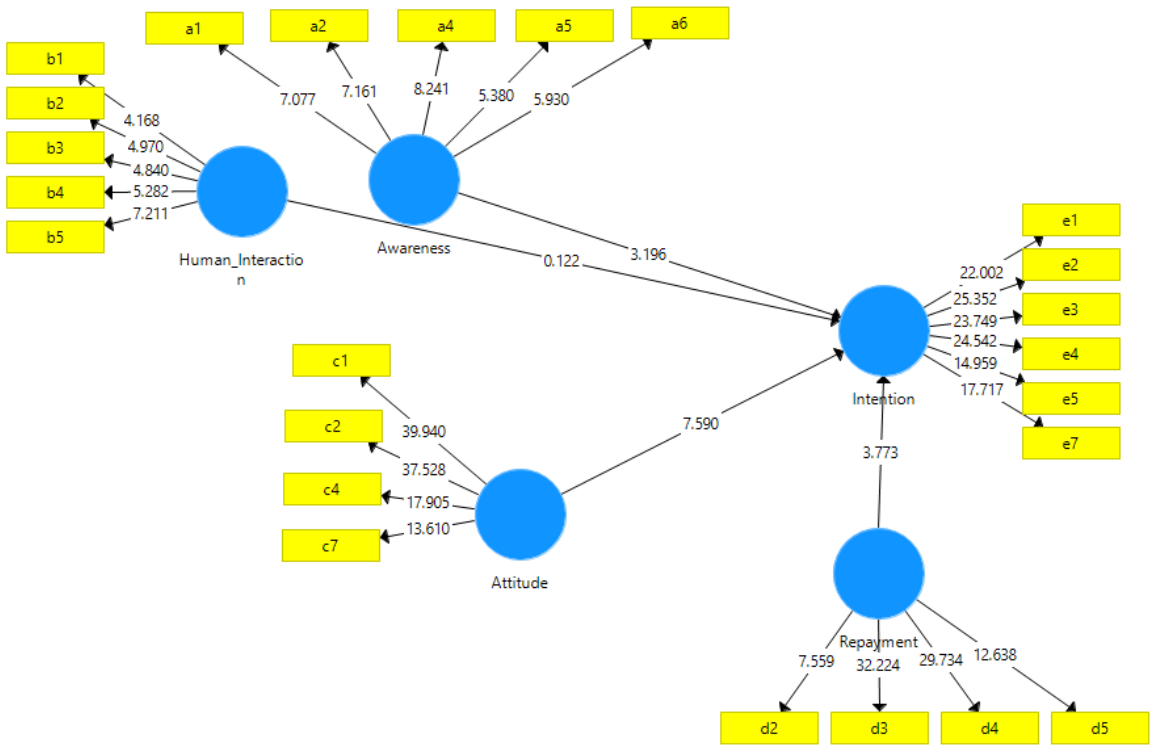
Discriminant validity

Discriminant validity is the extent to which the measures do not reflect other variables and it is indicated by low correlations between variables by examining the comparing between average variance extracted (AVE). Based on the formula by Fornell and Larker (1981), it requires that square root for each construct's (AVE) be higher than all its correlation with other constructs. As shown in Table 3, the squared correlations for each construct were less than square root of the average variance extracted, so it can be inferred that the constructs have a good level of validity.

Table 3: Inter-construct correlation

	Attitude	Awareness	Human Interaction	Intention	Repayment
Attitude	0.808				
Awareness	0.161	0.668			
Human Interaction	0.309	0.329	0.657		
Intention	0.642	0.325	0.279	0.756	
Repayment	0.522	0.208	0.281	0.563	0.772

Structural Model



Source: Developed from research

Once the reliability and the validity of the measures are assured, path coefficients can be reported based on the results of a PLS structural model. Table 4 shows the significance of the

path coefficients. The t-value can be compared with critical value form the standard normal distribution to decide whether the coefficients are significantly different from zero. For instance, the critical value for significance levels of 5 percent probability of error is 1.96 (two-tailed test). In this study, the results showed that borrower's attitude, awareness from media and repayment alternatives are the most significant factors that influence borrower's intention to repay PTPTN loan as agreed.

Table 4: Summary of the structural model

Description	Hypothesis	Path coefficient	t-value	Results
Attitude -> Intention_	H1	0.466	7.590	Supported
Awareness -> Intention_	H2	0.193	3.196	Supported
Human Interaction -> Intention	H3	-0.008	0.122	Not Supported
Repayment -> Intention_	H4	0.282	3.773	Supported

*p≤0.05

Table 5: PLS-MGA (Difference between male and female borrowers)

Description	Path Coefficients (Male)	P Values	Path Coefficients (Female)	P Values	Remarks
Attitude_ -> Intention_	0.506	0.000***	0.540	0.000***	Difference exist
Awareness_ -> Intention_	0.106	0.153	0.245	0.000***	Difference exist
Human Interaction_ -> Intention_	0.053	0.568	-0.030	0.733	No Difference exist
Repayment_ -> Intention_	0.344	0.001***	0.311	0.000***	Difference exist

Note: all p-values are two-tailed, * significant at 0.05, *** significant at 0.001.

Further, a non-parametric multi-group analysis (PLS-MGA) method is conducted to see whether there is a significant difference between female and male borrowers to repay PTPTN loan. A difference is significant if the p-value is smaller than 0.05. As seen from Table 4, path coefficients for awareness from media, borrower's attitude and repayment method differ significantly across the male and female groups at 0.05 significant level.

Conclusion and Discussion

The main objective of this research is to investigate the determinants of borrower's intention to repay their PTPTN loan. The findings showed that the borrower's attitude, awareness from media and repayment alternatives but not human interaction were the factors that influenced the borrower's intention to repay PTPTN loan. In terms of gender comparison, this research indicated that there were differences between males and females in awareness from media, borrower's attitude and repayment method. The combination of printed material, the PTPTN website, television and radio, social media and events organized by the loan providers equipped borrowers with information to help the loan repayment plan. It is consistent with the findings of the previous researches (Grolnick & Slowraczek, 1994; Abu et al., 2006; Volkwein & Szelest, 1995; Ismail et al., 2012). As markets where awareness of education loan repayment remain low (as indicated by Subashini & Duraisamy, 2016; Dillon & Smiles, 2010; Ismail, Serguieva & Singh, 2011; Zainudin, 2017), our findings showed that successful media

channels can motivate the borrowers towards loan repayment. Moreover, it is worth suggesting that innovative public sources can help PTPTN to refine and the payment of loan to be more efficient as a means to alleviating default payments by the borrowers.

In addition, the borrowers' attitude played a significant role in educational loan repayment. The pressures pertain not only to educational loan but also other debts among the graduated students from academic institutions (Zainal and Ismail, 2012). Despite the financial burden they had to bear, this research showed that the borrowers still made good faith efforts to repay the loans. Ismail et al. (2011) stated the problems that are related to attitude and loans are seldom touched upon and understood from a financial or debt management perspective. Thus, this research concerning borrowers' attitudes is important and useful to PTPTN and policymakers to understand further their borrowers' discernments in paying back the loans. By taking this lead, it will be able to yield an understanding to develop the right attitude regarding financial planning and management which meets borrowers' needs.

In a bid to make the loan repayment more convenient, the introduction of existing alternative methods (e.g. EPF withdrawal, discount incentive, direct debit, salary deductions and online payment system) by PTPTN so that borrowers may opt to repay their loans clearly continues to help them to make payments on time or work towards an early settlement. This shows that these payment alternatives in loan repayment can be a powerful tool to reduce the delinquency in education loans. This makes it possible to suggest to the loan provider to revise alternatives on the repayment periodically to precede the success of lower loan defaults. In conclusion, the findings from this research are relevant not only to academic researchers, but also to PTPTN and policymakers to comprehend better specific strategies and other related matters in making sure that borrowers are likely to comply with the repayment conditions so that it would not become a burden to both government and the public.

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GREEN MAINTENANCE FOR HERITAGE BUILDING: A PERSPECTIVE ON LATERITE STONES REPLACEMENT

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Abstract: *The benchmark emphasised in research for maintenance of heritage building had been vitally set to support a sustainability concept. The discussion revolves throughout the economic, societal and environmental parameters. Primarily, low carbon repair had been given the main privilege in achieving sustainable repair and this was supported by 'Green Maintenance' concept and methodology. Previously, laterite stone replacement technique was recognised as a sustainable repair technique in term of their embodied carbon expenditure over a number of repair scenarios, represented by the total Environmental Maintenance Impact (EMI). The total of EMI is calculated through formulaic expression within 'cradle-to-gate' boundary of Life Cycle Assessment (LCA). Hence, this paper presents a detailed process of laterite stone replacement of heritage building located in Melaka Historical City, Malaysia. In the lens of 'Green Maintenance' concept and methodology, this paper also highlights the series of laterite stone extraction associated with the characteristic of laterite stones for heritage building purpose, quarrying method that reflects the energy content (carbon impact) and also the transportation impact. It is found that limited resourcing location is a main contributor of* CO_2 *emissions in stone replacement technique. Significant effort should be done in re-opening old quarry or using salvaged material to reduce* CO_2 *emissions in laterite stone replacement. Implicationally, 'Green Maintenance' had been proven as a practical tool in assisting the conservation players in making precise and nuanced decision-making in selecting the most sustainable repair in heritage building maintenance.*

Keywords*: Green Maintenance; Embodied Carbon Expenditure; Sustainable Repair; Laterite Stone; Heritage Building; Melaka*

Introduction

Presently, the knowledge of maintenance had been wisely established due to conservation movement start in early 17th century (Kennedy, 2015). The ethic and principles as pillar of conservation philosophy of maintenance had been popularised by Forster (2010a; 2010b) read as least intervention, like for like material, honesty, integrity etc, mainly to ensure the high quality of repair. However, the existing implementation of maintenance is almost centred to the cost and budgetary allocation (Kayan and Forster, 2009). Whereas, the cost of repair is often perceived to be greater due to the usage of traditional materials and technique, specialist conservator operating in a market that associated with the high quality of craftsmanship (Forster and Kayan, 2009). Emphasised that the benefits accrued from investment of good maintenance are worthy in lowering the expenditure in long run and as an

asset, the value of heritage building will increase according to the quality of maintenance (Lateef, 2009).

In term of environmental, heritage building is often claimed as a burden in terms of environmental performance (i.e. energy efficiency) that some urge the need of demolition or reconstruction (Cinieri and Zamperini, 2013). In contrast, it is noted by Bell and Lowe (2000) that demolition of heritage building does not guarantee the sustainability of environment even 40% of the materials are recycled (Mickatyte et al., 2008). Clearly, the 'green issues' of heritage building should be taken in a serious manner as environmental impact of heritage buildings is irreversible and the value embedded in their fabric is also irreplaceable (Earl, 2003, Pp. 3). Presently, maintenance had been largely accepted as necessary conservation activity as it provide an eloquent advantages from the aspect of cost, philosophical defensible and also capable of reducing environmental impact in the sustainability facets. Emergently, 'Green Maintenance' envisioned by Forster et al., (2011) had plays a vital role to promote low environmental impact of maintenance and repair through embodied carbon expenditure. Embodied carbon is principally known as CO_2 emissions released through the process of extraction, manufacturing, transportation of materials that consume a fair amount of energy in terms of electricity and fuels in maintenance and repair (Giesekam et al., 2016). It is the fact that 10% of CO_2 emissions are contributed from material sectors with the proportion of 70% and 15% associated with manufacturing and transportation respectively (English Heritage. 2007). In which, maintenance and repair of heritage are heavily depends on material sector. Ideally, 'Green Maintenance' concept and methodology provide the assessment of total embodied carbon expenditure represented by Environmental Maintenance Impact (EMI) and longevity of repair (frequency of repair) of maintenance intervention within 'cradle-to-site' of LCA boundary. Thus, the integration of EMI would encourages decision maker (authorities and conservationist) to align the environmental parameter inclusively with philosophical and budgetary concern to make a comprehensive, practical and informed decision making process prior to the selection of the most sustainable repair. The quantification approach of CO_2 emissions in maintenance and repair will be discussed in later section. On top, as the carbon abatement and green procurement is progressively became a critical concern; therefore this concept and methodology on quantification of CO_2 emissions contributed by maintenance and repair will be positively welcomed.

'Green Maintenance' Methodology

Theoretically, the correlations between CO_2 emissions are associated with number of repair, repair type and material usage as well as longevity of repair (frequency of repair) illustrated in represented in Equation 1 and Figure 1 (Kayan, 2015). Figure 1 shows the implication on undertaking maintenance and repair characterised by its longevity (l) and embodied carbon expenditure (Ce) in the service condition of heritage buildings over time. The downward sloping signifies the decline condition of the building where each intervention is important to keep the buildings at the optimal service condition, however also contributed to significant amount of CO_2 emissions through material requirements (extraction, manufacturing and transportation of material). Hypothetically, the more frequent of maintenance intervention, the greater embodied carbon expended (Forster et al., 2011). Commonly, preference is given to repair technique with higher longevity that subsequently incurred lesser number of repeated interventions and lesser-embodied carbon expenditure. Emphasised that there is another variables that should be considered; resourcing location, degree of exposure, building detailing, mode of transportation, technological development, quality of work and specifications (Kayan, 2015). Noted here, there are various mechanisms suggested in this concept and methodology to attain the reduction of CO_2 emissions in maintenance and repair such as usage of locally

sourced repair materials, engagement of companies to undertake repair work and selection low embodied carbon.

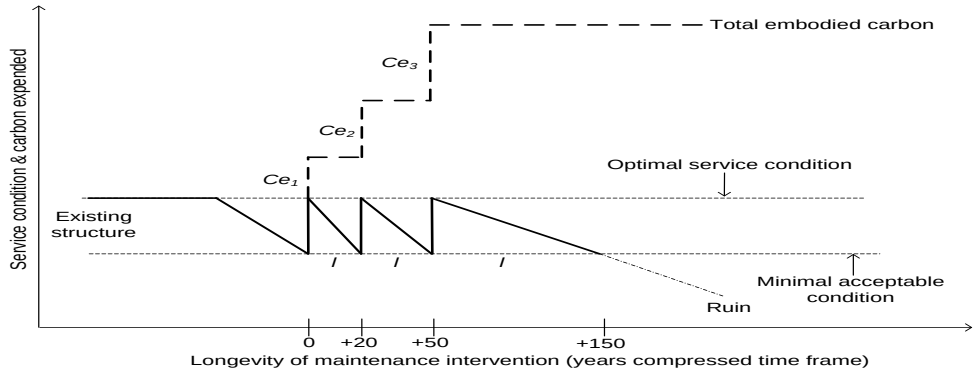

Figure 1: Relationship Between Longevity Of Repair And Embodied Carbon Expenditure
Source: Forster Et Al., (2011) Kayan (2013)

The total embodied carbon expended in the maintenance over a life span of buildings is calculated through a specific calculation procedure in following equation:

$$\sum EMI\ cradle - to - site = Area\ repaired\ \times\ [Material\ used\ (t) \times Embodied\ Carbon\ Coefficient\ (ECC) + [Material\ used\ (t) \times CO2\ emission\ factor\ \times Resourcing\ location\ (km)]\ \times\ (Frequency\ of\ repair\ (n))\ /\ (100\ year)$$

Equation (1)

Note*
ECC should be based on industrial generated of ICE Bath database by Hammond and Jones (2011)
CO_2 Emission factor derived from Department of Environment and Rural Affairs (DEFRA) and Department of Energy and Climate Change (DECC, 2009)

To date, the applicability of 'Green Maintenance' methodology had been extensively tested in Forster et al., (2011;2013), Kayan (2013), Mahmud et al., (2016), Kayan et al., (2017a, 2017b; 2017c;). In the context of laterite stones repair, several assessments using simplified formula underlined in Equation 1 had been conducted within the area of Historical City of Melaka specifically for St Paul's Church and Bastion Middelburg (Kayan et al., 2017a; 2017b; 2017c; 2017d). Commonly, four repair techniques; stone replacement, plastic repair, pinning and consolidation and repointing of stones could be viewed in terms of relative levels of intrusion to the original fabric (Torney et al., 2014). Several repair scenarios within arbitrary maintenance period i.e. 100 year could be considered as it may bring a number of benefits relating to the technical, philosophical aspect of masonry conservation (see Figure 2). However, this paper concern about the stone replacement repair technique as it is recommended as most sustainable repair in previous research. Fundamentally, stone replacement is a repair involves in serious decayed stonework. It is necessary to remove greater quantities of original fabric and replace it with the matching one (Forster et al., 2011). Philosophically, the aim should be to retain the maximum amount of original stone, in case of inaccessible structure such as spires where the necessary scaffolding is expensive and not cost-effective in long term. Therefore, English Heritage, (2006) stressed on a careful sensitive repair of new stone replacement. In term of environmental, most of findings expounded that new laterite stone replacement emitted a high number of CO_2 emissions due to quarrying, manufacturing process,

and transportation of material (see Kayan et al., 2017a; 2017b; 2017c;2017d). But, stone replacement is practically done once, able to deal with high area of deterioration rather than plastic repair (mortar repair) and repointing (related to jointing mortar of wall) that informed to have lower longevity i.e. 25-30 year in 100 year of maintenance period. Comparatively, plastic repair is proven to have a low number of embodied carbon and also fundamentally good in term of conservation philosophy, however, it is important to consider about its major drawback on ability to deal with the large area of deterioration and suffering a lower longevity of repair, subsequently contributed large amount of CO_2 emissions in 100 year (see Kayan et al., 2017a; 2017b; 2017c). Thus, it is sufficient to conclude that stone replacement is more 'greener' and sustainable in terms of embodied carbon expenditure rather than repointing and plastic repair due to its higher longevity (1 in 100 year) (Kayan, 2015).

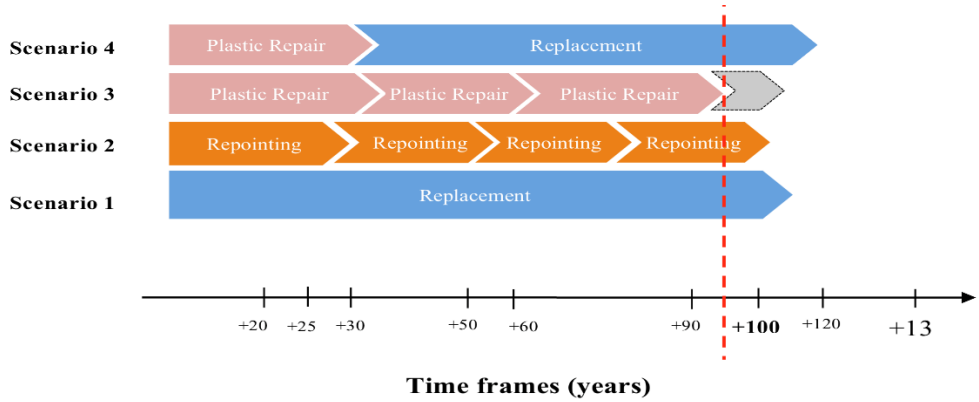

Figure 2: Repair Scenarios
Source: Forster et al., (2011)

On top, however, Hyslop (2004) expounded that the selection of stone in conducting of stone replacement is challenge demand of the suitably, matched, compatible with underlying substrate. Emphasised that the inappropriate stone may not only impair the appearance, but also cause physical damage to the remaining original materials and resulting a greater cost i.e. wasted time and money (Hyslop, 2006). As 'Green Maintenance' had underlined stone replacement as most sustainable repair technique, this paper aimed to extend the practicality of conducting this technique by review the series of process in conducting laterite stone replacement, evaluated within 'cradle-to-site' boundary of LCA for laterite stone replacement of selected heritage buildings located in Historical City of Melaka.

Laterite Stone Profile

Laterite has become the subject of controversies due to its nature of formation and genesis of lateritic materials (Paramanthan and Tharmarajan, 1983). In depth, the formation of laterite was perceived as product of weathering (metasomatic rock) in 1800 and in the middle of twentieth century, attention had been focused on geochemistry of weathering (dry and wet condition) and suitable geological condition i.e. plateau with varying alluvium character and topography and that influenced the chemical laws or known as laterisation in soil (Ahmad and Hoe, 2002). Many hypotheses have been advanced to essentially differentiate the weathering processes exhibit by rocks and laterisation in soil, however, it is found that differentiation is only revolves the unique process in achieving a considerable mineral and chemical content, enhanced by climate condition (repetitive wet and dry season) to speed up the leaching process (Penddleton, 1941).

The aforementioned process is also associated with the physical appearance of laterite stone. Physically, laterite manifested as spongy coarse, ferruginous rough material varying in

colour from white, yellowish, rusty red to liver colour, brown material or almost black with lilac-tinted lithomarge earth depending on the mineral and chemical content such as ferrous iron, aluminium, kaolinite clay that is also known as sesquioxide content formed in the hot and wet tropical area (Adekunle et al., 2014). For example, whitey colour of laterite occurred due the domination of kaolinite clay and red for ferrious iron. As far the construction is concerned, laterite has unique properties as a soft material until it can cut using spade to be made into regular block and harden after exposure (Noronha et al., 1998). It is mainly due the reaction between sesquioxides content and air, which enhances a good bond with other particles, known as oxidation process (Varghese, 2015). As building material, the accumulation of sesquioxides will influenced the method of extraction process, appearance, strength and porosity as important criteria selecting compatible material in repairing heritage building (Historic Scotland, 2013). On top, it is broadly known that laterite stone offers good strength and durability as building material showed by numerous heritage building that now is still stand nobly through conflicts and with the test of time under tropical hot climate.

Figure 3: Laterite Stone
Source: Author (2017)

In Historical City of Melaka, Malaysia, there are three (3) significant heritage buildings known as remaining part of Melaka Fort, that being conserved with different nature of maintenance and repair. Historically, St Paul's Church and Porta de Santiago (a gate of A Famosa) was mainly built by laterite stones believed to be sourced from Ilha de Pedros (Pulau Upeh, Melaka, Malaysia) and Cape Ricado (Port Dickson, Negeri Sembilan near to Lukut Fort) where the fact can be seen on laterite cutting over the island (Tan, 2015). Additionally, the sample taken from Porta de Santiago (a gate of A Famosa) was found to have a similar mineral content, chemical properties reflecting the origin of laterite stone (JWN, 2006). Meanwhile, in 2008, after the excavation project, Bastion Middelburg (see Figure 4) is then reconstructed by using laterite stones based on 'like-for-like' repair strategies (JWN, 2008). The reconstruction of Bastion Middelburg was consistently facing difficulties in finding the locally available original stones in large scale. Then, large volume of laterite stones were mainly sourced from Pranchiburi, Thailand that was about 1,797km from Melaka Historical City (JWN, 2008). Comparatively, for St Paul's Church, several interventions had been done in between 2003 to 2012. Surprisingly, it is found that several portion of the wall had been replaced by brick (see Figure 5). It is noted that the implementation of maintenance for St Paul's Church had been done partially with proper guidelines before the establishment of Jabatan Warisan Negara in 2005. Subsequently, this issue need a further discussion on compatible but imported material and incompatible but locally sourced from short distance. Prior to that, both cases of stone replacement were questionable particularly on the availability of laterite stones (quarry site, alternative materials such as salvaged material) to deal with different scale of project, cost of implementing, philosophical judgement that incorporated with the environmental impact (CO_2 emissions) as one of critical concern of 'Green Maintenance' concept and methodology.

Figure 4: Bastion Middelburg
Source: Author (2016)

Figure 5: The usage of brick
Source: Author (2017)

Sources of Stone Used for Laterite Stone Replacement

First, significant efforts should be made to identify the original source of laterite stone to be utilised in maintenance and repair. In all, stone selection for stone replacement demands the combined skills and knowledge of experienced in working with stone such as stone consultant, usually a geologist or petrographer (English Heritage, 2006). In Peninsula Malaysia, the main soil associates with laterite cover about 5.9% of the land (Law and Selvadurai, 1968) where the largest areas of laterite composition are found to be along Kedah, the Port Dickson-Lika coast and Muar-Temerloh strip (see Map 1) had became an open door for making it as local construction product. It is believed that utilisation of laterite stone in Melaka is due to their nature where it is locally abundant in southern part of Peninsula Malaysia, where the quarry location occupies near to the coastal and river area which no long in operation i.e. Sungai Raja, Tanjung Dahan at Negeri Sembilan and Pulau Upeh, Melaka. Hyslop (2006) elaborated that the nature of stone from existing quarry can be change over time, where the seam may not longer compatible to suit the demand of repair. The issue is, due to the scarcity and the demand of conservation that need bigger volume of laterite stone would sometimes cause out-sourcing of new stone is one of unavoidable. Subsequently, this process possessed high environmental impact specifically for transportation. 'Green Maintenance' highlighted that locally sourced material as one of the important mechanism in reducing CO_2 emissions. Clearly, the preferences should be given to the stone that are primarily located near to site, reclaimed from demolished buildings or sourced from a local stone quarry that likely reduce the embodied carbon figure (English Heritage, 2006).

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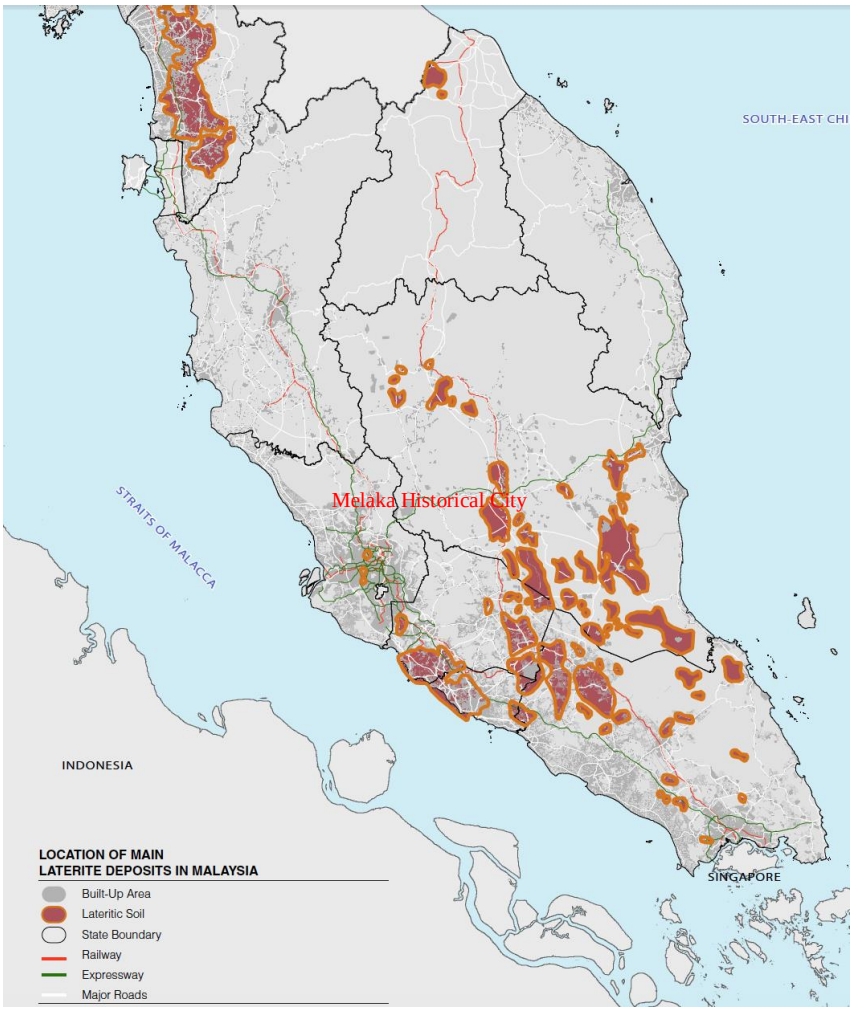

Map 1 Location of Laterite Deposits in Peninsula Malaysia
Source: Eyles (1970), enhanced by Malaysia National Physical Plan-2

It is noted on the availability of laterite resources throughout Peninsula Malaysia could alternatively used in repairing the existing structure. Logically, there are another problems that need to be considered within the availability of laterite resources particularly on how to incorporate with the existing built up area, transportation linkages (overlaid using GIS in Map 1), ownership of the land and also safety requirements. For example, the transportation linkage to Sungai Raja, Negeri Sembilan that reported by technical liaisons from Lukut Fort Museum as one of the biggest laterite resourcing location to built Lukut Fort is not accessible by commercial vehicles. Presently, laterite stone is also observed being used by the villagers in Melaka as boundary wall and locally abundant near to residential area, however Guidelines for the Siting and Zoning of Industry and Residential areas in the section of Quarrying activity published by Malaysia Department of Environment (DOE) on 2012 demand a buffer zone as part of safety requirement that need to be considered eloquently. Currently, the marketplace of mineral production, in specific laterite stone is also absent to support the need of laterite stone replacement. Schellman (1979) suggests bauxite as one of variety of laterite based on mineral classification. However, the production of bauxite in Malaysia is purposely for aluminium production (JMG, 2013). Clay is also classified as lateritic material in Malaysian Mineral Yearbook (JMG, 2010). Briefly, it found that the production of clay is largely concentrated in Perak and Terengganu which contradictory to the distribution of laterite resources. These indicate that the production of laterite is not existed in the percentage of the clay production.

Clearly, the limitation discussed is sufficiently explained the justification of the usage of imported stone from Pranchiburi, Thailand to deal with large volume of laterite stones in reconstruction of Bastion Middelburg. Due to the limited choice for stone, the repair-undertaken need to undergo some complex process such as quarrying, processing and transporting, which contributes to high-embodied carbon (Hu and Wang, 2006). However, to attain a reduction in CO_2 emissions, it is suggested that significant effort on re-opening the old quarry or known as snatch quarrying, opened for a temporary basis should be made to obtain a limited supply of stone rather than used a brick with unknown durability and not acceptable in term of conservation (Hyslop, 2006). For example, the large availability of laterite stones at old quarry of Pulau Upeh, Melaka can be potentially optimised in conducting stone replacement in small-scale maintenance project at St Paul's Church [see Figure 6]. 'Green Maintenance' provides as basis of $1m^2$ of repair in order to quantify CO_2 emissions, in which, typical amount of stone needed is around five (5) blocks of stone. In simple, out-sourcing of material in conducting stone replacement is not worth in terms of cost and environmental impact particularly on transportation part. Alternatively, if there is no other available quarry, the usage of salvaged materials is emphasised in conducting stone replacement repair technique. It perhaps can be obtained from various source such as abandoned old buildings, demolished building structures, building suppliers, salvaged contractors and use-material dealer (Ramli and Byrd, 2012). Conversely, however, selection salvaged material of laterite stone for stone replacement is not as easily incorporated in practices, which requires locating the source early and comprehensive planning in early phase of conservation work.

Figure 6 Laterite Stones at old quarry of Pulau Upeh, Melaka
Source: Author (2017)

Extraction and Quarry of Laterite Stone

The recognition of either old quarry or extent quarry is a must in selection of stone (Ashurt and Ashurt, 1988). To obtain the laterite stones for conducting laterite stone replacement, there is considerable step need to be undertaken. The general extraction process of laterites can be resource intensive both in labour and cost. However, could be easily being augmented through the use of energy by using mechanised tool and vehicles. The general step may include overburden removal, primary cutting, storage of material on site and also transportation process (see Figure 7). The detailed chart in Figure 7 developed through a systematic review of conservation report of Reconstruction of Bastion Middelburg in 2008 and Industrial Research of Laterite Stone and the relationship between Melaka Fort in 2002, supplemented with other relevant literatures and site visit. Relevantly, the pattern of extraction of laterite is found to be similar throughout the world.

Based on previous discussion, it is important to note about the formation of laterite incurred in either soil (plinthe) within pallitic zone or the large boulder of laterite. Reported by JWN (2008) that laterite from Pranchiburi, Thailand is formed in soil meanwhile in Pulau

Upeh, the large amount of laterite bed is found abundant over the island, where it is locally known as Pulau Batu before. To obtain laterite, first, overburden removal need to be done at least a foot or more below water-table as it getting wet and softer with depth and offers excellent quality for all purposes (Noronha et al., 1998). For the large bed of laterite (laterite boulder) is nearly undisturbed, only the loose materials are removed from surface (Penddleton, 1941). After the surface has been smoothed off either manually removed by hand, dozer or hydraulic shovels, usually the levelling process will taken immediately to determine the horizontal bed of laterite and marking line using manual measurement equipment [see Figure 8] (Kasthurba et al., 2014). In Pulau Upeh, it is found the similar pattern of size ranging about less than 600 x 300 x 300 mm of stone which indicate that measurement of stone had been precisely in site to built Melaka Fort. In which, no seco
ndary cutting is occurred.

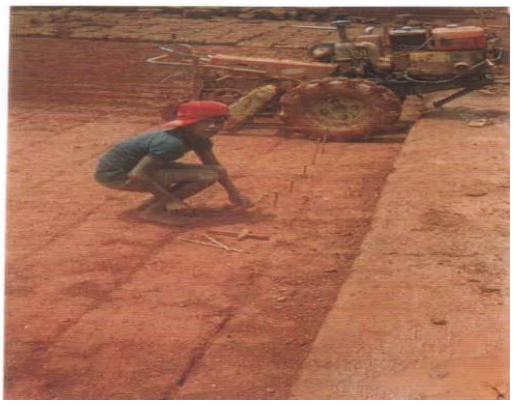

Figure 8 Marking lines process on the top of laterite soil in Goa, India
Source: Noronha et al., (1998)

Laterite then will be cut into square blocks through the lines marked and desired depth. To date, the use of machinery for quarry known as cutter with tungsten carbide bits or mechanised mobile rotatory saw [see Figure 9] in the last decade resulted in large-scale of production of laterite and reduce the wastages to meet the growing demand (Kasthurba et al., 2007). However, in practice, the wastage of laterite will be stored as a rubble stone (Noronha et al., 1998). In the past, any iron instrument is used to cut and dig up into square masses to thickness of the blocks with pickaxe and immediately cut into a shaped by using trowel or large knife (Penddleton, 1940) [see Figure 10]. The evidence is also found in Pulau Upeh,Melaka where it had been cut smoothly about 2 inches, parallel to the usage of pickaxe [Figure 11]. Whereas, for laterite in soil, the characteristic of laterite is ranging depend on their depth. Penddleton (1952) suggest on digging to approximately about 50cm in Ceylon and few centimetres to 180cm from the top of soil in Thailand. Meanwhile, Kasthurba et al., (2014) reported on 520cm or to the depth of 25metres in Goa and Malabar region in West India. The depths of cut will determine the capacity of water absorption that subsequently will influence the strength and density of laterite stone, greater enhanced by the process of oxidation after exposure (Kasturba et al., 2007). It is proven that the usage of laterite stones for heritage building in Melaka that is sourced from the seacoast area part of valuable knowledge of stonemason during the Portuguese era. The maximum thickness observed to be found near to seacoast area (water access) in Malaysia (i.e. Tanjung Dahan and Pulau Upeh). Throughout the process, laterite stones need to expose to turn the material into a hard block, either in situ or transported to the storage location (Adekunle et al., 2014).

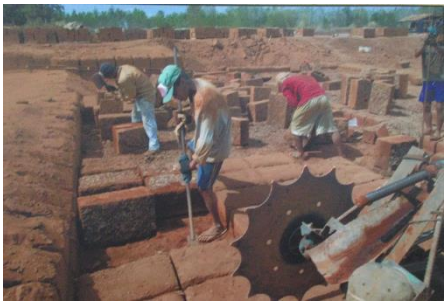

Figure 9 Cutting processes of laterite stone in Prachiburi, Thailand for Bastion Middelburg
Source: JWN (2008)

Figure 10 Manually cut laterite using pickaxe in Chanburi, Thailand
Source: Pendleton (1940)

Figure 11 Laterite stone-cutting scar in Pulau Upeh, Melaka Author (2017)

To cater the demand of maintenance and repair that tightens with certain specification, the stone may need to endure a secondary processing, and transported to the construction site. Logically, the mimic of original stone need to be carefully followed, where secondary processing is only related to cutting process to fit the seam of existing building. For the case of imported stone, it is crucial to detail up the requirements of vehicles as the laterite stone need to be fully covered up from the rain until the complete cycle of oxidation [6-12 months] (Duggal, 2008). Ideally, throughout the process of extraction and quarrying of laterite associated with the energy usage (carbon content) is not a main impetus of CO_2 emissions. The embodied energy reported by Praseeda et al., (2014) is solely related to diesel operated machine due to primary cutting process either in soil or on bed of laterite (0.0069MJ/kg contributed in 1 block of laterite with 400 x 200 x 250 mm). Comparatively, if the process is handled manually, there will be zero impact of CO_2 emissions on extraction and quarrying. Therefore, the CO_2 emissions for stone replacement are found dominated by transportation process.

However, using a locally sourced material may reduce CO_2 emissions. In the case of locally sourced from old quarry of Pulau Upeh, based on current seawater, there is two important considerations need to be taken into account, which are suitable timeframe to deal with water-tide where in the low water tide, large amount of laterite stones will be fully exposed that allowed more stone to be extracted and also appropriate transportation mode such as boat and commercial transport to the jetty and site. In practice, the appointed conservator and experts in stonemason also plays a vital role in succeeding the implementation of sensitive repair of laterite stone replacement.

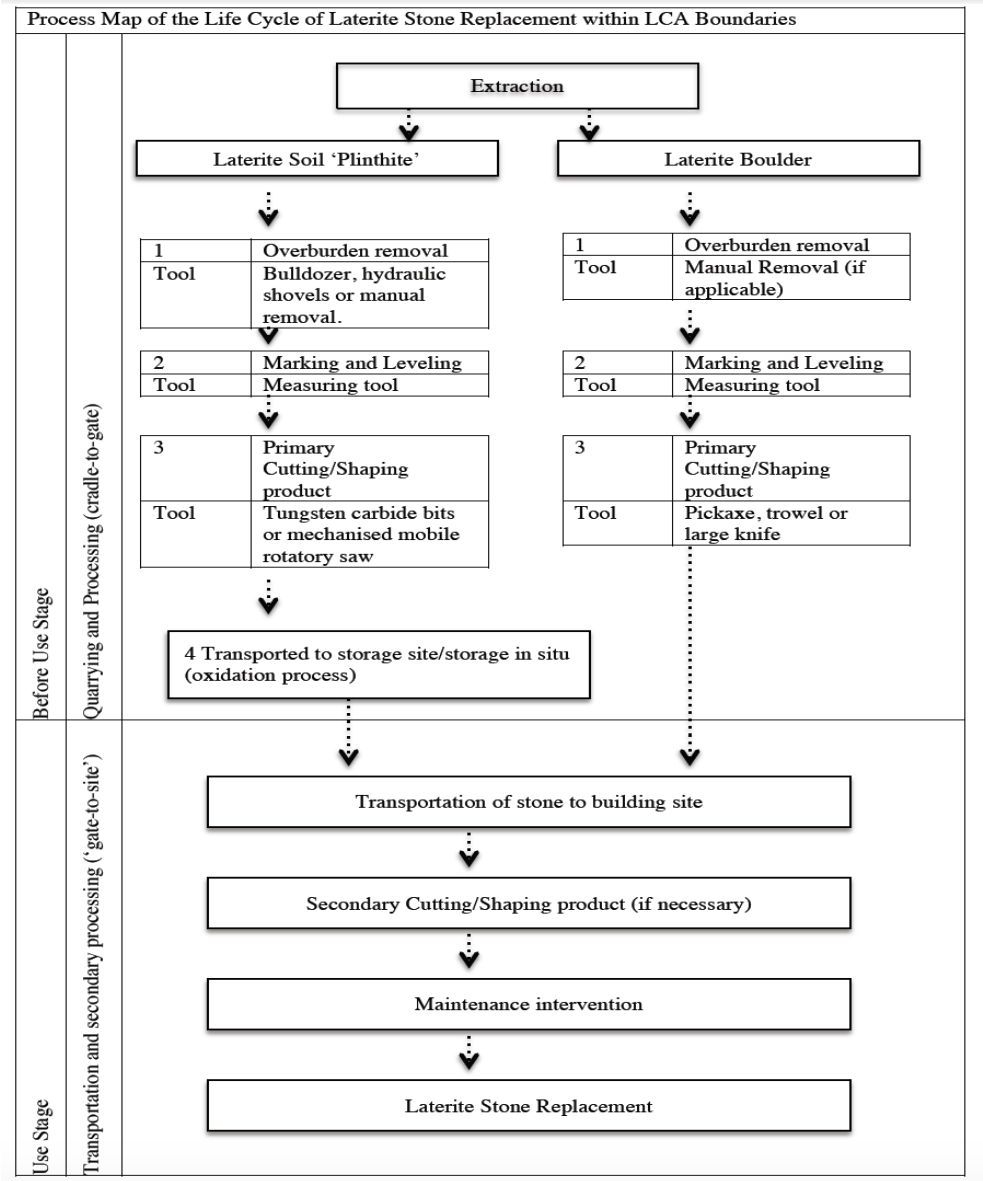

Figure 7 Process Map of Laterite Stone Replacement
Source: Author (2017)

Conclusions

The 'Green Maintenance' concept and methodology prioritised the important of environmental impact in evaluating maintenance and repair. Prior to that, stone replacement is suggested as most sustainable repair based on embodied carbon expenditure and high longevity in long run through the calculation of EMI. In other branch, the strong realisation conservation philosophy knowledge i.e. 'like-for-like' repair strategies among the authorities after the

establishment of Jabatan Warisan Negara, had urge the need of out-sourcing of material from foreign country, due to the limited resourcing location of laterite stones. Subsequently, this process had contributed to the large amount of CO_2 emissions mainly due transportation process. However, suggested here that the old quarry of Pulau Upeh need to be re-opened for a small-scale of maintenance work. In the perspective of 'Green Maintenance' that encourages a low embodied carbon, this paper had discovered the nature of laterite stone extraction mainly in Thailand, Pranchiburi and Pulau Upeh by developing a process map of stone replacement. The indication showed that CO_2 emissions of stone replacement are only contributed through the usage of mechanised tool in primary cutting and transportations process. Proven that, locally sourced material and manually handled in primary cutting will contributed to very low CO_2 emissions. Development of process map of extraction of laterite stone within 'cradle-to-site' in this paper need to be further tested using the equation as previously research postulating on that stone replacement emitted high number of CO_2 emission and quite contradictory with current literature. However, it is undeniable, the consideration of 'Green Maintenance' concept and methodology that envisioned to reduce the environmental impact had allowed a greater analysis of another dimensions (conservation philosophy and cost) to became more realistic in the decision-making process.

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ANALYSING FINANCIAL LITERACY AND SAVING BEHAVIOUR AMONG UNIVERSITY STUDENTS

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***Abstract**: Previous studies highlighted that financial literacy is still low and many people failed to manage their finances effectively. The objective of this paper is to determine the financial literacy level and students' perception towards saving behaviour. Data were collected using self-administered questionnaire and there were 192 respondents from undergraduate students who enrolled for business administration degree programme at Universiti Putra Malaysia. The findings showed that saving behaviour, parental socialization and peer influence had positive correlation with financial literacy, whereas self-control showed negative correlation with financial literacy. The mean values for financial literacy among these respondents are still at moderate level. Each students needs to learn more knowledge in dealing with personal financial management and effective strategies to increase positive attitude towards saving behaviour. The higher education authority such as Ministry of Education can improve the existing business courses by adding personal financial management and encouraged more saving activities rather that spending too much money for unnecessary items. Parents always play the central role in facilitating and promoting their children's saving or investment.*

***Keywords:** Financial literacy Savings behaviour ·Parental socialization ·Peer influence ·Self-control*

Introduction

Financial literacy is likewise critical to all students as they learnt and understood the significance of the future financial planning. Young adults figured out how to settle on enormous financial choices all alone when they learn and rehearse sound financial abilities in their university life. This is their first time experienced financial freedom without guardians' supervision [1]. Students initially presented to financial ideas has directly influences the money management aptitudes [2] and positive enduring impacts onsaving conduct and financial literacy when students reach adulthood [3]. Research on the effect of college personal finance education on learning and conduct has gotten restricted consideration. Obviously, the significance of financial literacy cannot be misjudged since a financial illiterate students may not able budget properly to meet disbursement, incapable to know financial services or product that address his or her issues, unfit to manage with their debt particularly the education loan, be uncertain how to get and evaluate independents

financial exhortation and numerous more financial issues they graduate from the universities in the future.

Financial literacy is the capacity of people to settle on suitable choices in dealing with their own funds. As sound budgetary prosperity and better lifestyle is gaining importance need among people and progressively globalized capital market offering mixture of investment funds and financial product are observed to be enormous way in accomplishing such individual goals. Personal financial planning is progressively turning into a decent practice if not as of now a need. In fact, a sound individual financial plan enables individual to be aware of routes in which they manage financial issues. It is a way to direct a person's financial choices and highlight the
outcomes of such choices on different ranges of one's finances (The Malaysian Financial Planning Council, 2004).

Garman and Forgue [4] considered financial literacy as adequate information of individual finances and terms for for effective personal financial management. Meanwhile, Anthers [5] characterized financial education as the capacity to peruse, investigate, oversee and convey about the individual financial conditions that influence the material prosperity. Financial literacy is vital to every one of us paying little heed to students, workers or retirees. Artisan and Wilson [6] considered financial literacy education as an "importance making process which people utilise a mix of aptitudes, assets and relevant learning to handle information and settle on choices with awareness of the financial outcomes of that choice.

It is generally acknowledged that most customers absence of financial literacy important to settle on significant financial choices in their own particular best advantage [7]. Experts similarly largely concur that financial literacy seems to be openly related with self-beneficial financial literacy performance [8]. Financial literacy includes increases in financial awareness or assistances and amends in financial performance [9]. Actually financial literacy Influences College students since it is an indispensable piece of our everyday lives and the absence of it has been referred to by various reporters as a notable to lead the financial issue. The financial literacy circumstance of the present youth is described progressively by large amounts of obligation. Between 1997 until 2007, normal college student’s credit obligation ascended from $9, 250 to $ 19200 around 58% expansion in the wake of representing inflation; normal obligation for students graduating with loans rose 6% in only one year between 2006 and 2007, from $18, 976 to $ 20, 098 [10].

For dominant of college students, this was the first occasion when they have encountered financial autonomous without a parent's supervision. With the development of rducation management in Malaysia, which tripled the quantity of college students into late decades, (Economic Planning Unit, 2006) university or college students have turned out to be imperative consumer market segment. Nonetheless, there has been little research on financial behaviour particularly about saving and obligation. Issue among Malaysian, particularly college students, since the worry over the role of young consumers is moderately new. Studies in the United States and different nations demonstrated that college students had bounty to spend however they likewise had
low levels of financial literacy and had a tendency to be drive customers [11]. Chen and Volpe [12] through a review of some studies from 1993 until 1997, presumed that poor learning of financial issues, for example, savings, spending fundamentals and investment are the most well-known issue experienced by individuals encountering financial issues [12]. In line with the above issues, this study is carried out to determine the financial literacy level and saving conduct among Malaysian university students. The specific objectives include:

a) To examine of the financial literacy level among the university students particular at Universiti Putra Malaysia,
b) To determine the association between students' saving behaviour, parental socialization, peer influence, self-control and financial literacy.

The next section provides the reviews of prior literature followed by the research methodology respectively. The results are analysed and discussed in the following section while some conclusions and recommendations are presented in the final section.

Factors Affecting Financial Literacy

Several researchers have grown the call for early financial education of youthful grown-ups [13]. Students who were needed of financial awareness have expanded challenges that proceed into later years. In their study on 924 students from 14 school grounds, Chen and Volpe [12] expressed that students with higher financial education were both more prone to keep financial records and more inclined to choose the right decision when given hypothetical situation in regards to a financial choice contrasted with students with less financial literacy. Chen and Volpe [12] additionally found that students with less financial education had more negative suppositions about finance and settled on more improper financial choices. They brought up that having a low level of financial knowledge limits student's capacity to settle on educated choices. Furthermore, countless students do not know how to deal with their pay. When they have plenty of money, they just utilise it out on vital costs and some which are redundant. Different studies likewise analysed the association between student's financial literacy and different components, for example, parental socialization, saving behaviour, self-control and peer influence.Different studies revealed that students who pay for the greater part of their own university education seem to make a more quick, although more unsteady, move to adulthood because of absence of financial and social capital (see, for example, [14,15,16,17]. These obstacles incorporate higher rates of unemployment and social inertness, prior pregnancy; bring down school participation, less aggregate years of education, greater association in viciousness and culpability and disclosure to unhealthy neighbourhood and wrongdoing.

For individuals lacking of financial education programs, financial involvement have been recognized as a key enhancing financial literacy and advancement personal financial obligation [18]. Webly et al. [19] inferred that parental alignment clearly affects the saving conduct of student. Parental socialization is inescapable in managing and urging their kids to gain from illiteracy to financial literacy. Erskine et al. [20] concentrated on the indicators of children's saving conduct in Canada. Their findings reliable with the studies of peer influenced by Duflo et al. [21] and Beshears et al. [22] which demonstrated that people's conduct is probably going to be impacted by peer, since peer is the significant referent to an individual and one can be simply influenced by peer's conduct Financial self–control were related with positive saving attitudes. This confirmed that self-control of an individual assumes an imperative part towards the conduct saving [23].

As recommended by Lodhi [24], the accounting information and financial literacy aids savers in depressing information asymmetry and permits savers to finance in risky mechanisms. However as age and experience rise savers preference varies to less risky funds, it does not mean that saver does not desire to invest in shares. Besides, Jappelli and Padula, [25] presented an intertemporal portfolio decision model where entities save, finance in

financial literacy, distribute their wealth among a risky and a safe asset and get a pension when they retire. They emphasised that financial literacy influences the additional return and the cost of stock market contribution. The model revealed a positive relationship between stock market participation and financial literacy and a negative relationship between the generosity of the social security system and financial literacy. The model moreover showed that the stock of financial literacy amassed initial in life is positively related with the entity's wealth and portfolio distributions later in life.

Taft, Hosein and Mehrizi, [26] applied independent two-sample test, correlation test, regression analysis and evaluated the linkage between financial literacy, financial concerns and financial wellbeing. The study found that age and education are directly related with financial literacy and financial wellbeing. Moreover, married people and men are further financially literate. Their finding suggested that higher financial literacy will leads to better financial well-being and less financial concerns. Also, financial wellbeing will leads to less financial concern. Cornwell and Murphy [27] concluded that since the National surveys recommended Texans have a moderately little level of financial literacy that can poorly influence decision-making. Meanwhile state policymakers instructed high school financial coursework in 2007, customer credit procedures of young Texas adults have amended.

Sayinzoga et al. [28] identified that improved financial literacy as one of the significant influences elucidating behavioural variations. However, they found no evidence about whether financial awareness spillover from skilled farmers to their peers in resident town banks. Kumar, Watung, Eunike and Liunata, L. [29] concluded that the guardians are the first people for their kids, they should offer good empathetic about financial problem to their kids that may move to children's financial behaviour and the choice that will be made later in the future. The education institute may ruminate about the students' ages and economy position in creating financial education program. Therefore, it will be more effective to raise the financial literacy between college students. Sivaramakrishnan et al. [30] confirmed that investment plan predicts the real investments in the stock market, while financial literacy similarly found to be significant impact on intention. Jonsson, et al [31] showed that diverse procedures of financial literacy influence attenuation of the personality effect. Specially, conclude that awareness about mutual funds and knowledge about existing market circumstances influence the attenuation of the personality effect. Moreover, no support for the influences of saving motives and risk
approach on the attenuation of the personality preference.

Materials And Methods

The research is based on quantitative design using questionnaire survey. The data was collected using personally administered questionnaire from the sample of 200 undergraduate students in Bachelor of Business Administration program at Universiti Putra Malaysia. These samples were taken from first year's executive students until final year's students from trimester 2012/2013 until 2013/2014. The actual respondents were 192 and this represented 96% of the response rate. The measurement of financial literacy including financial management and financial knowledge were adopted from Sutherland & Canwell [32]. The scores were ranging from 1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5=strongly agree. The questions also asked the respondents on their existing spending and saving behaviour. In the questionnaire, respondents were asked their the demographic profile such as respondent's gender, age, marital status, allowance get from parents, loan, engage in part time and income from part time job.

The following section described the general information of the factors influencing financial planning, experience and knowledge about financial literacy. Final section described the attitude toward saving behaviour from parental socialization as parental is a role model for children to understand the important of financial literacy. Other factors were peer influence as most of students have greater influenced by their friends and self-control, which focused on how they control themselves for saving
or spending behaviour. The questions were measured using five likert scales answer ranging from 1= strongly disagree, 2 = disagree, 3=neutral , 4 = agree and 5= strongly agree.

Result And Discussion

Respondents' Profile:Majority of the respondents are 141 female (70.5%) and 51 male (29.5%). 44.5% of the respondents fall into the age group of 22 to 23 years old followed by the age group of 24 years old and above (31.5%) and 20 to 21 years old (16.5%). Majority of respondents i.e. 92.0% is single and only 8.0% of the respondents are married. Most of the respondents receive allowance less than RM200 (45.5%) per month from their parents, followed by 42.5% who received allowance between RM201 to RM500, 10% received allowance RM501 to RM800 and only 2.5% of respondents received more than RM800 per month. Some of these respondents were working while studying and they also received some allowance from additional sources such as education loan. About 33.5% of respondents received allowance between RM501 to RM800 per month from the education loan, followed by 32% respondents received allowance between RM201 to RM500, 30% of them received allowance less than RM200 and only 4.5% of respondents received more than RM800 per month from the loan. Based on 71 (35.5%) of the respondents reported that they engaged in part-time and most of these respondents received income between RM301 to RM500 (41.7%) per month, followed by income received less than RM300 (34.7%) and RM501 to RM800 (15.3%). Only 8.3% of respondents that engaged in part-time received more than RM800 per month.

Personal Saving Behaviour and Financial Literacy

This study found that majority of the respondents (68.5%) will invest in any unit trust if they have extra money or income, whereas only 31.5% of the respondents reported that they are not interested. 64% of the respondents are willing to save for the future saving in Tabung Haji (Pilgrimage Fund) while 36.0% will not save for the future. The results also showed that on average, majority of respondents agreed towards factors associated with saving behaviour.

Table 1 demonstrated that the mean and standard deviations for saving behaviour. The highest mean of 3.70 is fall on C3 that respondent agreed to consider the real needs before they make a purchase; while C4, respondents followed the monthly budget scored the lowest mean (3.36).

Table 2 showed that item D1_6 has the highest mean score of 3.77 compared to the other statements meaning that the respondents have high appreciation on their parents' help and advice about financial matters. However, the lowest mean about 3.34 indicated that the respondents on average agreed to talk about financial management with their parents.

Table 3 indicated that respondents' agreed that their friends had saving account as the highest mean (3.56) and comparing their saving and spending behaviour with their peers as the lowest mean (3.15). This implied that the peers may have some effect on respondents' saving behaviour.

Table 4 showed that on average, the respondents were disagreed about self-control factor. The highest mean of 3.20 indicated that they were more concerned on the short run rather than the long run planning on financial matters. The lowest mean (2.56) indicated that they disagreed with this statement which stated that it's too hard to make saving.

Table 5 shows that item B6 has the highest mean score of 3.53, which showed that respondents agreed that they have the ability to prepare their own budget weekly and monthly. Item B5 has the lowest mean score of 3.23, i.e. on their understanding of financial instruments such as bond and stocks. On average, majority respondents have moderate level of financial literacy.

Reliability Value:

The value of Cronbach Alpha for all variables in this study showed high reliability values which ranged between the values of 0.679 to 0.898, as shown in Table 6.

Table 1: Saving Behaviour

No.	Items	Mean	Std. Dev.
C1	I put money aside on a regular basis for the future.	3.52	0.874
C2	In order to save, I often compare prices before I make purchase.	3.66	0.866
C3	In order to save, I often consider whether the real necessity before I make a purchase	3.70	0.750
C4	In order to save, I always follow a careful monthly budget.	3.36	0.914
C5	I always have money available in the event of emergency.	3.54	0.867
C6	In order to save, I plan to reduce my expenditure.	3.65	0.801
C7	I save to archive certain goals.	3.58	0.823
C8	I save until the end of my semester.	3.46	0.950

Table 2: Parental Socialization

No.	Items	Mean	Std. Dev.
D1-1	My parents are good example for me when it comes to financial management.	3.55	0.996
D1-2	I always talk about financial management with my parents.	3.34	0.858
D1-3	It is good when my parents control my spending.	3.52	0.913
D1-4	It is good thing to ask my parents to keep hold my money sometimes to help me save.	3.49	0.919
D1-5	My parents are proud of me for saving.	3.59	0.803
D1-6	I appreciate it when my parents give me advice about what to do with my financial.	3.77	0.806
D1-7	I save money because I don't think my parents should pay for thing I don't really	3.62	0.854

	need but like.		
D1-8	Saving is something I do regularly because my parents wanted me to save when I was little.	3.69	0.866

Table 3: Peer Influence

No.	Items	Mean	Std. Dev.
D2-1	As far as I know, some of my friends regularly do save with a saving account.	3.56	1.026
D2-2	I always discuss financial management issue (saving) with my friends.	3.24	0.885
D2-3	I always compare the amount of saving and spending with my friends.	3.15	1.019
D2-4	I always spend my leisure time with my friends.	3.23	0.843
D2-5	I always involve in money spending activities with friends.	3.38	0.932

Table 4: Self-control

No.	**Items**	**Mean**	**Std. Dev.**
D3-1	I don't save, because I think it's too hard.	2.56	1.115
D3-2	I enjoy spending money on things that aren't practical.	2.94	1.018
D3-3	When I get money, I always spend it immediately (within 1 or 2 days).	2.76	1.157
D3-4	'I see it, I like it, I buy it' describe me.	2.68	1.202
D3-5	'Just do it' describes the way I buy things.	2.68	1.138
D3-6	'Buy now, think about it later' describe me.	2.66	1.172
D3-7	I always failed to control myself from spending money.	2.76	1.053

Reliability Value: The value of Cronbach Alpha for all
variables in this study showed high reliability values which ranged between the values of 0.679 to 0.898, as
Reliability Value: The value of Cronbach Alpha for all
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D3-8	I always failed to control myself from spending money.	2.84	1.034
D3-9	When I set saving goals for myself, I rarely achieve them.	3.08	0.992
D3-10	I am more concerned with what happens to me in short run than in the long run.	3.20	0.970

Table 5: Financial Literacy

No.	Items	Mean	Std. Dev.
B1	I have better understanding of how to invest my money.	3.46	0.907
B2	I have better understanding of how to manage my credits use.	3.47	0.856
B3	I have the ability to maintain financial records for my income and expenditure.	3.40	0.827
B4	I can manage my money easily.	3.51	0.862
B5	I have better understanding of financial instruments (e.g. Bonds, stock, T-bill, time value of money, future contract, option and etc.)	3.23	0.981
B6	I have the ability to prepare my own budget weekly and monthly.	3.53	0.832

Table 6: Reliability Value

Construct	Cronbach's Alpha	Number of Items
Saving Behaviour	0.811	8
Parental Socialization	0.774	8
Peer Influence	0.679	5
Self-control	0.898	10
Financial Literacy	0.805	6

Table 7: Pearson Correlation Analysis

Items	Pearson Correlation Sig. (2-tailed)
Saving Behaviour	0.596** 0.000
Parental Socialization	0.563** 0.000
Peer Influence	0.298** 0.000
Self-control	- 0.116 0.101
Financial Literacy	1.000

Correlation Analysis

The results of Pearson Correlation in Table 7 showed that that three variables i.e.

saving behaviour, parental socialization and self-control have positive association with financial literacy. However, self-control factor has negative association with financial literacy. Saving behaviour has the strongest correlation with financial literacy (r=0.596), followed by the parental socialization (r=0.563) and peer influence (r=0.298). On the other hand, self-control had negative correlation with financial literacy (r=- 0.116).

Generally, the results indicated that the level of financial literacy among business students in Universiti Putra Malaysia were at moderate level. This is consistent with statement by Sabri [1] that this is first time students' experienced financial independence without parents' supervision at higher education. Therefore, students need time to build their real understanding on financial knowledge and they should learn how to manage their own financial activities in the future. The finding shows that saving behaviour has positive association with financial literacy and students with higher level of financial literacy are more likely to save or invest. Saving behaviour, parental socialization, peers influence and self-control have positive association with financial literacy while self-control factor has negative association with financial literacy. The result is consistent with Webly et al. [19] which inferred that parental alignment clearly affects the saving conduct of students. Parental socialization is inescapable in managing and urging their kids to gain from financial illiteracy to financial literacy. Peer impact has positive relationship with saving conduct and reliable with Duflo et al. [21] and Beshears et al. [22] who found that people's conduct is probably going to be impacted by peer since peer is the notable referent to an individual and one can be effortlessly affected by associate's conduct. Meanwhile, the outcome likewise demonstrates a negative relationship between discretion and budgetary proficiency and that suggested the greater part of students still frail to control their self for saving because they were more worried about financial activities in short-run instead of over the long-run.

Recommendation And Conclusion

Financial literacy is vital for university students to keep up a compelling saving behaviouras financial literacy will empower the students to deal with their cash successfully and financial education is the most ideal approach to upgrade students' financial knowledge and abilities [33]. So, it is essential for government and education ministry to develop an effective education programs and skills to enhance the financial literacy level among university students. Financial management workshops or seminars can be directed as option program for enhancing the students' financial approach, knowledge and performance. Moreover, financial socialization procedure of youthful saver can be accomplished through interaction, communication and awareness with socialization operators, for example, guardians and associates. Teachers may likewise consider the financial socialization prepare as the primary procedure in working up students' financial conduct. Policy makers can effectively compose financial talks or campaigns that include guardians to support communication of financial issues amongst them and their kids in a persuasive way. In educational program, the target must be plainly conveyed to students so as to perceive that restraint is a vital ability for students to perform sound financial control.

Furthermore, university students concurred that having a feeling of restraint can help them to deal with their funds in reasonable way. They additionally trust that discretion will postpone their quick satisfaction and accordingly stay away from imprudent spending. Subsequently, this recommends it is vital for guardians to monitor their kid's financial conduct and furthermore set up restraint among their children. Guardians ought to

dependably urge their kids not to spend indiscreetly and also control them in dealing with their financial issues. In this study, parental socialization is a decent indicator of their children's financial proficiency to save. Guardians dependably assume the central role in encouraging and advancing their kids' investing or saving [34]. Numerous students concurred that they will keep up a sound saving conduct if their parent confine on their spending or keep some portion of their money for saving. Consequently, this finding edifies the guardians on how they can support saving among their children and ultimately influence on their future life and individual prosperity. Future research is suggested to draw a more sample size to students from various faculties and different universities for greater generalization of the findings.

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ANALYSIS OF MONETARY POLICY CHANNELS ON INFLATION CONDITION: EXPERIENCE FROM NIGERIA

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Abstract*: Despite the various monetary regimes that have been adopted by Central Bank of Nigeria over the years, inflation has still become a major threat to Nigerian economy. The monetary policy also persistently failed to meet the stipulated monetary target of the Nigerian economy due to the existence of largely non-monetized sectors and most of the people live in rural areas. The objectives of the paper are as follow: (1) to identify the channels of monetary policy on inflation condition in Nigeria; (2) to identify the dynamic co-integration relationship between monetary policies on inflation condition in Nigeria. The theoretically underpinning of this study is based on the Monetary Growth and Structural Rigidity theories. The Autoregressive Distributed Lag (ARDL) model has been used by utilizing annual data covering the period of 1973 to 2013. The empirical results indicate that in the long-run, the exchange rate channel of monetary policy is highly dominant in explaining the inflation condition in Nigeria. While in the short-run, the interest rate channel of monetary policy transmission mechanisms is highly dominant in explaining the inflation condition in Nigeria. Overall results derived from the study are also in consistent with Keynesian monetary transmission theory, which argued that monetary policy operates effectively through the traditional interest rate channel. Finally, the study recommends that exchange rate and interest rate channels of monetary policy should form the basis of two leading indicators for the future inflation targeting in Nigeria.*

Keywords: *Autoregressive Distributed Lag (ARDL) model ·Monetary policy ·Structural Rigidity theories*

Introduction

The monetary authorities around the world alter their monetary policy instruments in an attempt to achieve their ultimate objectives such as price stability and sustainable economic growth. Despite various monetary regimes that have been adopted by Central Bank of Nigeria (CBN) over the years, inflation has still become a major threat to Nigerian economy. The monetary policy also persistently failed to meet the stipulated monetary target of the Nigerian economy due to the existence of largely non-monetized sectors and most of the people live in rural areas. Inflation can be seen as the sustained increase in the general price level of goods and services rapidly and persistently over a period [1].

Moreover, monetary policy is defined by the Central Bank of Nigeria as combination of measures designed to regulate the money supply, interest rate in an economy, in line with the level of economic activities [2]. It is a course of action embarks upon by the monetary authority (Central Bank) to regulate the money supply and credit condition in order to achieve

macroeconomic objectives. The monetary policy is concerned with the regulation of the money supply, interest rate in order to influence key macroeconomic indicators such as inflation, unemployment, in the desired direction [3].

Therefore, monetary policy can be expansionary or contractionary. Expansionary or easy monetary policy is designed to combat a recession or depression or a deflationary gap. When the consumers demand for goods and services as well as the business demand for investment goods reduced, deflationary gap occurs. The central bank embarks on an expansionary monetary policy; it increases the velocity of the money supply in circulation that eases the credit market conditions and leads to an upward shift in aggregate demand. However, the central bank buys the financial securities in the open market; it will also lower the reserve requirements of member banks, lowers the discount rate or the rate at which the central bank rediscount the interest charges to commercial bank and encourages consumer and business credit through selective credit measures. By doing that, it will decrease the cost and availability of credit in the money market and improves the economy.

Despite the various monetary regimes that have been adopted by Central Bank of Nigeria over the years, inflation has been a major threat to Nigerian economic growth [4]. Nigeria has been experiencing high degree of volatility in inflation rates; the growth of the money supply is correlated with high inflation episode because money growth is often in excess of real economic growth. Hence, the purpose of this study is to investigate the dynamic co-integration relationship between monetary policy on inflation condition in Nigeria; and the causal direction between monetary channels and inflation condition in Nigeria. Overall, the paper is divided into five sections with this introduction serving as section 1. Section 2 presents the empirical literature review, whilst the methodology used for the study formed the contents of section 3. The empirical findings and discussion are presented in section 4. Lastly, conclusion is presented in section 5.

Empirical Literature Review

The various empirical studies reviewed here show mixed results and conclusions. In some studies, strong positive relationships are found to exist and in some the relationships are weak. Other researchers report different results. The study started with the work of Neuenkirch [5] who studied the monetary policy transmission in vector auto-regressions: A new approach using central bank communication. Where he found out that communication determines the inflation (anticipations) the same to that of actual target rate changes. It also plays a noticeable role in the transmission of monetary policy to output; monetary policy transmission should incorporate both a short term interest rate and a communication indicator. However, the monetary policy transmission mechanism changed during financial crisis as the overall impact of monetary on anticipated inflation and output remains weaker and shorter especially during this period compared to the overall sample period. Communication improves the management of expectations about future interest rates, giving its importance in the transmission process and its impacts on inflation and inflation expectations.

Prachi M. et al. [6] surveyed how effective is monetary policy transmission in low-income countries where they found out that monetary tightening (an increase in required reserves) resulted in a contraction in bank credit that was accompanied by slower growth and lower inflation, the economic stabilisation problem in developing economies indeed and enumerating the ways of revitalising the effectiveness smooth working of monetary policy in such economies. The current literature reveals that low-income countries are characterised with the inconsistency in their channels of monetary policy transmission mechanisms and frequent market failure which affect the channel of monetary transmission in low-income countries adversely. Nigeria is not in exception in the transmission process, as a low-income economy; the only channel that works in

Nigeria is interest rate channel which affects the productive activities in the country.

Uluc Aysun et al. [7] identified the balance sheet and the lending channels of monetary transmission: a loan-level analysis. They found out that the balance sheet channel of monetary policy transmission is the main and effective channel which monetary policy shocks are transmitted to the economy and that the lending channel play a significant role not in this regard. However, the monetary policy tightening, leads to the lending spreads to the customers which are more sensitive to borrower leverage for the monetary policy measures and that this channel of monetary policy transmission mechanism is considered as very significant in influencing the economic activities. There exists a positive relationship between lender liquidity and lending spread of monetary policy tightening. Monetary transmission operates through balance sheet channel and that the positive coefficient suggests that a monetary tightening has a larger positive impact on the lending spreads of banks that have a higher liquidity ratio. If monetary policy is effective, which is measured broadly using balance sheet channel in addition to the more common lending channel measures; monetary policy that operates through the broad credit channel is still effective.

The current literature reveals that Monetary policy affects the level of bank lending to borrower balance sheets, since there is a weak balance sheet position of borrower, which consequently increases the lending spread on a bank loan more under tight than under loose monetary policy. In Nigerian context, the credit channel of monetary policy transmission mechanism is very weak due to the increase in the rate of interest rate; the level of investment is not favourable due to the depressed atmosphere for investment due to increase in interest rate. Matteo C. et al. [8] examined a new look at the credit channel of monetary policy using the trusting the bankers approach. They found out that credit channel amplifies a monetary policy shocks on GDP and prices through the balance sheets of households, firm and banks. For corporate loans, amplification is highest through the bank lending and the borrower‘s balance sheet channel; for household demand is the strongest channel. The current literature reveals that the credit channel of monetary policy is the most prominent channel of transmission, unlike in Nigeria where the interest rate channel of monetary policy is the dominant channel to reduce the inflationary trends of the economy. The response of the interest rate is very small in magnitude and statistically insignificant in every case.

Moreover, Bhattacharya[9] examined the inflation dynamics and monetary policy transmission in Vietnam using Vector autoregressive (VAR) model and found out that lagged GDP growth and lagged movements of the nominal effective exchange rate, had an important impact on headline inflation in Vietnam, unlike in other emerging Asian countries in the region. This means that Vietnam has high rate of inflation caused by slower movements of nominal exchange rate and GDP growth compared to Asian countries because prices of important commodities such as rice, cement, urea fertiliser and steel for construction were liberalised to a great extent 2002-2004. Moreover, these periods also witnessed growing use of open market operations as well as liberalisation of interest rates on dong deposits and on dong and foreign currency lending. Simon et al. [10] employed the structural vector auto regression (SVAR) in order to separate monetary and structural causes of inflation in Ghana; they found out that structural factors explain more of the inflation dynamics in Ghana than the monetary factors.

While the structural shocks take a longer time to decay, monetary shocks dissipate quickly over a shorter period. Similarly, Georgios G. [11] quantified the importance of financial structure, labour market rigidities and industrial mix for the monetary transmission mechanism in Germany using vector- autoregressive (VAR) models and a non-standard panel VAR model match. He found out that the impulse responses vary across countries in an unrestricted way. However, the panel VAR models, as well as the impulse responses vary across countries but, only differed

based on the financial structure of the countries, labour market rigidities and industrial mix. Nevertheless, short run asymmetries in the output responses of output happened mainly because of cross-country barriers in industrial mix, in the medium run difference in financial structure and labour market rigidities are of paramount. Cross country barriers asymmetry in the monetary policy transmission mechanisms tend to appear very negligible to prices.

The current literature reveals that a tentative decomposition of the results shows that in the short run cross-country asymmetries in the output responses arises mainly because of the barriers in the industry mix and also in the medium run differences in financial structure and labour market rigidities gain more importance in the economy. The transmission of monetary policy to real activities first work through the interest rate channel and then gets amplified through credit channel effects and other frictions such as labour market rigidities. Credit channel of monetary policy strengthening the firms to reduce the prices in the presence of adjustment costs such as those caused by labour market rigidities. In Nigerian context, the reverse is the case regarding the monetary policy transmission channels, where interest rate plays a pivotal role in the transmission process unlike in German economy.

Adeoyeet al. [12] examined the monetary policy frame work and pass through in Nigeria where they use vector autoregressive framework to capture the two-way relationship between shocks and other variables used and their related lags. The result shows that there is a close relationship between the bank credit and aggregate demand which suggests stronger monetary transmission system via- credit channels and investment multiplier in Nigeria. The current literature emphasised the credit channel of monetary policy transmission as the most viable way of yielding a great impact on aggregate demand neglecting other channels such as interest rate, exchange rate and assets price channel. 74 Jeon and Ji [13] examined the role of foreign banks in monetary policy transmission: evidence from Asia during the crisis of 2008-2009. The study found out that when there is an increase in the foreign bank patronisation, which will weaken the effectiveness and smooth running of the monetary policy transmission mechanism in the host emerging Asian economies during crisis periods mentioned above.

However, the reliance of parent banks on the wholesale funding market, the country that has the foreign banks and entry modes under which the effectiveness of monetary policy transmission is decreased enormously due to the increase in the presence of foreign banks in the emerging Asian banking sectors. The current literature reveals that the presence of foreign banks destabilise the Asian economy, despite the fact that they promote employment opportunities and increase the source of revenue to the Asian countries. In Nigerian context, the presence of foreign banks facilitates the growth of business activities and promotes the employment opportunities among the youths unlike in Asian countries whereby foreign banks destabilize the economic atmosphere for investment. Olso and Sanso-Navarrob [14] examined the changes in the transmission of monetary policy during crisis episode: evidence from the euro area and the U.S. The results support the efficacy of unconventional measures in restoring the conventional transmission channels between monetary aggregates but shed some doubts on the ability of these measures to boost economic activities. However, the official interest rate is not found to be significantly related to the money stock when the structural break is not taken into account. Further, both real income and the monetary base are linked to the amount of money and exhibit the expected sign. The official interest rate is statistically significant in the long run relationships with the corporate credit and government bond interest rate. There is empirical evidence of an almost one to one relationship between the official interest rate and the interest rate for corporate credit. The second subsample is characterised by the greater influence of the monetary base on U.S government bond interest rates. During this sub period, the official interest rate is positively related to the money stock and the corporate credit interest rate long run relationship breaks down.

Ceyhun and Uras [15] investigated the homeownership, informality and the transmission of monetary policy in Turkey, they found out that a novel monetary policy transmission mechanism in which the households engage in informal sector and get employed. The households desire to economize on their short-term cash transaction and prevent periodic rental payments when informality is correlated with the constrained business investment, finance and inflation expectations are high. However, there is important interaction between the conduct of monetary policy and the performance of housing markets. Informality makes it hard to use future income to pay rents and shocks to future income for instant due to unexpected inflationary changes would incentivise homeownership among informal households in order to avoid rent payment difficulties. Furthermore, key mechanism that volatility in monetary in monetary policy should increase the homeownership rates sensitivity to being informal.

The current literature reveals that monetary policy growth influences the demand for housing in an economy; the implications of monetary policy are non-trivial. For informally employed households, monetary growth and the demand for housing are positively related as long as the housing finance markets are developed well enough. In Nigerian context, there is inverse relationship between demand for housing and the rate of monetary growth because of institutional weakness to facilitate the raising demand for housing due to pervasive nature of corruption and indiscipline Similarly, W. Maureen et al. [16] examined the effectiveness of monetary policy in Kenya: using evidence from macroeconomic model. They found out that changes occur in the policy rate which is very effective in affecting the short term interest rates and the long term lending rates respond, but marginally. Moreover, when there is change in the CBR, it has a significant effect on the inflationary trend while a change in CRR has a relatively larger impact on aggregate demand but not as much as CBR. When promoting the effectiveness of the CBR and strengthening of the interest rate channel, there is probability of anchoring inflation expectations and boosting the effectiveness of monetary policy transmission mechanism in Kenya. Policy rate has a strong effect on the short term rates, that is the interbank and the TBR.

On the other hand, the lending rate appears to respond marginally, in general comparing the average effect of the policy shock on domestic interest rates during the first year, it is clear that the effect is highest at the short end of the market as would be expected. Ibrahim F. et al. [17] analysed the effects of monetary policy on the REIT returns: evidence from the United Kingdom. They found out that monetary policy environment is supposed to affect, on one hand, the REIT returns and, expansionary monetary policy has an impact only in the case of boom market. However, an increase in the inflation rate decreases the probability of remaining in the bust regime. Monetary policy transmission mechanism showed that house prices to have important effects on aggregate demand and the REIT markets are not efficient. Jain-Chandra [18] examined the effectiveness of the monetary policy transmission mechanism under capital inflows: evidence from Asia using a dynamic factor model and a structural vector auto regression model. They found out that long term interest rates in Asia are indeed predominantly through short term interest rates.

However, the monetary transmission mechanism, though effective, is somewhat weaker in Asia during the periods of surges in capital inflows. The large capital inflows will weaken the link between changes in the policy rates and bank lending rates; the monetary policy transmission mechanism from short term rate of interest rate and the long term are high, both in the short term and in the long term. Likewise, the pass through coefficients even under large capital inflows is very strong. The current literature reveals that the policy interest rate is the powerful macroeconomic instrument in macroeconomic stabilisation in Asia. Similarly, in Nigerian context, policy interest rate remains the most powerful instrument in the process of monetary policy transmission mechanism process. Despite the fact that Nigerian economy is structurally

unbalanced with heavy reliance on crude oil, which serve as the main and powerful source of foreign exchange earnings and there exist a deplorable state of infrastructural facilities which will affect the channels of monetary policy transmission mechanisms to be very weak.

Mahdi [19] examined the transmission of US monetary policy into the Canadian economy: A structural co-integration analysis using Canada and US and he found out that interest rate-path-through is the prominent tool by which US monetary policy shocks are transmitted into the Canadian economy. However, the responses of the US macroeconomic indicators to the same degree of shock: after the era of US contractionary monetary policy shock, output falls very quickly and indicates a U-Shaped response, inflation decreases but with the delay, short term interest rateincreasetremendously and then gradually declinesand long-term interest rate increases for one year and then gradually declines. The impulse response functions are sensitive to the lag structure. The current literature reveals that there is strong linkage between US economy and the Canadian and the latter depends on the former for economic, political and social factors. Similarly, in Nigeria, our economy is vulnerable to the vagaries of external shocks due to the import orientation syndrome. Still Canadian economy is among the developing category, the same with Nigerian counterparts.

Hasin and Abdul Majid [20] examined the economic role of the Islamic banks in the monetary policy transmission mechanism in Malaysia using autoregressive distributed lag (ARDL), the study revealed that the Islamic financing channel for monetary policy transmission ensues in Malaysia. Islamic financing is unequally distributed to different economic sectors in response to monetary policy volatility. However, the findings also revealed that Islamic banking as operating in dual banking system is not spared from the interest rate and monetary conditions of the country. This show that the behaviour of Islamic banking which cannot run away from the interest rate, while its operation run away from the interest rates. The current literature reveals that monetary policy transmission mechanism work effectively through different channels of monetary policy, such as interest rate, exchange rate, credit and assets price channel.

Methodology: This section deals with the theoretical frame work of the study, where focus has been made on the two schools of thoughts which discussed deeply the causes of inflation. Therefore, the study used them as the basis for the theoretical underpinning of the research. However, the research hypothesis of the study has been enumerated. The data are sourced from the World Bank development indicators. Autoregressive distributed lag (ARDL) has been used to analyse the data. The reasons why the study uses ARDL are: ARDL is used to capture small observation data. I.e. if your data is 30 years and above, it is the suitable frame work to be used [21]. ARDL can also be used to capture the long run and short run simultaneously, unlike other models. When variables I (0) and I (1) are mixed, ARDL is the suitable framework to be used [21].

Theoretical Framework: The basic theoretical frame work is the monetarist's theory of inflation.

Monetarists' Theory: The monetarists contend that money is the principal cause of demand pull inflation. They contend that inflation is always a monetary phenomenon. They used a simple quantity theory of money as follows:

MV=PQ
Where;

M stands for money supply, V stands for the velocity of money, P stands for the price level and Q stands for the level of real output.

Suppose V and Q remain constant, the price level (P) changes proportionately with the supply of money (M). With flexible wages, the economy was assumed to be at full employment where the productive resources are employed. The factors of production change but very slow over time. Moreover, the money that will be spent did not affect the level of productivity, the amount of money that will be used will double the price level of goods and services. When the price increase by this proportion, individuals and business firms can have enough money which they can spend and this will lead to the rise in prices. Inflation emanates at the same proportion in which the money supply increases [22]. Based on this preposition, the aggregate supply is presumed to be fixed.

However, the economy is assumed to operate at full employment. Ideally, when the money supply increases, it creates more demands of commodities, as a result the supply of goods and services cannot be increased due to the fact that economy operates at full employment of resources. This leads to rise in prices, but it is a continuous and prolonged rise in the money supply that will lead to true inflation. According to Friedman, inflation is always and everywhere a monetary phenomenon which emanates when there is tremendous increase in money supply than in output. He opined that variations in the quantity of money in circulation work in order to cause changes in nominal income. Inflation everywhere is assumed to be as a result of an increased in the demand for goods and services, i.e., when people try to spend their cash balances. The demand for money is assumed to be fairly stable; this excess spending is as a result of an increase in the nominal quantity of money supplied to the economy. Therefore, inflation is considered as always a monetary phenomenon.

Moreover, Freidman argued that if an increase in money supply will go first into output or prices. Initially, there is monetary expansion; the nominal income of the people tends to increases. Its immediate chain reaction is to increase the demand of goods and services; this will definitely increase the demand for labour by employers of factors of production. Workers will settle for higher wages, Input costs and prices will rise. Profit margins will be drastically reduced and the prices of products will increase. In the beginning people are reluctant; do not anticipate the prices of goods and services to continue increasing. They regard the price increase as temporary and anticipate prices to fall later on. However, they tend to increase their money holdings and the price increase is less than the proportionate increase in nominal money supply. Gradually, people will try to readjust their money holdings, Prices then will increase more than proportionate increase in the velocity of money supply.

The exact rate at which prices increase for a given percentage of increase in the money supply depends on such factors as past price behaviour, current changes in the structure of labour, product markets and fiscal policy. Thus, according to Friedman, the monetary policy expansion works through output before inflation starts. Based on the above preposition, it can be seen that velocity of money supply (M) has direct relationship with price level; in Nigeria the reverse is the case, there are simultaneous existence of unemployment, inflation and deteriorating terms of trade.

These problems make the implementation of monetary policy ineffective. However, inflation occurs due to the increase in the cost of production which reflects in the price of goods and services, frequent increase in the price of fuel, growth in money politics, rise in population etc. Sometimes, Nigeria faces two macroeconomic problems simultaneously; that is Inflation and unemployment (stagflation).

Structural Theory of Inflation

The structural school of thought of South America stresses the structural rigidities as the principal cause of inflation in developing countries. When the economy develops, rigidities tend to occur which will lead to structural inflation. Initially, there are increases in non-agricultural incomes accompanied byhigh growth rate of population that tend to increase the demand for goods [22]. The structural factors are managerial, technological, infrastructural deficiency and climate change. Based on this literature, we can see that institutional weaknesses are the important cause of inflation such as managerial, technological, infrastructural deficiency and climate change. The increase in the population growth and rising urban incomes would tend to increase through a process of chain reaction mechanism, first and foremost the prices of agricultural goods, second the general price level and third the wages paid to the labour.

When the demand for agricultural goods increase, their domestic supply remained inelastic, the prices of agricultural goods will subsequently increase. The quantity of these goods and services do not increase if their price increases because their production is inelastic as a result of defective system of land tenure and other problems. However, lack of irrigation, finance, storage and marketing facilities and bad harvests affects it adversely. To safeguard the continues increase in the prices of agricultural products especially food based- products, that can be imported in large quantities due to the problem of exchange rate volatilities, the prices of imported products are relatively higher than their domestic prices. This tends to raise the price level upward in the economy, when there is increase in the price of food items, wage earners demands for the increase in their wage rates in order to compensate for the fall in their real incomes. But wages are directly proportionate to the cost of living index, they are, therefore increase.

Whenever the cost of living index rises above an agreed point, it will further increase the demand for goods and a further rise in their prices. But in Nigeria infrastructural deficiency is the major cause of inflation such as prevalence of power supply failure, frequent increase in the price of fuel, rise in population which is not accompanied by increase in the available resources and poor commitments of government to agricultural policies. Therefore, structural rigidity theory of inflation will be applicable to Nigerian inflationary trend and should be used as the basis for theoretical framework.

Model Specification:

$$CPI = F(M2, EXR, LR) \quad (1)$$

Where CPI = consumer price index, M2 = Money supply, EXR = exchange rate.

The above equation can be transformed to natural logarithm in order to allow for log-linear specification for empirical analysis. It can be written below as:

$$lnCPI_t = \alpha_0 + \alpha_1 lnM2_t + \alpha_2 lnEXR_t + \alpha_3 lnLR_t + \mu_t \quad (2)$$

Where ln CPIt, is the natural log of consumer price index, lln M2i is natural log of money supply, ln EXRt is natural log of exchange rate, ln LRt is natural log of Lending rate and ìt is residual term assumed to be white noise. The reason why the study converts the variables into natural logarithm stems from the fact that the large values of the variables under the study are reduced into small ones.

Unit Root Test

Macroeconomic time series data are considered to be characterized by stochastic trend which can be removed by differencing. Thus, the study will use or adopt Augmented Dickey-Fuller (ADF) (1979) and Phillips Perron (PP) techniques to test and verify the unit root property of the series and stationery of the model. If the unit root tests find that a series contain one unit root, the right way of transforming the data is by differencing the variables prior to their inclusion in the regression model, but this incurs a loss of important long-run information. Unit root is the formal way to test the stationarity of a series. Nelson and Plosser [23] opined that almost all time series macroeconomic data typically have a unit root. Hence, by taking first differences the null hypothesis of non-stationarity of series is rejected for most of the variables. Unit root tests are essential in investigating the stationarity of a time series because non-stationary series invalidates many empirical researches results and hence requires special treatment. Granger and Newbolt [24] have found by simulation that the F-statistic calculated from the regression involving the non-stationary time-series data does not follow the Standard distribution.

Alternatively, if the variables are co-integrated, that is, if a long-run relationship exists among the set of variables that share similar non-stationary properties, regression involving the levels of the variables can proceed without generating spurious results.

Bound Test: To examine the existence of long-run relationship among variables, the study adopts bound testing approach and Autoregressive distributed lag (ARDL) model for co-integration test. However, Pesaran et al. [25] argued that F- bounds on the critical values for the asymptotic distribution of the F-statistic, for different situations (e.g., different numbers of variables, (A + 1), give lower and upper bounds on the critical values. In each case, the lower bound is based on the assumption that all of the variables are I (0) and the upper bound is based on the assumption that all of the variables are I (1). In fact, the truth may be somewhere in between these two polar extremes. If the F-statistics exceed their respective upper critical values at any lag-length, it implies that there exists the long-run relationship among variables and vice-versa [26-27].

Long run and Short run

The Error Correction Model was introduced by Sergan [28] and later perfected by Engle and Granger [29]. It is used to correct disequilibrium and testing for long and short run causality among co-integrated variables. Basically, ECT has four advantages.

First, it is a comfortable way of measuring the correction from disequilibrium in the previous time period, hence allowing for a meaningful economic interpretation. Secondly, in the presence of co-integration, the first difference specification of the ECT helps to eliminate the trends from variables thereby removing the problem of spurious regression. Third, the ECM can very easily be adapted in a general-to specific econometric modeling process. This is actually the most parsimonious ECT which gives the best fit to the data. Fourth, the disequilibrium error term is a stationary variable given co- integration. An important implication of this is that there exists some adjustment process which minimises errors in a long-run relationship.

ARDL model deals with single co-integration and is introduced originally by Pesaran and Shin [21] and further extended by Pesaran et al. [25]. Therefore the model is:

$$\Delta lncpi_t = \alpha_1 + \sum_{i=1}^{n} \beta_1 \Delta lncpi_{t-i} + \sum_{i=0}^{n} \beta_2 \Delta lnm_{2t-i} + \sum_{i=0}^{n} \beta_3 \Delta lnexr_{t-i} + \sum_{i=0}^{n} \beta_4 \Delta lnlr_{t-i} + \theta_1 lncpi_{t-1} + \theta_2 lnm_{2t-1} + \theta_3 lnexr_{t-1} + \theta_4 lnlr_{t-1} + \varepsilon_{1t}$$

(3)

where: Δ is the first-difference operator and the constantis α_1 the coefficients on the trends are β_1, β_2, β_3, and β_4 *The* θ_1 , θ_2, θ_3 and θ_4 represent the lagged dependent and independent variables respectively, ε_{it} is error terms and the n represents the maximum lag length that is decided by the lag selection.

Result And Discussion

Unit Root Test for Stationarity

Unit root is the formal way to test the stationarity of a series. Nelson and Plosser [23] opined that almost all time series macroeconomic data typically have a unit root. Hence, by taking firstdifferences the null hypothesis of non-stationarity of series is rejected for most of the variables. Thus the significance of the test is overstated and a spurious result is obtained. The presence of a stochastic trend is determined by testing the presence of unit roots in time series data. In order to determine whether the macro economic variables are stationary or otherwise, unit root tests are conducted if non-stationary at levels, we then go ahead to determine the order of integration. The econometric model assumes non-stationary of the series, it is necessary to test whether the series are stationary or not. Time series data exhibit non-stationarity of data, hence, there is need for making them to be stationary.

The result of the Augmented Dickey-Fuller and Phillips Perron unit root test presents in Table 1, shows that the variables employed in this research are not all stationary at levels; only lnM2 is stationary in both Augmented dickey-fuller and Phillips perron unit root test. However, in both intercept and intercept and trend only lnM2 is stationary at levels or I (0). Therefore, the conventional null hypothesis or econometric theory that said time series data are not stationary is rejected here. Unit root tests are essential in investigating the stationarity of a time series data because non-stationary series invalidates many empirical research results and hence requires special treatment [24]. The unit root result derived above is in line with the Girma [30].

Table 1: Results of Unit Root Test on Levels

Variables	Augmented Dickey fuller		Phillips Perron	
	Intercept	Intercept and Trend	Intercept	Intercept and Trend
lnCPI	-1.261	-1.603	-1.019	-1.059
lnEXR	-0.522	-1.395	-0.560	-1.739
lnLR	-1.581	-1.088	-1.593	-1.171
lnM2	-3.836***	-3.773**	-3.189**	-3.009

Note: The asterisks ***, ** and *, imply 1% and 5% and 10% levels of significance, respectively.

Table 2: Results of Unit Root Test on First Differences

Variables	Augmented Dickey fuller		Phillips Perron	
	Intercept	Intercept and Trend	Intercept	Intercept and Trend
lnCPI	-3.170**		-3.158**	
		-3.278*		-3.198*
lnEXR	-5.166***	-5.106***	-5.159***	-5.097***
lnLR	-5.980***	-6.124***	-5.992***	-6.124***
lnM2	-5.129***	-5.128***	-5.302***	-5.369***

Note: The asterisks ***, ** and *, imply 1% and 5% and 10% levels of significance, respectively.

The result of the Augmented Dickey-Fuller and Phillips Perron unit root tests presents in Table 2 shows that the variables employed in this research are all stationary at first difference. The variables must be stationery at first difference as far as ARDL is concerned [31]. Both in ADF and PP the variables are stationery at first order, which justifies that the study will use ARDL [31]. Because non-stationary series invalidates many empirical research results and hence requires special treatment.The unit root results are in line with the findings of Duasa [32] and Ozofere [33].

Lag Selection

The selection of lag length is based on statistical information criteria.The Schwarz information criterion and Hannan-Quinn information criterion are prone to selection of lag 1, while the Akaike information criterion, Final prediction error and sequential modified LR test statistic suggest lag length of 2, at low lag lengths; however, the errors are serially correlated.

Table 3: Lag Selection Criterion

Lag Length	LogL	LR	FPE	AIC	SIC	HQ
0	-107.696	NA	0.004	5.879	6.051	5.940
1	71.962	312.038	7.67e-07	-2.735	-1.873*	-2.428*
2	91.687	30.106*	6.50e-07*	-2.931*	-1.379	-2.379
3	105.187	17.766	8.02e-07	-2.799	-0.558	-2.002

Note: The asterisk * indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SIC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

The asterisks ***, ** and *, imply 1% and 5% and 10% levels of Significance

Table 3 presents the selection of lag length research criteria which is based on Schwarz information criterion. The study chooses lag 1, the reason why the study chooses SIC criterion is that the SIC formula, appears to be superficially very simple; its derivation is well founded on information theory. SIC performs better than others [33]. SIC can also be used when hypothesis is valid for both nested and non-nested models, when comparing models with different error distribution and also to avoid multiple testing issues. Therefore SIC is the most accurate criterion for all realistic sample sizes. However, at lower lag the errors are minimized [34]. The choice of SIC criterion is also in consonance with the work of Khan et al. [35].

The ARDL F- Bound Test

Pesaran et al. [25] argued that F- bounds on the critical values for the asymptotic distribution of the F-bound, for different situations (e.g., different numbers of variables, (A + 1), give lower and upper bounds on the critical values. In each case, the lower bound is based on the assumption that all of the variables are I (0) and the upper bound is based on the assumption that all of the variables are I (1). However, in order to examine the existence of long-run relationship

among variables, the study adopts bound testing approach and ARDL model for co-integration test. If the F-bound exceeds their respective upper critical values I (1) at any lag-length, it implies that there exists the long-run relationship among variables and vice-versa [26-27].

Table 4 shows the computed F- bound for lnCPI as dependent variable stands as 4.412; it exceeds the upper boundary at 1%, level of significance. The computed F- bound is very significant at 1% level of significance. It means that there exists a long run relationship between

Table 4: F-Bound Test Table

Dependent Variable	InCPI
Optimum Lag	(1,1,1,0)
F-Statistics	4.412***
Critical Values	1%
Upper Bound	4.37
Lower Bound	3.29
x2SERIAL	0.291[0.593]
x2 NORMAL	3.7793[0.151]
x2 ARCH	1.8179[0.186]

Note: The asterisk ***, ** and * imply 1% and 5% and 10% levels of significant respectively.

Table 5: ARDL Long Run Test

	Dependent variable is lnCPI		
Variables	Coefficient	Standard Error	T-Ratio[prob]
InEXR	0.606	0.239	2.5291[0.017]**
InM2	0.212	0.665	0.319[0.752]
InLR	1.5128	1.0948	1.382[0.177]
Dummy	0.389	1.0126	0.384[0.703]
Constant	-3.119	2.544	-1.226[0.229]

Note: The asterisks ***, ** and *, imply 1% and 5% and 10% levels of significance, respectively.

lnCPI, lnEXR, lnM2 and lnLR in Nigeria. The F-bound null hypothesis which said that there are no relationships between inflation, exchange rate, Money supply and lending rate, is conclusively rejected at 1% level of significance. The optimum lag is (1, 1, 1, 0), the diagnostic test shows that there is no serial correlation, no heteroschadesticity, which means the co-integration relationship, exists among variables and the model is good for the study. The results of the above F- bound test are in line with the Joseph and Fosu [36-37].

ARDL Long Run Relationship

Table 5 presents the long run representation of ARDL, the estimated coefficients of the long-run relation show that lnM2 and lnLR do not have long run relationships with inflationary trend in
Nigeria. Therefore, the lending rate (lnLR) and money supply do not reduce or increase inflation in Nigeria in the long run; the interest rate channel (lnLR) of monetary policy is not significant because it does not affect the consumer price index in Nigeria. While the exchange rate channel of monetary policy is found to be very significant in the sense that 1% increase in the exchange

rate (lnEXR) causes inflation to increase by 60.6% percent in Nigeria. The dummy variable is a proxy of the transition of government from military regime to the civilian government as well as the impact of structural adjustment programme (SAP) on the monetary policy structure of the Nigerian economy. However, the dummy here is insignificant i.e. it does not show any relationship.

This is indication that exchange rate channel of monetary policy is dominant in explaining inflation condition in Nigeria. However, it will form the basis for inflation targeting in the long run. However, the Nigerian economy is bedeviled with the problem of inflation in the sense that Nigerian economy is structurally unbalanced with the heavy reliance on crude oil as the main source of foreign exchange earnings. However, due to the fact that the Nigerian economy is import oriented economy, exchange rate channel of monetary policy exerts high impact in transmission process in Nigeria. Therefore, the higher the exchange rate the higher the level of inflation in Nigeria. This result of positive relationship between exchange rate and inflation is in line with the results found by Muhammad Arshad Khan and Muhammad [38]. However, the positive relationship between exchange rate and inflation is also in consistent with the monetarists' theory of inflation supported by Friedman. The higher the exchange rate, the higher will be the money supply and inflation also.

However, the result derives is also in line with K. Holod [39], in Bangladesh that the exchange rate channel of monetary policy gives more information about inflationary trend Bangladesh. Moreover, the result derived above is in line with Ifeakachukwu [40] who investigated the monetary transmission mechanism in Nigeria: a sectoral output analysis. He found out that the interest rate was most effective in transmitting monetary policy to agricultural and manufacturing sector, while exchange rate channel was most effective in building and Construction Company.

ARDL Short Run Relationship

Table 6 presents the short run representation of ARDL, the estimated coefficient in the short run. The error Correction term (ECT) estimates is -0.100(10%) is highly significant, has the correct signs (negative sign), less than one and very significant. It also implies a fairly low speed of adjustment to equilibrium after a shock of approximately 10% of disequilibria from the previous year's shock converges back to the long-run equilibrium in the current year. Short run relationships exist among ΔlnCPI, ΔlnM2 and ΔlnLR. The negative or inverse relationship between money supply (ΔlnM2) and inflation (ΔlnCPI) shows that 10% decrease in money supply increases inflation by -16.8% and increase in money supply by monetary authorities reduces inflation in short run in Nigeria. This inverse relationship between ΔlnCPI and ΔlnM2 is in line with the structuralist theory of inflation who argued that inflation is not always and everywhere monetary phenomenon but also structural rigidities, infrastructural inadequacy that causes inflation.

Table 6: ARDL Short-Run Test

	Dependent variable is lnCPI		
Variables	Coefficient	Standards Error	T- Ratio[prob.]
lnEXR	-0.081	0.074	-1.093[0.282]
lnM2	-0.163	0.092	-1.782[0.084]*
lnLR	0.151	0.084	1.809[0.079]*
Dummy	0.039	0.099	0.391[0.698]
Constant	-0.292	0.256	-1.139[0.262]
ECTt-1	-0.100	0.036	-2.759[0.009]***

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Diagnostic Test	
x2SERIAL	2.938[0.097]*
x2NORMAL	0.278[0.870]
x2ARCH	1.9601[.170]
R2	0.471
DW-statistic	1.447

Note: the asterisk***, ** and *, imply 1% and 5% and 10% levels of significance respectively.

Likewise, there is direct relationship between lending rate lnLR and lnCPI in Nigeria in short run, in the sense that 5% increase in lnLR causes lnCPI to increase by 17%. The interest rate channel of monetary policy is very dominant in explaining inflation condition in Nigeria in short run. However, it should form the basis for inflation targeting in the short run in Nigeria. However, it depicts that the higher the lending rate, the higher the level of inflation and the lower the lending rate, the lower the inflation. This result is in line with the Keynesian theory of monetary policy transmission which argued that monetary policy operates effectively through the interest rate channel.

However, the results found are in line with the Ozofere [33]. Moreover, the nature of inflation in Nigeria is structural, in the sense that it emanates due to infrastructural inadequacy, hoarding and other forms of rigidities. However, the result found above is in line with Ifeakachukwu [40] who investigated the monetary transmission mechanism in Nigeria: a sectoral output analysis. He found out that interest rate was most effective in transmitting monetary policy to agricultural and manufacturing sector, while exchange rate channel was most effective in building and Construction Company.This result shows the evidence of the existence of short run relationships among the above mentioned variables under study. However, the diagnostic test shows that the (R2) signifies the overall goodness of fit. The value of R2 is 0.471 which means the goodness fit is high and the fact that the model is suitable for the study.

However, the diagnostic tests consist of four tests: serial correlation, normality and DW-statistic and Heteroscadasticity tests. There is serial correlation at 10% level of significant, but the serial correlation has been taken care of by DW-statistic test because the value is

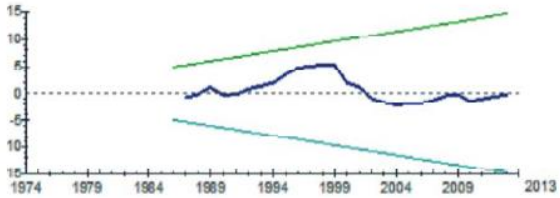

Fig. 1: Cumulative Sum of Recursive Residuals

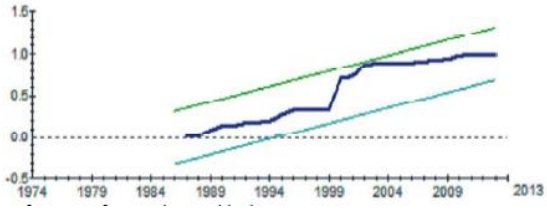

Fig. 2: Cumulative Sum of Square of Recursive Residuals 1.436. moreover, there is no heteroscedascity as the F version is not significant therefore the estimated results of the study possesses the overall goodness of fit since it is free from heteroscedascity. However, the dummy

here is insignificant i.e. it does not show any relationship. Therefore, the conventional null hypothesis which says no serial correlation, no heteroscedascity is accepted here. The diagnostic test is in line with Zeb et al. [41] and Khoshnevis and Khanalizadeh [42].

CUSUM is an acronym for cumulative sum of recursive residuals which is used to measure the stability of the estimated model of the study. (CUSUM) and the CUSUM of square (CUSUMSQ) are applied to assess the parameter stability [43]. However, the graphical presentation of the recursive coefficient is used to judge the stability of the coefficient. As it can be seen in Figure 1 and 2 below, the CUSUM is completely stable within the required range. It doesn't exceed the two boundaries upward and below, which means the model is good and suitable for the study. Figure 1 and 2 below shows the stability of the model
also, as the CUSUM of squares test statistics curve is within the two boundaries Swhich illustrates the goodness as well as the stability of the model under study.

Therefore, the stability of the ARDL variables is tested by using the CUSUM and CUSUMsq tests which is developed by Brown et al. [44]. The graphs of Figures 1 and 2 respectively. The results show that the ARDL parameters are stable because graphs of the CUSUM and CUSUMsq (blue lines) are within the critical bounds. However, this CUSUM and CUSUMsq tests are in line with Kyophilavong et al. [45].

Conclusion

Based on the above findings, the study can conclude that in long run, the exchange rate channel of monetary policy is dominant in explaining the inflation condition in Nigeria. However, it should form the basis for the strategy to follow to reduce the inflation in Nigeria. However, in short run, the interest rate channel of monetary policy is dominant in explaining the inflation condition in Nigeria. However, it should form the basis for the strategy to follow to reduce the inflation in Nigeria. Therefore, the interest and exchange rate channels of monetary policy are the most active channels in Nigeria and they should be used as the two leading indicators in fighting inflation in Nigeria.

The results derived above are in consonance with the Keynesian monetary policy theory that says monetary policy operates effectively through the traditional Keynesian interest rate channel. It implies that a monetary tightening in the form of a shock to the Taylor rule that increases the short-term nominal interest rate would translate into an increase in the real interest rate as well when nominal prices move sluggishly due to costly or staggered price setting. The results derived above are also in line with the Ozofere [33] on monetary transmission mechanisms in Nigeria.

However, the results derive above are in line with Ifeakachukwu [40] who investigated the monetary transmission mechanism in Nigeria: a sectoral output analysis. He found out that the interest rate was most effective in transmitting monetary policy to agricultural and manufacturing sector, while exchange rate channel was most effective in building and Construction Company. However, the result is in line with Andre et al. [46] examined the monetary policy channels in Brazil through the lens of a semi-structural model using ARDL, they found out that the house hold interest rate channel of monetary policy transmission mechanism is the most effective for describing the response of output to a monetary policy shock. Based on the decomposition of inflation, the house hold interest rate as well as the exchange rate channels is the main transmission channels.

It is very pertinent to talk about the gaps discovered in the research, based on the previous researches conducted on the related topic. First of all, many previous literatures that the researchers reviewed, there are no researches on monetary transmission mechanisms and inflation targeting in Nigeria that used the Autoregressive distributed lag (ARDL). Most of the researchers used vector autoregressive model (VAR) and structural vector autoregressive

(SVAR) model in Nigeria. Secondly, this research examines the long run and short run relationships between money supply, exchange rate, lending rate and inflation trend in Nigeria semultaneously. Unlike other researches conducted so far on monetary policy transmissions where the researches paid attention to only channels of monetary policy without talking about inflation targeting frame work. Lastly, there is no any research in Nigeria that uses the variables that this research employs.

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DOES WINNER'S CURSE HYPOTHESIS EXIST IN EXPLAINING THE UNDERPRICING PHENOMENON OF MALAYSIAN SHARIAH-COMPLIANT IPOs?

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Abstract: *The Shariah-compliant status seems to be the major concern of the Securities Commission (SC) even though in reality the Malaysian stocks market players and the public listed companies (PLCs) owners are dominated by non-Muslims. The need for Shariah-compliant status seems more significant when the SC in 2004 introduced the pre-IPO Shariah-compliant list for new issues. This study aims to examine whether the short-run performance of Malaysian IPOs experience winner's curse in a sample of 153 Shariah IPOs issued by Malaysian companies between January 2005 and December 2014. The study uses two alternative measures to test the presence of winner's curse; allocation rate (ALLOCT$_j$) or private place to institutional investors (DPRIVATE).The negative associations between both of these variables and initial returns suggest the existence of winner's curse in the Malaysian IPOs regardless of Shariah status and level of Shariah compliance. This reveals a phenomenon where the high initial returns are purposely created by the issuers (by offering the IPOs at a deep underpricing) to allure the uninformed investors into the markets to replace the lack of interest from the informed investors.*

Keywords: *Initial Public Offerings (IPOs) ·Winner's curse ·Underpricing ·Malaysian Shariah-compliant IPO*

Introduction

Equity capital still represents as the main source of external financing for many firms in Malaysia, next to bank borrowings, particularly because the bond market in the country remains relatively very small. Therefore, the firms' first issuances of equity to the public are always treated as a crucial event for issuers and underwriters to identify the extent of the success of the new issues. As such, this event which is more commonly referred to as initial public offerings (IPOs) is significant due to its role as major fund providers for listed firms in the process of expansion.

Initial returns of initial public offerings (IPOs), also known as underpricing, are referred to the abnormal initial return occurs when the IPO offer price is set much lower than the price on the first trading day or when the price on the first day of listing increases to a level much higher than the offer price. In Malaysia, even though there are quite a number of

studies on IPO performance that have been conducted [1,2,3,4,5,6,7], those that concentrates on the Islamic segment of the market is rather scant despite the fact that the emphasis on Shariah-compliant status and its impact towards the stock performance is on the rise (see for example, [8]).

The Shariah compliance status means that the company's activities should be free from any form of interest based transactions, unethical elements and doubtful transactions. The Shariah-compliant status seems to be the major concern of the SC even though in reality the Malaysian stocks market players and the public listed companies (PLC) owners are dominated by non-Muslims. The need for Shariah-compliant status seems more significant when the SC in 2004 introduced the pre-IPO Shariah-compliant list for new issues. The increasing statistics on PLC with Shariah-compliant status (refer to Appendix A) traded in the Bursa Malaysian are consistent with the risk control elements in the Shariah status that attract both Muslim and non-Muslim investors.

One of the most widely cited findings that explain the underpricing phenomenon is the winner's curse hypothesis by Rock [9]. The study describes the adverse selection problem as the main problem that restrains the uninformed investors from entering the market. This leads to the underpricing of new issues by issuers in order to regain the interest of uninformed investors in the IPOs. Other relevant studies on the winner's curse include those by Baron [10], Beatty and Ritter [11], Balvers et al. [12, Beatty [13], and Levis [14]. A study by Chowdhry and Sherman [15] on UK-style IPOs finds that underwriters have two reasons for underpricing such as to reduce the adverse selection problem and to reduce the probability that the issue will fail due to the leakage of adverse information.

Based on the above scenario, this study also suspects that investors' sentiments play a role in the performance of Shariah–compliant IPOs particularly in terms of the degree of underpricing. How far the issues of adverse selection that Rock [9] describes as winner's curse play a role in the IPOs' aftermarket performance is among the issues that this study highlights.The study will focus on whether the initial performance of Shariah-compliant IPOs experiences the impact of winner's curse. The study uses the winner's curse hypothesis model on the sample of Shariah-compliant IPOs issued during the period of 2005 to 2014. This study might continue the effort of Rock [9], Amihud et al. [16] and Yong [17] in exploring the existence of the winner's curse effect with the Malaysian IPO samples.

The remainder of the paper is organised as follows. Section 2 presents past studies on Malaysian Shariah-compliant IPOs and winner's curse model. Section 3 describes the research methodology, followed by section 4 reports and discusses on the findings. Section 5 provides the conclusions and implications of the study.

Literature Review

Listing Structure of Malaysian IPOs

Initial public offerings (IPOs) are defined as new issues that are sold to investors for the first time. The new shares are traded in a primary market. Due to the new issues perceived to be sold based on the offer price below the true values of the IPO, the activity of flipping[16] on the first day of trading in order to realize quick return is a common situation in most share markets. In order to examine the post listing performance, the structure of Malaysian share market trading should be clarified first, as every country's shares market has its own unique

[25] Flipping refers to the immediate sale of IPO's after its listing process especially in the early days of trading.

characteristics, such as the *Shariah*-compliant status and thirty percent of Bumiputra (indigenous people of Malaysia) mandatory requirement.

In IPO trading systems, there are three parties involved in IPO issuance which are the issuing firms, the underwriters and the investors. Basically, the players in the stock market are divided into two categories: individual investors (retail investors) and institutional investors. Institutional investors are regarded as informed investors while retail investors are considered uninformed investors. Investment banking plays an important role in IPO issuance. The bank acts as underwriter and helps to distribute a new securities issue in the primary market. Normally, their clients are the companies that will seek the investment banker's advice on how to get capital or on how to raise funds through equities.

In order to sell the IPOs, there are three types of selling mechanisms being used in share trading. These are auctions, book building concepts and fixed-priced offers. Basically, IPOs in Malaysia are sold using the fixed-price offer mechanism while other country like U.S.A uses book-building mechanism. In Malaysia, the application for IPO is submitted for approval to the Foreign Investment Committee (FIC), and Ministry of International Trade and Industry (MITI). It then is submitted to the SC for approval where it examines the company forecast profits and dividends. The SC limits the market's role in the determination of the subscription price. Most Malaysian IPOs fall within the category of three types of new issues: public issue, offers for sale or a hybrid of public issue and offer for sale. Public issues refer to the IPOs offered to the public for the first time. They are usually allocated to individual investors better known as retail investors. The implication of the issuance of these new shares will result in an increase in the paid up capital of the company. The public issues are known as primary shares. Currently, companies going for IPO must have 25% of shares in public hands and have *Bumiputras* holding 30% shares under FIC rules[17].

Offer for sale are basically shares allocated to the original shareholders (owners), but then offered to the public to buy. The owner is discouraged from selling shares before the expiration of the lock-up period. In Malaysia, the original shareholders cannot immediately sell and transfer the IPOs. The Securities Commission has already imposed the regulation on the original shareholder or the owner, pertaining to the sale of the shares that they own. This is somehow not imposed on the retail and institutional investors. In Malaysia, the owner-managers need to face the lock-up period of three years before they can proceed to sell their shares in the secondary market. The lock-up period basically is an agreement between the underwriter and the issuing firm prohibiting the sale of shares by insiders for a certain period of time. The lock-up period averages around six months in other countries such as the U.S.A. Lastly, private placement refers to the IPOs offered to institutional investors.

Past Studies on Malaysian Shariah-Compliant IPOs

The uniqueness of the Malaysian Capital Market compared to the other countries in the Asian region is the issuance of Shariah–compliant equities. These equity instruments must comply with the rules of the Shariah Advisory Council (SAC). The two basic criteria for new IPOs to be listed as Shariah-compliant are that the primary business activities of the company must be halal and the financial management of the company must be free from riba (interest) elements. At the moment, there is a lack of studies that focus on Shariah–compliant

[26] The new policies effective from the year 2009 will see the FIC scrapped the thirty percent rule for companies going for IPO.

IPOs that deal with underpricing, investors' sentiment, and the cold and hot market phenomenon. In general, studies on the shares' market performance that traded on Shariah-compliant counters versus conventional counters have been increasing in Malaysia (see, [18, 19, 20].

The Shariah-compliant IPOs performance is one of the new dimensions that the authors capture. This is part of the unique features of Malaysian IPOs. The study by Abdul Rahim and Yong [7], however, find that the Shariah-compliant status does not alter the pattern of the initial return. The downward trend gives a mean initial return of 31.99 percent as compared to advanced markets. This could have been caused by the Asian financial Crisis and the FIC deregulation on pricing restraint. According to the authors, the Shariah-compliant IPOs are also driven by demand (over-subscription ratio) factors rather than (offer size) factors. Other than that, their study finds a positive relationship between the initial return and the type of offer (public issue).

Winner's Curse Hypothesis:

Nowadays, the basic fact about the underpricing of IPOs in the short run is well accepted but the cause of underpricing and the degree of underpricing in the IPO market is still being discussed and is a source of debate around the world. In past studies by Baron [10], Rock [9], Beatty and Ritter [11], Beatty [13], and Levis [14], one of the reasons commonly given for underpricing is asymmetric information and the adverse selection problem. Among the widely cited findings that explain the underpricing phenomenon is the winner curse hypothesis of Rock [9]. The hypothesis divided the investors into two groups known as informed investors and uninformed investors. Asymmetric information leaves the informed group with information on the new issues' (IPO) true values. This useful information will help the informed investor to buy only the IPOs with a higher after-market price compared to their offer price.

On the other hand, the uninformed investor faces the possibility of subscribing to IPOs that have a lower aftermarket price compared to their offer price. The uninformed investor faces information disadvantage about the market value of new issues. Of course, they have a chance to win the large allocation of new issues when less proportion of informed investors subscribes the new issues. The uninformed investors realize that they face the probability of getting the winner's curse effect. Therefore, in order to ensure the success of issuers offering, they under-price the issues in order to compensate investors. The study also describes the adverse selection problem as the main cause of the underpricing of new issues by the issuer.

Among the supporters of this hypothesis are Chowdhry and Sherman [15]. They believed that the policy in share allocation in a number of countries[18] including Malaysia that they quoted favoured small investors. The policy plays its role in terms of the notion of fairness. This is because with the U.K system the underwriter is not given as much freedom as underwriters in the U.S. system in terms of the allocation of new issues. With these

[28] Chowdhry & Sherman (1996) identify that among the countries that tend to favour small investors are Hong Kong, India, Indonesia, Malaysia, Singapore, Thailand, Bangladesh, and the U. K. These countries use the U.K method that places the "Fairness Rule" in the allocation of shares which requires the fair treatment between investors on the basis of order size. This is in contrast with the U.S system that gives the underwriters considerable discretion in allocating new issues.

strategic allocations, the authors claim that the issuers have a chance to choose a higher offering price as there is no need for the issuers to compensate investors for the adverse selection problem. Such a policy, according to them, reduces the winner curse or adverse selection problem for uninformed investors. The degree of underpricing tends to be greater with the U.K system but is offset with the policy of favouring small investors.

Other supporters of this theory are Amihud et al. [16]. They conducted a study of adverse selection to test the theory of winner's curse on the Israeli IPO market. They find that underpricing is negatively related to the rate of allocation to subscribers and this result is consistent with the existence of adverse selection Rock [9]. According to the study, uninformed investors earned slightly less in initial returns compared to informed investors. In other words, the overpriced IPOs for uninformed investors show that the demand from this group for new issues is high. Other supporting study is by Yong [17]. He has found the existence of winner's curse effect in Malaysian IPOs market using the information on 120 Malaysian private placement IPOs from 2001 to 2006. The result shows that uninformed investors prefer a higher initial return when the percentage of informed investors entering the market is less. The winner's curse theory is, however, criticized by Welch [21] who introduced the cascade model or bandwagon effect. The study believes that the potential investor will imitate earlier investors in making purchasing decisions.

Methodology

The data set consists of all *Shariah*-compliant IPOs' issued from January 2005 until December 2014 which is listed on the Main Market of Bursa Malaysia (previously known as the Kuala Lumpur Stock Exchange or KLSE). As in 2009, the first and second listing boards were then called as the Main Market while the MESDAQ was then introduced as the ACE Market. This study is fully aware on the effort by Bursa Malaysia and SC to upgrade the Malaysian equities market in 2004. Previously, the allocations of new issues for institutional investor were group together under the public issue category. However, the "private placement" category has been separated from public issue category in 2004. Since then, Malaysian IPOs are classified into offer for sale, public issue and private placement. This study also finds that in 2004 SC has introduced the pre-IPO Shariah status.

The data on subscription ratio and the quantity of IPOs allocated to the institutional investors and retail investors helps this study to observe the ideas in the theory of market sentiments such as the winner's curse hypothesis. By observing the initial return and allocation ratio, the study can gain a clear picture on whether they are consistent with the winner's curse effect theory or otherwise. The other two main variables are extracts from the company's prospectus as they comprise the data on ratio of growth funds to total IPO proceeds and IPOs earning's risk that influence initial returns of IPOs. The objective is tested while taking into consideration control variables including ownership structure, underwriter reputation, company age, company size, offer size, and market condition.

Data are obtained from the Bursa Malaysia's website and customer service unit, Securities Commission website and it's Islamic Capital Market Unit, company's prospectus and annual report, Investors Digest, Star on-line and OSIRIS database. The Shariah status of the company is determined based on the list published by the *Shariah* Advisory Council (SAC) of Securities Commission and Knowledge Centre of Bursa Malaysia.

Main VariablesMeasurement

The dependent variable in this study is the initial return of IPO or underpricing. In order to examine the impact of winner's curse effect on the under-pricing level, the study focuses on two alternative measures of independent variables namely allocation rate and private placement. The study also uses six other independent variables as control variables which include firm size, firm age, offer size, ownership variables, underwriter reputation and lastly, market condition.

Dependent Variables: Initial Return of IPO (Underpricing)

The dependent variable in this study is the value of underpricing for IPOs. There are various studies that focus on the determinant factors of short-run performance of the IPO and the impact of those determinants on the underpricing level. The underpricing (initial return) result helps this study to develop a general pictures of the performance of the Shariah-compliant IPOs. The standard measure to calculate initial return in most studies is by calculating the percentage change in price on the first day of trading, between the offer price and the closing price [22]. Similarly, the Malaysian researchers also used the offer-to-close as the measurement of initial return [1-2]. This method also applies in Agarwal [23] who focuses on the closing price and subscription price on the first day of trading. In the spirit of Abdul Rahim and Yong [7] and most of the current studies, two methods are used to calculate the underpricing on the first day of trading.

The first is the percentage change in price from the offer price to the opening price,

$$IPORTN_j = \left(\frac{P_{OPEN,j}}{P_{OFFER,j}} - 1 \right) x100$$

(Eq. 1a)

Where: $P_{OPEN,j}$= opening price, and
$P_{OFFER,j}$= offer price

The second is the percentage change in price from the offer price to the closing price.

$$IPORTN_j = \left(\frac{P_{CLOSE,j}}{P_{OFFER,j}} - 1 \right) x100$$

(Eq.1b)

Where: $P_{CLOSE,j}$= closing price, and
$P_{OFFER,j}$= offer price

The advantage of using both offer-to-open and the offer-to-close methods help the study to identify the pattern of underpricing in the beginning and at the end of the trading day. The study prefers to emphasize more on initial returns offer-to-open ($IPORTN^{OPEN}$) results rather than initial returns offer-to-close ($IPORTN^{CLOSE}$) results. The study agrees with Yong [24] that $IPORTN^{OPEN}$ is the pure initial return without the market element (noise). The outcomes

of $IPORTN^{CLOSE}$ are still presented for reference purposes. In a few IPOs issuance, the study applies the weighted average offer price method to calculate the offer price due to difference quotation made for public issue and private placement issue.

Independent Variables: Allocation Rate and Private Placement to Institutional Investor

This study adapts and enhances the methods used in the Amihud et al. [16] to test the existence of winner's curse by evaluating the adverse selection aspects in Malaysian Shariah-compliant IPOs. The evidence of adverse selection is assessed by examining the relationship between the allocation rate to subscribers and overpriced IPOs. The allocation is defined as the proportion of subscriber's order that is filled in the IPO. The data on reciprocal of oversubscription ratio is used to measure allocation rate. The data on "number of times oversubscribe" from 1999 to 2003 are obtained from Investors Digest. However, the data on "number of times oversubscribe" from 2004 to 2008 are prepared by the Bursa Malaysia through "event package" as Bursa Malaysia stop publish the Investors Digest in the middle of 2004. The logistic transformation of the allocation rate or ALLOCTj as suggested by Cox (1970) is described through the allocation model below:

$$ALLOCTj = \log (ALLOC + a) / (1- ALLOC + a) \quad \text{(Eq. 2a)}$$

Where,

i. a= 0.5/N and, N is the sample size.
ii. ALLOC = 1 / OVERSUBSCRIPTION RATIO = NO. OF UNITS ISSUED / NO. OF UNITS SUBSCRIBE (Eq. 2b)

This study also adapts Yong [17] method to address the existence of the winner's curse by measuring the mean of initial return in the private placement and non-private placement issues. The data is obtained partly from Investors Digest and the rest are from Bursa Malaysia library and its customer service unit. The private placement allocations according to Yong [17] are gained popularities since 2001 onwards. Therefore, no private placements for IPOs are detected in 1999 and 2000. This study enhance the previous method by creating a dummy variable taking a value of 1 if the offer includes private placement, otherwise the value is 0. The variables are known as DPRIVATE. The number of samples in Table 3 below already exclude out the IPO's with restricted or special issues and IPO's under REITS category.

Control Variables

There are six control variables that are used in this study which include company size, company age, ownership, offer size, underwriter reputation, and market condition.

HypothesisTesting

H_1: There is no evidence of winner's curse in influencing the initial returns of IPOs regardless of Shariah status and level of Shariah compliance.

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To test the hypothesis, this study employs cross-sectional multiple regression analyses that take the following forms;

$$IPORTN_i = \alpha + \beta_1 ALLOCT_i + \beta_J \sum_{j=1}^{J} CV_{j,i} + \varepsilon_i \qquad \text{(Eq. 3a)}$$

$$IPORTN_i = \alpha + \beta_1 DPRIVATE_i + \beta_J \sum_{j=1}^{J} CV_{j,i} + \varepsilon_i \qquad \text{(Eq. 3b)}$$

Where;

α	=	the regression intercept
β	=	the estimated coefficients
$IPORTN_i$	=	(Closing – Offer price) / Offer price or (Opening – Offer price)/ Offer price.
$ALLOCT_j$	=	The logistic transformation of the allocation rate.
$DPRIVATE_i$	=	The dummy variable takes a value of 1 if the offer includes private placement. Otherwise, the value is 0.
$CV_{j,i}$	=	Control variables which are:
Age	=	The number of years between the firm's year of incorporation and the IPO listing year.
Company size	=	The total assets that the company owns prior to listing
Offer size	=	The number of shares offered multiplied by the offer price.
Ownership	=	Percentage of shares owned by five largest shareholders after the new issue to the total number of shares outstanding after the IPO listing.
Underwriter reputation	=	The reputation of investment banks those are responsible for IPOs' offering. A dummy

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		variable takes a value of 1 if the company has been advised by one of the five 'reputable' underwriters and 0 otherwise.
Market condition	=	Unusually high volume of offerings and high listing of new issues. The dummy variable takes a value of 1 if it is greater than the average amount volume of offering. Otherwise, the value is 0.
ε_i	=	Error term

Result And Discussion

Correlation Analysis

Overall, based on the entire sample of IPO groups, the study finds that there is a strong negative correlation between $ALLOCT_j$andboth measures of initial returns. Majority of thesample shows higher significance level ($p < 0.01$). The results as shown in Table 1 supports the study hypothesis because the low $ALLOCT_j$ is supposedto indicate lesspresence of informed investors. Therefore, the underwriters and issuers see more needs to under-price the new issues to attract more investors (especially the un-informed ones) into the market. This strategy results in higher initial returns. At the same time, the deeper underpricing also tends to create higher demand which translates into higher oversubscription ratio (and thus lower $ALLOCT_j$). The negative association between under-pricing (initial returns) and $ALLOCT_j$ is consistent with result by Amihud et al. [16]. As describedby Amihud et al. [16], such a negative association is a sign of the existence of winner's curse.

Table 1: Correlation analysis results among variables

Variables	ALLOCTj	LNOFFSIZE	LNAGE	LNTA	OWNER FIVE	DWRITER	DMKT
Panel A: Whole Sample							
$IPORTN^{OPEN}$	-0.3563**	-0.1888**	0.0973*	-0.1285**	-0.1289**	-0.0621	0.0069
Panel B: Non-Shariah Compliant IPOs							
$IPORTN^{OPEN}$	-0.4618**	-0.0864	0.0481	-0.0104	0.0360	-0.0174	0.3651*
Panel C: Shariah Compliant IPOs							
$IPORTN^{OPEN}$	-0.3437**	-0.2016**	0.1069*	-0.1394**	-0.1466**	-0.0658	-0.0137

Notes:

$ALLOCT_j$ is the logistic transformation of the allocation rate derived from the number of times over subscribe; LNAGE is the difference between the year of listing and year of incorporated (in natural log); LNOFFERSIZE is the number of shares offered multiplied by the offer price (in natural log); LNTA stands for company size. It is based on the consolidated total asset values that simplified through natural log; OWNERFIVE represents ownership concentration which based on the percentage of shares owned by top five shareholders; DWRITER a symbol for underwriter reputation. It is based on the top five ranking of underwriter in-terms of volume and units of shares sold posted in Bursa Malaysia website (2007 and 2008). A dummy variable takes a value of 1 if the company has been advised by one of the five 'reputable' underwriters and 0 otherwise; and DMKT is a dummy variable that represent market condition. Market condition is indicated by unusually high volume of offerings and high listing of new issues. The dummy variable takes a value of 1 if it is greater than the average amount volume of offering, otherwise, the value is 0.The symbol ** represents correlations that is significant at the 0.01 level (2-tailed) and * is correlations that significant at the 0.05 level (2-tailed).

Table 2: Descriptive Statistics Of Initial Return (Offer-To-Open) By Year

Yr	N	Mean	Median	Std. Dev.	Skew.	Kurt.	Min.	Max.
Panel A : All samples								
2005	79	27.104	24.000	16.520	1.230	2.506	0.000	73.913
2006	40	63.322	50.000	40.092	0.379	-0.898	-6.383	144.444
2007	28	24.244	3.648	50.912	1.316	0.450	-26.667	133.333
2008	23	25.131	13.846	37.417	2.570	6.622	-5.714	161.905
2009	14	45.555	39.773	35.131	0.724	-0.151	0.000	140.000
2010	28	40.878	26.631	51.410	2.436	7.294	-12.037	275.000
2011	28	18.859	7.977	41.832	1.824	5.271	-66.667	194.118
2012	17	23.085	19.790	29.440	0.426	0.779	-37.398	95.122
2013	17	37.127	19.091	42.254	1.247	0.047	00	121.429
2014	15	-16.542	-7.346	25.903	-1.065	0.017	-68.132	15.862

Yr	N	Mean	Median	Std. Dev.	Skew.	Kurt.	Min.	Max.
Panel B: Shariah samples								
2005	48	28.2598	24.0372	18.1951	1.1460	2.0850	0.0000	73.9130
2006	23	64.1642	52.5000	40.4358	0.3260	-0.9410	-6.3830	144.4444
2007	15	27.2919	6.0465	51.1654	1.2540	0.2260	-26.6667	133.3333
2008	14	22.4330	13.8462	33.7285	3.0630	10.439	-5.7143	161.9048
2009	8	47.1024	41.7857	36.2687	0.6200	-0.3770	0.0000	140.0000

2010	8	38.4812	25.1316	49.3628	2.6350	9.0710	-12.0370	275.0000
2011	12	18.4606	7.9545	43.2125	1.8710	5.3590	-66.6667	194.1176
2012	8	24.1961	21.2121	30.0975	0.3630	0.7340	-37.3984	95.1220
2013	7	39.8393	19.0909	43.3310	1.1230	-0.3240	0.0000	121.4286
2014	10	-14.7252	-5.6000	24.3012	-1.1260	0.4860	-67.2727	15.8621

Yr	N	Mean	Median	Std. Dev.	Skew.	Kurt.	Min.	Max.
Panel C: Non-Shariah samples								
2005	24	23.867	24.000	11.592	0.758	1.561	10.000	41.667
2006	12	36.364	36.364	-	-	-	36.364	36.364
2007	11	-21.482	-21.482	-	-	-	-21.482	-21.482
2008	9	52.785	34.417	65.169	1.005	-0.513	2.308	140.000
2009	6	30.080	34.058	14.775	0.197	-1.167	13.333	50.000
2010	20	80.417	53.333	76.041	1.578	2.308	25.000	190.000
2011	16	21.645	11.435	32.386	1.050	0.344	-16.667	84.211
2012	9	11.603	5.263	22.278	1.177	-	-6.819	36.364
2013	10	10.000	10.000	14.142	-	-	0.000	20.000
2014	5	-25.627	-12.500	37.696	-1.377	-	-68.132	3.750

Notes:

1. Initial return (underpricing) is calculated as the return from the offer price to the opening price in the first trading day.

$$IPORTN_j = \left(\frac{P_{OPEN,j}}{P_{OFFER,j}} - 1 \right) x100$$

Weighted average offer price is use in a few cases when the retail investors' offer price differs from institutional investors' offer price.

Results of Multiple Regressions

As shown in Table 3 and 4, the two equations are different by only one factor, namely $ALLOCT_j$ [16] or DPRIVATE [17] which is alternatively used to test the presence of winner's curse. The interpretation of the results with regard to both variables, $ALLOCT_j$ and DPRIVATE, are the same.Panel B of Table 3 begins with factors that explain initial returns on non-Shariah IPOs. Apparently, based on factors that have significant ($\alpha < 0.1$) coefficients, initial returns based on offer-to-open ($IPORTN^{OPEN}$) of this group are explained by ALLOCTj, DWRITER, and DMKT.

In the meantime, the $IPORTN^{OPEN}$ on Shariah IPOs are also explained by ALLOCTj, but that is the only similarity that the two groups show. As reported in Panel A

of Table 3, other than ALLOCTj, $IPORTN^{OPEN}$ is explained by OFFERSIZE, AGE and OWNERFIVE, which are completely different than the other factors that influence $IPORTN^{OPEN}$ on non-Shariah IPOs.

The results in Table 3 have also highlighted another important finding pertaining $ALLOCT_j$, beside its role asthe main determinant factor in influencing IPO performance. $ALLOCT_j$ has been consistently found to have negative coefficients in explaining the regression analyses. As suggested by Amihud et al. [16], such a negative association between $ALLOCT_j$ and initial returns is an indication of the existence of winner's curse effect. As previously explained when discussing the correlation analysis, the negative association suggests that initial returns are most likely to be higher for IPOs that have lower $ALLOCT_j$.Lower $ALLOCT_j$ suggests less participation by informed investors and accordingly underpricing has to be put in place to allure more uninformed investors into the IPO market.

This conjecture is also supported by the results of using private placement (DPRIVATE) as the alternative measure of winner curse as private placement represents subscription by institutional investors who are considered as informed investors. As reported in Table 4, DPRIVATE consistently shows significant negative coefficients in all two groups of IPOs. Since DPRIVATE is 1 when IPOs are offered through private placement and 0 otherwise, a negative DPRIVATE coefficient means initial returns are higher when the IPOs are not offered through private placement. In other words, the participating investors of these IPOs are more likely to be among retail investors who are generally considered as the uninformed investors, subscription of which are satisfied because the IPOs are not taken by the informed investors. In short, such condition is referred as a winner's curse.

Table 3: Results Of Multiple Regressions Forwinner's Curse: Alloctj

$$IPORTN_S = \alpha + \beta_1 ALLOCT_i + \beta_J \sum_{j=1}^{J} CV_{j,i} + \varepsilon_i$$

(3.4a)

		Panel A: Shariah Sample		**Panel B: Non-Shariah Sample**	
Variables	**Exp. (Sign)**	**Coefficient**	**t-Statistics**	**Coefficient**	**t-Statistics**
		$IPORTN^{OPEN}$		**$IPORTN^{OPEN}$**	
$ALLOCT_j$	-ve	-24.727	-3.884***	-38.591	-2.5569**
Control Variables (CV)					
LNOFFERSIZE	-ve	-7.845	-2.077**	-7.294	-0.586
LNAGE	+ve	5.261	2.051**	4.692	0.564
LNTA	-ve	1.678	0.424	10.346	0.803
OWNERFIVE	-ve	-0.375	-2.139**	0.564	0.755
DWRITER	-ve	-3.395	-0.827	-35.658	-2.076**

DMKT	(+/-)ve	-2.107	-0.308	34.815	2.002*
INTERCEPT		135.658	3.074***	-48.168	-0.394
Adjusted R-Squared		0.147		0.195	
F-Statistics		7.626***		1.969*	
F-Statistics Probability		0.000		0.084	
Durbin-Watson stat.		1.461		2.295	
VIF range		1.030-3.420		1.377-6.754	

Notes:
Autocorrelation and heteroskedasticity in the analysis are identified through Breusch-Godfrey Langrange multiplier test and corrected with Newey-West covariance estimator. The adjusted values are highlighted by symbol #. The symbols ***, **, * denote significance at the 1%, 5% and 10% levels respectively.

Table 4: Results of multiple regressions for winner's curse: DPRIVATEj

$$IPORTN_S = \alpha + \beta_1 DPRIVATE_i + \beta_J \sum_{j=1}^{J} CV_{j,i} + \varepsilon_i$$

(3.4a)

		Shariah Sample (N=154)		**Non-Shariah Sample (N=132)**	
Variables	**Exp. (Sign)**	**Coefficient**	**t-Statistics**	**Coefficient**	**t-Statistics**
		IPORTN^{OPEN}		**IPORTN^{OPEN}**	
DPRIVATE$_j$	-ve	-15.401	-2.623***	5.101	0.266
Control Variables (CV)					
LNOFFERSIZE	-ve	-7.732	-2.167**	-11.595	-0.833
LNAGE	+ve	4.731	1.852*	4.630	0.493
LNTA	-ve	-2.098	-0.608	11.315	0.747
OWNERFIVE	-ve	-0.383	-2.027**	0.476	0.564
DWRITER	-ve	-3.557	-0.837	-23.565	-1.283
DMKT	(+/-)ve	-6.121	-0.784	50.727	2.809***
INTERCEPT		207.393	5.181***	38.736	0.293
Adjusted R-Squared		0.077		0.003	
F-Statistics		4.190***		1.011	
F-Statistics probability		0.000		0.456	
Durbin-Watson stat.		1.379		2.158	

VIF range	1.030-0.742	1.376-7.545

Notes:
Autocorrelation and heteroskedasticity in the analysis are identified through Breusch-Godfrey Langrange multiplier test and corrected with Newey-West covariance estimator. The adjusted values are highlighted by symbol #. The symbols ***, **, * denote significance at the 1%, 5% and 10% levels respectively.

Conclusion And Implications

It is noteworthy to highlight that in this study, ALLOCTj has consistently showed a significant negative relationship with the initial return performance which is consistent with the results of Amihud et al. [16]. In connection with the interpretation of this result, it basically shows the existence of the winner's curse effect in Malaysian IPOs, regardless of Shariah status. In short this study provides a strong evidence to reject the null hypothesis regarding winner's curse. This evidence also supports Rock's [9] hypothesis of adverse selection (or the winner's curse) which argues that the informed investors (institutional investors) avoid overpriced IPOs. Therefore, the deeper underpricing is intentionally created by underwriters and issuers as a strategy to attract more investors (especially the uninformed ones) into the market.

For robustness, this study also tests another alternative measure of winner's curse which is DPRIVATE [17]. The regression results obviously shows that DPRIVATE has significant negative coefficient which can be interpreted as suggesting that the initial returns are higher when IPOs are not offered through private placement. In other words, this result suggests that initial returns (underpricing) are higher when the IPOs are offered to non-institutional or retail investors who are generally taken as uninformed investors.

The findings on the consistent significant influence on ALLOCTj and DPRIVATE should provide alarming information to the investors in general. The negative associations between both of these variables and initial returns suggest the existence of winner's curse. This reveals a phenomenon where the high initial returns are purposely created by the issuers (by offering the IPOs at a deep underpricing) to allure the uninformed investors into the markets to replace the lack of interest from the informed investors. While grabbing the high initial returns might be an opportunity that the uninformed investors should be willing to take, but at the same time these investors must be efficient enough not to hold the assets for long-term investment. This is because the lack of interest from the informed investors suggests the poor quality of the IPOs and in long term, the fair value of the IPOs will eventually be reflected by the market.

Of main focus is the consistent significant role of ALLOCTj in explaining initial returns. This finding implies the importance of winner's curse phenomenon in describing Malaysian IPO market as debated earlier by Yong [17]. It also indicates that Malaysian IPO market is no difference than other IPO markets such as Israel as discovered earlier by Amihud et al. [16]. To a certain extent, since the basis of ALLOCTj measurement is the reciprocal of the over-subscription ratio, this study indirectly supports findings of previous studies [7-25] which claim that initial returns are driven by the demand on IPOs.

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USING A SYSTEM DYNAMIC MODEL TO DEVELOP STRATEGIES FOR IMPROVING EMPLOYEES' PERFORMANCE AT WORK PLACE

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Abstract : *Employee performance is not only influenced by talent or natural ability as special giftedness. There are number of factors affecting performance of employees at workplace. This study aims to identify factors that lead to better performance of employees for the benefit of the company. System Dynamics (SD) is used for modelling several factors that have been identified which may affect employees' performance. This study was considering Grade Evaluation Point (GEP) to conduct performance review. The result of the study showed that the increase of manager enthusiasm and awareness of motivation has significant impact on improving employees' performance.*

Keywords*: (Employee Performance, System Dynamics, Evaluation, Significant Impact)*

Introduction

Employees performance play important role in the success of an organizational. Many factors that managers need to aware that would cause indirectly and directly on improving performance at workplace. Grade Evaluation Point (GEP) is used to determine how well the employees are performing works. This evaluation system may provide good information on merit based on the ability of employee to perform an assigned task. This study is focuses on employees' point of view to provide more understanding into relationship of the factors towards making better morale at workplace.

Literature Review

There are numerous studies has identified and analysed several factors that can affect work performance of the employee. Some of the factors were obtained from the observation or from past studies and were analysed using different method of analysis. Table 1 shows the example of factors that give significant impact on employee's performance.

Table 1: Factors that have effect on employee's performance based on past studies

Factors	Author	Method of Analysis
Transformational leadership, organizational justice, work engagement, and PSM have	(Jankingthong & Rurkkhum, 2012)	meta-analytic study

direct effects on task, and contextual performance		
working hours, trainings, communication barriers, stress and financial rewards	(Iqbal, Ijaz, Latif, & Mushtaq, 2015)	Multiple regression analysis
job aid, physical workplace environment	(Naharuddin, 2013)	spss

Methodology

This study uses system dynamics as a method of analysis. Vensim software has been used for modelling to address the dynamic behaviour on the causal relationships among the factors.

Model Design

In this study, the causal loop diagram (CLD) was designed to identify the cause and effect between each factor have been defined. Based on the survey and historical data obtained from a real company as case study, three variables are identified will give greater impact to the performance of employee. There are named as employees' motivation, supervisors' enthusiasm, and creativity on assigning a task. Some variables are added to see the relationship between the identified factors to evaluate GEP (see Table 2).

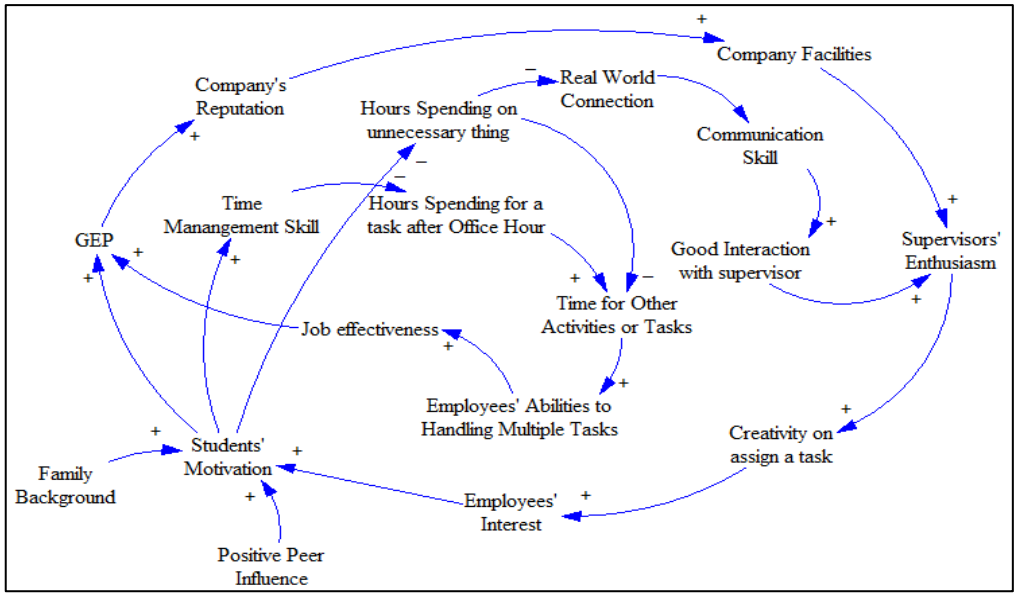

Figure 1: Causal loop diagram

Table 1: Variables related to GEP

No.	Variable Name
1	Positive Peer Influence
2	Family Background
3	Normal Rate Affect Employees' Motivation

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4	Creativity on Assign a Task
5	Normal Rate Affect Time Management Skill
6	Time for Other Activities or Tasks
7	Normal Rate Affect Communication Skill
8	Good Interaction with Supervisor

Result Of The Study

Model Analysis

Based on the model output, the result revealed that three factors that have been identified were founded to have greater impact to employees' GEP. The factor of supervisors' enthusiasm has give direct impact to creativity on assign a task; creativity on assign a task has give direct impact to employees' interest; while employees' interest has directly related to employees' motivation. The results are represented in the form of graph as followings.

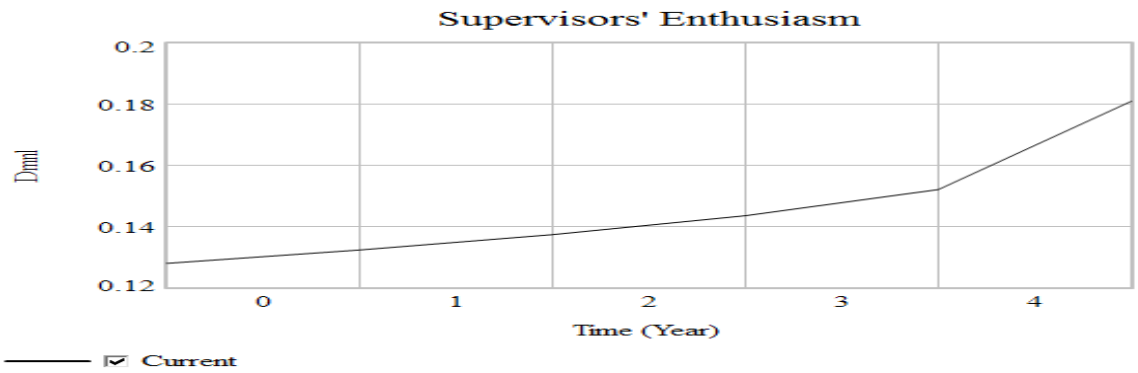

Figure 2 Trend for Supervisors' Enthusiasm Towards Employees

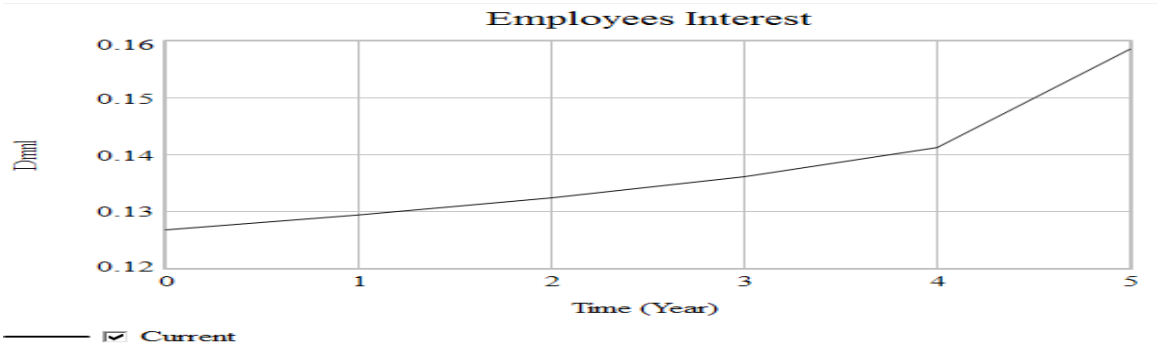

Figure 3 Trend Employees Interest Towards Job/Task

Figure 4 Trend Employees' Motivation Towards Job/Task

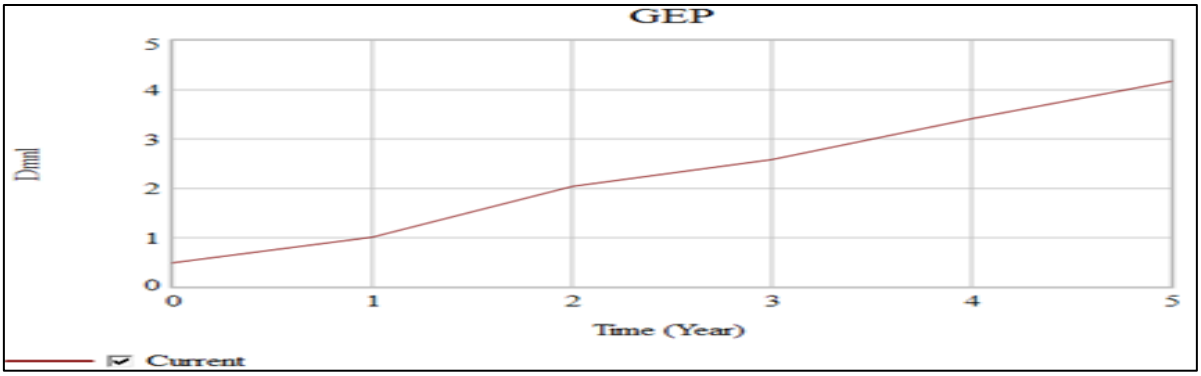

Figure 5 Trend GEP of Employees from First Year until Fifth Year

Conclusion

The three defined factors which are employees' motivation, supervisors' enthusiasm and employee's interest have a great related to job performance which can see through pointer of GEP that every employee gets. If employees' motivation is high, their time management skill will increase because they will try harder to manage their limited time and they will control themselves not spending too much time on unnecessary things. They will get interest to do job or task and employee's motivation will increase; therefore their job performance will improved

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IMPLEMENTATION OF ISLAMIC BANKING PRODUCTS AND SERVICES:THE CHALLENGES AND FUTURE AGENDAS

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Abstract: *The understanding among Islamic banking staff towards the implementation of tasks has been given less attention. Studies about the understanding of Islamic banking were more focusing on the aspect of customers' understanding and satisfaction over choosing factor and the usage of offered Islamic banking products. In fact, the previous studies were found to have adapted quantitative approach in studies related to understanding. Thus, this study aims to explore the phenomenon of understanding issues among staff of Islamic banking in reality and provide the solutions. On top of that, this study is using the qualitative approach in order to capture the problem understanding of the staff in detailed based on the real perspectives that they have been going throughout their working experience. In making this a reality, phenomenology research methods are appropriate. Meanwhile, face-to-face interview techniques and observation are applied in achieving the goals and the objectives of this study. The data will be analysed stage by stage with the presence of detailed filtering technique according to theme and sub-theme respectively. Triangulation technique is also used to strengthen the accuracy of the findings. In the data collection process, 32 respondents consisting of staff working at 32 different Islamic banking branches in Malaysia were chosen. Besides, there were 13 experts who are academicians, industrial experts, organisation advisors, sharia advisors and consumerism activists involved to ensure the data validity. The findings have succeeded in achieving the study objectives. This study also suggests that an ecosystem of Islamic banking staff understanding should be built and implemented systematically. Indeed, staff who understands each and every job scope will be able to locate the organisation to the prestigious position as well as to flourish the harmonisation and achieve the solutions of the Islamic based financial system.*

Keywords*: Understanding, Staff, Islamic Banking, Ecosystem*

Introduction

Islamic banking in Malaysia officially started with the establishment of Bank Islam Malaysia Berhad on the 1st of March 1983. Meanwhile, on the 1st October 1999 the government has initiated the second establishment of Islamic bank which is Bank Mualamat Malaysia Berhad

(BMMB). The establishment of BMMB is based on the merging between two banks, namely Bank of Commerce (M) Berhad and Bank Bumiputera Malaysia Berhad (Nor Mohamed, 1996; Ab. Mumin, 1999; Sudin, 2008). Based on the latest statistics issued by Bank Negara Malaysia, there are now several numbers of Islamic banks that operate and offer the service of Islamic banking Shariah-compliant banking system. All the activities and operations of Islamic banking are regulated by the Financial Services Act (IFSA2013) of 2013 which came into force on 30th June 2013 to replace the Islamic Banking Act 1983 (ABI1983).

According to Zeti Aziz (2009), Malaysia's Islamic banking system continues to be driven by offering a variety of services as well as Shariah compliant banking products. However, the issue of staff's understanding in the Islamic banking sector needs to be looked into and highlighted. In addition, staff's understanding can increase the potential as well as widest global growth prospects of the Islamic financial industry. It can also strengthen the resilience and stability of the Islamic financial industry. In fact, this aspect of staff's understanding of the Islamic banking was also emphasized by the Prime Minister, Datuk Seri Najib Tun Abdul Razak when he was delivering the opening keynote address at the "Islamic Management System Transformation Carnival in Malaysia" in 2011. According to the Prime Minister, staff's understanding is essential because Malaysia is a national reference in terms of development of knowledge, implementation of Islamic banking and finance in the region. He also stated that, skilled workforces in great numbers are important to strengthen the production of first class human capital (Berita Harian, 2011).

Problems

The development of Islamic banking sector in Malaysia is going through many challenges, in terms of products services offered, and implementation. According to Zaharuddin (2011), misunderstanding of the staffs regarding to the concept and implementation of Islamic banking is one of the real obstacles that can prevent the progress of Islamic banking industry from flourishing. According to David Vicary (2003), weaknesses do exist in Islamic banking operations, including staff's understanding in handling customer service. This weakness may be due to the lack of knowledge among staffs pertaining to its implementation. This is acknowledged by Muhammad Shahabudin (2011), stating the phrase "customer is always right" is not relevant any more. The author argues, based on the services provided by the employees of Islamic banking at present, the phrase should be changed to "Bank is always right". In his opinion, this matter arises because current Islamic banking highlights more images and services that is nearly similar to services offered by conventional banking. Even the method of communication and service given by the staffs of Islamic banking to clients who deal with these banks portrays the lack of Islamic values. According to him, as a bank that carries the name of "Islam" (as a brand), customers expect the service to be more "Islamic" compared to other conventional banks.

On the other hand Adnan Alias (2012) mentioned that such situation occurs in local Islamic banking operations due to the institution itself which is not putting the need to meet with the goals of Sharia as the main focus of the business. On the other hand, they are perceiving profit as something that should be prevailed. It is also in line with the view of Jamelah Jamaluddin (2010) which states that, Islamic banking in Malaysia still seems to be biased in terms of its implementation. This is true especially among Islamic banks under the conventional banking subsidiary. Here are the excerpts of the interview:

> "…….. Banking groups in Malaysia have two forms of banking, conventional and Islamic. When compared to both these two are far

too different from each other. Conventional banks are larger and old in nature. So in a situation like that, you can think of who controlled whom? Of course conventional banks control the Islamic banks. So, most of what I do in Islamic banking got resistance from parties who are in conventional banks. That's not just my problem only actually. This is experienced by all CEOS who are in Islamic banks, which became a subsidiary of conventional banks.

Source: Utusan Malaysia (dated 12 April 2010)

Based on the problems presented above, it clearly reflects that the obstacles faced by the Islamic banking staffs in managing, implementation of products, services and customers are very challenging. Precise understanding should be instilled in each employee so that the products and services offered the bank will make the clients satisfied. Moreover, the statistics of product subscription and personal loan financing issued by Bank Negara Malaysia for a period of five years (2009-2013) seems to be aligned with these problems stated earlier. Based on Table 1 below, it is proven that the amount of personal loans issued by conventional banking is much more convincing in numbers compared to the amount of personal financing subscribed by customers of the Islamic banking provider.

Table 1.
Total Amount Of Personal Financing And Personal Loans Issued By Islamic And Conventional Banking For The Year 2009 - 2013

Banking Institutions	Year 2009 (RM mil)	Year 2010 (RM mil)	Year 2011 (RM mil)	Year 2012 (RM mil)	Year 2013 (RM mil)
Conventional	20,995.18	20,866.32	21,854.87	20,647.90	25,843.50
Islamic	9,271.82	9,549.70	11,539.74	21,356.70	14,203.10

Source: BNM extract report (1.10 Banking System: Loan applied by purposed)

The statistics in table 1 above also provide an answer to the problems discussed the dominance of unsatisfactory staff understanding of the products and services offered by the Islamic bank also resulted in a lack of response by customers for the product and services. Random survey found that the issue of employees' misunderstanding in the implementation of Islamic banking comes in many versions. It is also asserted by the *Persatuan Pengguna Islam Malaysia* (PPIM) on 17 February 2012 through its website page (http://www.muslimconsumer.org.my), expressing their discontent with the implementation of the method carried out by the Islamic banking institutions. This is mainly related to promotional activities, product marketing and the debts handled by staffs serving in Islamic banking.

According to PPIM again, Islamic banking is only using the name of "Islam" to highlight the products that are promoted to customers. In addition, it claimed that persecution has occurred at the same time when the method used has the potentials of being contrary to Islamic laws. According to PPIM, if the Islamic banking authorities do not follow fully Shariah requirements in banking, it could give a negative image of Islam itself. As such, it has a bad impact on customer loyalty and trust towards the Islamic banking institutions.

Therefore, Mohamad Akram & Nusaibah (2010) have suggested the importance of mastery related aspects of Sharia among staff serving in Islamic banking institutions in order

to put the integrity on the Islamic banking institution level. The control of unsatisfactory understanding seems to be misrepresented to customers whereby most of the products and services offered by Islamic banking products are perceived as equivalent to products and services of conventional banking. Islamic banking is just an "imitation" of conventional banking. According to him, the result of the implication of misunderstanding which have arisen have led Islamic banking products to be labelled as the Islamization of the conventional banking products.

Based on the problems presented above, the question of understanding of Islamic banking staff in handling the entrusted operation is something that should be noted. The study of Mohd Daud Awang (2007) also urged that the Islamic banking operators to increase efficiency in its management to make perception, having more confidence and enhance the image of Islamic banking itself. This is also in line with the views put forward by Zaharuddin (2011), David Vicary (2003), Muhammad Shahabudin (2011), Adnan Alias (2012), Jamelah Jamaluddin (2010) as well as Mohamad Akram & Nusaibah (2010).

Reality

Based on the problems presented, a study was carried out in order to get the true understanding of the problems occurred among staffs serving in Islamic banking. Therefore, a total of 32 respondents were interviewed. They are employees who serve in Islamic banking institutions selected from all over Malaysia including Sabah, Sarawak and the Federal territory of Labuan. The study has also confirmed its findings through expert triangulation technique. The expert of triangulation involved a total of 14 individuals who specialize in the field of Islamic banking, including those involved in industry, academics, consulting organizations and activist consumerism.

The results of this study were analysed in theme with the objective to explore the understanding of staff that perform the operations of personal financing in Islamic banking. As a result, nine sub themes were analysed. The findings showed that all nine themes reviewed have resulted in findings of unsatisfactory understanding. Table 2 below is a summary of the results of the findings that have been obtained.

Table 2
Summary of Findings

Theme: Review the understanding of Islamic banking staff in implementing the operation of personal financing	
Sub-theme	Results
1) Understanding of the concept of *Tawarruq* in personal financing	Less Satisfactory
2) Understanding of the concept of personal financing by other banks	Less Satisfactory
3) Understanding of the advantages of personal financing products offered	Less Satisfactory
4) Understanding of differences in the concept of "financing" and concept of "loan"	Less Satisfactory
5) Understanding in differences of the concept "profit rate" with "interest rate"	Less Satisfactory
6) Understanding of the contents of the contract of personal financing	Less Satisfactory

7) Understanding of the term "valid" in personal financing contract	Less Satisfactory
8) Understanding of the concept of *"riba"*	Less Satisfactory
9) Understanding of the concept of debt in Islam	Less Satisfactory

Once analyzed, the result of the understanding of Islamic banking staffs in managing the operations of personal financing has been found to be less satisfactory. These findings present a significant of the problems raised by the scholars in the past. Justification of unsatisfactory understanding was obtained after a process of review of triangulation by selected experts.

Based on the findings, the first sub-theme showed the majority of respondents are only capable of giving sheer-declare of the definition of *tawarruq* without being able to provide appropriate details about the application of *tawarruq* in the context of personal financing. While in the second theme, the study showed the majority of respondents who do not have the sensitivity of personal financing products are also being offered by other banking institutions. As presented in the third sub-theme, studies showed that the respondents are only able to explain the advantages of financing products offered based on the context of the material alone without being able to give the benefits overly of the product from a wider angle. The same outcome was also found in the fourth study of the sub-theme. Most of the respondents were unable to explain the differences in the concept of loans and financing concepts in a more practical way in terms of resources and its usability. Moreover, there are also some respondents who described both concepts to be the same, and they claim the difference is just the term only.

Therefore, based on the findings of each of the nine sub-themes presented, it has clearly shows a significant answer to the problems raised by the scholars at the start of this discussion. However the study was also verified by a group of experts through triangulation techniques used. In general, the findings of this study indirectly give a clear justification for a lack of customer demand for financing products as compared to personal loans (Table 1) due to the lack of understanding of employees in mastering the skills associated with it.

Overcoming Methods

In order to overcome this problem, the study proposed that a comprehensive mechanism should be established. The mechanism of such an ecosystem operates to strengthen the understanding of Islamic banking staff in the implementation of the tasks carried out. Hence, the study suggested that a sound ecosystem needs to be developed in the institution of contemporary Muslim such as Islamic banking. The need for the existence of this ecosystem is based on the results of the findings and details of sub themes which shows the pattern of association between all the factors stated. Therefore, the study suggests unsatisfactory staff understanding in all the nine sub themes that have been analysed. To overcome this, the following approaches should be taken into consideration and appropriate attention should be given by the management of the Islamic banking institution involved. The factors that have been identified and should be improved are listed in Table 3 below.

Table 3
Things that need to be improved

Factor	Factors that need to be improved
1	Creation of innovation and training delivery system.
2	Establishment of ethics code and practice of muslim's staff.

3	Improvement of remuneration system, benefits and performance appraisals work.
4	Application of Islamic values among the staff and the organization.
5	Strengthening the information management network system and organization.
6	Compliance practice for risk mitigation.
7	Embrace the practice of compliance and holistic social responsibility.

Based on table 3 above, there are seven factors that have been identified and are expected to boost the understanding of staff towards the implementation of the tasks carried out. These factors are interconnected with each other and are able to form a strong chain in an organisation orientation as set out in Figure 1 below.

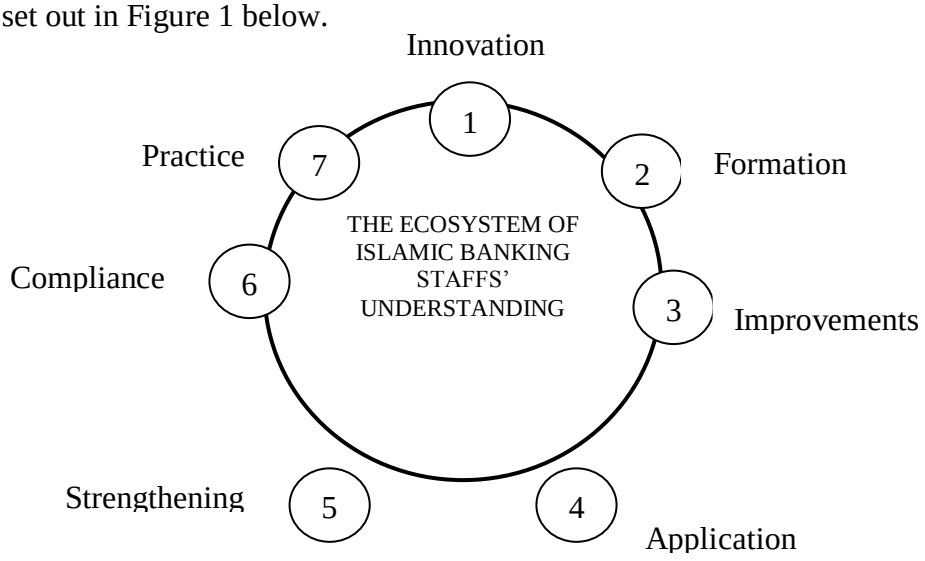

Figure 1
The Ecosystem of Islamic Banking Staff's Understanding

Based on the findings that have been obtained, the study found that the understanding of staffs should be strengthened through the creation of innovation in training and delivery system. Training methods that are more focused, interactive and friendly information should be developed so that the delivery system within the organization can be adjusted, updated and easy to understand. The study also found, that the understanding of the Islamic banking staff need to be supported with clearer working guidelines. These guidelines can help Muslim staffs to easily follow the codes of ethics of the Islamic banking. It should be given appropriate attention because studies have shown that employees who serve in the Islamic banking institution are paying less attention to the application of code organized by Islamic teaching in their daily work, whether in terms of appearance and personality. It is important to be developed so that the existence of the Islamic banking institution is in line with personality, freedom and human capital development.

In addition, the study also found that staffs' understanding could be strengthened with the improvement of the system of remuneration, benefits and performance evaluation. This is because, the study has found that most of the staff has put in an integral factor to marginalize other factors such as health and religious affairs. This is true due to the orientation of the banking institution itself, which is more likely to put the goal of profit as the main objective

without giving attention to the ability of the staff in interpreting the predetermined goal. Improvements in this regard should be done in order to create a win-win situation in the granting of compensation, benefits and performance evaluation to its employees. In addition, the study also found the need for Islamic banking institutions to implement Islamic values to its employees and to take steps to change the appearance of the organization in an environment that is more contemporary in nature. In this way the study believes understanding of employees who serve in the Islamic banking should be strengthened and this will lead to appreciation of Islam in their daily work orientation. However, such things are important to Islamic organizations, in highlighting the image of Islam in line with the brand, products and services available. Improvements in this regard do not only contribute to the understanding of staff, but indirectly increase customer confidence and boost the organization's image.

In addition, this aspect of understanding also managed to strengthen the organization with the enhancement in management information systems and organizations. This is because studies have shown that the majority of the affected employees work were directed through their own initiatives to achieve the objectives that have been set. The staffs were found to deal with the problem of limited reference source in addition to the weaknesses in the management of time. This may happen due to the factor of information distributed to employees, which did not reach the desired meaning. As such all information received by the employees was seen to be not uniform, a bit behind and elusive. If these could be improved, they could contribute to a better understanding of the staff in the implementation of the tasks carried out.

The study also found that the understanding among staffs can be strengthened with the existence of compliance system that practices for risk mitigation. In this case the staffs should be given clear direction in performing their tasks. This is because studies have shown that most of the employees concerned were carrying out their duties by exposing themselves to the risk factor. The risk factor mentioned here is a lack of sensitivity to the intended method of affairs management between customers and staffs. The staffs are seen likely to take risks with an appointment outside the banking premises and also passed the official workday. This is true due to the target setting work by corporations which are quite tight. Therefore, the need to create a system that is more systematic should be included in compliance with the assignment entrusted. This is to be in line with the risk factors faced by employees in carrying out their daily tasks.

Finally, studies have shown that staffs' understanding could have been strengthened with the practice in the organization itself. Measures mentioned earlier could be undertaken as to nourish the nature of conformity and holistic social responsibility among staffs at the banking institutions involved. This is because all plans and objectives set by the organization must be more practical rather than simply putting achievement factor as a priority. Furthermore appreciating the values of adherence to the creator as an encouragement should not be left in contributing to the understanding of staffs that is more universal and effective.

Conclusion

Based on the studies that have been conducted, problems and understanding of the reality faced by employees who serve in the Islamic banking institution must be given particular attention. A sound understanding of the ecosystem should be developed and implemented as a whole to strengthen understanding, preserve its continuity and propel the organization to a class of its own in the global banking arena. A good understanding staff can create harmonization in practice, strengthen the integrity and the main instil more responsibility in a trust in order to acquire the blessing from Allah SWT.

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DETERMINANTS OF TAX ARREARS OF THE MALAYSIAN TAXPAYERS

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Abstract: *The confidentiality requirement of the Inland Revenue Board (IRB) of Malaysia on the use of its database has led many academic researchers to depend more on self-reported behaviour and perception in which, mainly focusing on tax compliance. The purpose of this paper is to investigate the factors influencing tax arrears amongst Malaysian tax payers by using demographic variables such as: age, gender, marital status, education, income and occupation as explanatory variables. It is conducted with an aim to complement prior research through exploring possible relationship between tax compliance behaviour and tax arrears. A number of previous literatures are cited in view to confirm the relationship among these variables. Based on the analysis of the available data, this study employs a multiple regression approach for 3,469 observations which are extracted from the national survey commissioned by IRB in 2011. The results show that age and income level are able to explain tax arrears. Conclusion is then deduced that a negative relationship is observed between tax compliance behaviour and tax arrears. To improve future research, the use of secondary data is proposed for more accurate analysis. There is also an opportunity to broaden similar research to other tax related components and sectors which are still remained unexplored.*

Keywords: *Tax arrears, Malaysia, Individual taxpayers*

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Introduction

On March 1, 1996, the tax collection agency in Malaysia is formally known as the Inland Revenue Board Malaysia (IRB). It is one of the main revenue collecting agencies of the Ministry of Finance which administers direct taxes in Malaysia. IRB was established in accordance with the Inland Revenue Board of Malaysia Act 1995 to give it more autonomy especially in financial and personnel management as well as to improve the quality and effectiveness of tax administration. Other than income taxes, IRB is also responsible for administering, assessing, collecting and the enforcement of real property gain taxes, petroleum taxes and stamp duties. In this study, we are specifically looking into the area of individual or personal income tax.

Since the implementation of Self-Assessment System (SAS) in Malaysia for individual taxpayers in 2004, extensive numbers of studies have been conducted to evaluate and measure the

effectiveness of compliance behavior amongst individual taxpayers using survey methods and experimental approaches. Among the most frequently quoted key determinants to examine taxpayers' compliance behavior is by using socio-physiological factors which include demographic variables (age, gender, marital status, education, income level and occupation), tax knowledge, tax complexity, taxpayer attitude and ethics, to name a few.

However, limited access to taxpayers' database due to IRB's stringent confidentiality requirement under Section 138 ITA 1967 that stipulates "certain material to be treated as confidential", has made many academic researchers could only rely on self-reported behavior and convenience sampling which have limited the extent to which findings can be generalized. (Loo, Evans & McKerchar, 2010)

Therefore, with the availability of aggregated data in this study, we wish to expand the existing knowledge of tax compliance behavior by using demographic variables as factors influencing tax arrears. These factors will be investigated further to observe whether there is relationship between the factors and tax arrears among individual tax payers.

This paper tries to answer following questions:

5) What is the relationship between tax compliance behaviour and tax arrears?
6) What factors in tax compliance behaviour could influence the amount of tax arrears among the individual tax payers?
7) Is there any relationship between the demographic variables and tax arrears?
8) Can the demographic variables be a good determinant to ensure that individual taxpayers pay their taxes on time?

The objective of this paper primarily aims to determine the relationship between compliance behavior and tax arrears. It also tries to identify the strongest determinants which influence tax arrears and to ascertain factors which mostly contribute to the tax arrears specifically among individual tax payers.

This paper is presented in five sections. Following the introduction which highlights the background and objective of the paper, section 2 outlines the literature review. This is followed by methodology and analysis in section 3. Multiple regression analysis is applied to arrive at the results and to estimate the relationship between the determinants and tax arrears. The results are presented followed by discussion of these results in section 4. Limitations of this study is then drawn together in the concluding section with recommendation of potential research.

Literature Review

Tax compliance has been a growing area of research throughout the world since the 1970's and includes contributions from many disciplines including economics, psychology, accounting, political science, public administration, law, criminology and sociology. (Allingham & Sandmo, 1972; Clotfelter, 1983; Jackson & Miliron, 1986; Dubin & Wilde, 1988; Trivedi, Shehata & Mestelmen, 2005; Loo, Evans & McKerchar, 2010) It is, therefore, no doubt that numerous studies on tax payers' behavior have been conducted including Malaysia because it is evident that non-compliant taxpayers would reduce revenues to the country and Malaysian Government expenditures would be dampen for national development and infrastructures. To date, tax compliance research in Malaysia has predominantly focused on compliance behavior of individual income taxpayers, but due to lack of access to IRBM database, studies have limited range of variables that may or may not influence compliance behavior.

There have been quite a number of studies on the factors influencing individual tax compliance behavior, which are predominantly demographic variables. The most common variables used in tax compliance research include age, gender, education and income level (Devos, 2008). However, whether there is a relationship between tax compliance behavior and tax arrears owed by individual taxpayers is yet to be examined. Thus, this section mainly survey previous studies, which entail findings about relationship that exists between the selected demographic variables towards tax compliance. The earlier findings are compared with the current research to determine the relationship between compliance behaviors to opinion on tax arrears.

Definition of Tax Compliance

Tax compliance has been defined in many ways, encompasses many disciplines including economics and psychology. It has been studied in economics by analyzing the individual decision of a representative person between paying taxes and evading taxes. (Nicoleta, 2011) It should be defined as taxpayers' ability and willingness to comply with tax laws, which are determined, by ethics, legal environment and other situational factors at a particular time and place. (Devos, 2008) Similarly, several tax authorities, also, defined tax compliance as the ability and willingness of taxpayers to comply with tax laws, declare the correct income in each year and pays the right amount of taxes on time. (IRB, 2010; IRS, 2010)

Tax Compliance Determinants - Demographic Factors

There is considerable number of literature on the influence of demographic variables on taxpayer compliance. Demographic variables such as age, gender, marital status, education, income and occupation have an effect upon perceptions that eventually impacts compliance. As mentioned in the Statement of Problem earlier, due to lack of research in the study of determinants for tax arrears among individual tax payers, hence we would be interested to explore further to find out whether these variables could also be subjected to the reason why taxpayers do not pay their taxes on time, thus became arrears. A number of literatures based on tax compliance behavior are referred and discussed to deduce to the relationship with tax arrears later.

Age

A demographic factor such as age has been extensively studied by researches and the findings from different studies, however still remain inconclusive. For example, research on the relationship between age and compliance for Malaysian tax payers has produced various findings. Abdul (2003) found that those non-compliers are most likely to be between the ages of thirty (30) and fifty (50); Perumal (2008) found older taxpayers to be the most compliant. Older individuals are less likely to evade, partly due to increasing risk aversion. (Lee & Carley, 2009) However, other researchers have noted a negative relationship between age and compliance. (Loo, Evans & McKerchar, 2010) The same goes to studies found by Tittle (1980), Warneryd and Walerud (1982) and Wahlund (1992) that stated older people are less compliant. Nevertheless, these studies are disputed by Clotfelter (1983), Dubin and Wilde (1988) and Beron et al. (1992) who argued age was positively related to compliance. On the other hand, studies by Spicer and Becker (1980) and Porcano (1988) have found no relationship between age and compliance. Another study has also found that people have more respect for government and authority as they get older. (Alm and Torgler, 2006) These inconsistent findings are eventually explained by Torgler (2007) as first, age does not impact compliance in all tax payers; secondly, inconsistent non- compliance definitions

used in the research; third, the effect on tax payers compliance is diluted when age is associated with a number of other variables; and fourth, the assessing interaction of age with other variables is problematic. To summarize, previous studies have evidenced that age could have different effects on compliance; a negative effect, positive effect or no relationship at all.

Gender

With respect to gender, previous findings also found mix results. Some studies found that males are more compliant; however, others found the opposite. Jackson and Milliron (1986) and Mohamad et al. (2017) found that males tended to be more non-compliant than females. Males are consistently more likely to evade, purportedly due to self-confident, competitive, and anti-authoritarian attitudes. (Lee & Carley, 2009) Findings by McGee & Tyler (2006) suggested that women are more likely to be opposed to tax evasion than men. Hence, it also means, women are more compliant. However, it has also been found that no significant differences exist between males and females regarding their attitudes towards level of compliance. (Ahmad et al., 2007) Another studies by Torgler, Valinas and Macintyre (2008) stated that gender differences could be attributed to different biological, psychological and experiential realities that lead to different approaches to issues and problems, suggesting that men and women do not necessarily have different motivations. Nevertheless, Richardson and Sawyer (2001) noted that the compliance gap between males and females appears to be narrowing with the emergence of a more explanatory, non-traditional generation of women. In a survey of American tax payer, Hite (1997) focused on interaction between gender and education. Female respondents with college degrees tended to be more tolerant of non-compliance than female without college degrees. To summarize, the impact of gender on tax compliance is inconsistent, although most of the studies conducted are prone to show female scores higher than male scores in tax compliance. (McGee & Tyler, 2006).

Marital Status

In terms of marital status, there are not much relevant reviews that could be referred to deduce to a feasible conclusion. However, two previous studies mentioned that single taxpayers were found to be more intentionally non-compliant than married taxpayers. (Clotfelter, 1983; Loo, McKerchar & Hansford, 2010) In other studies, individual taxpayers, who have spouses, are found to be more compliant than unmarried taxpayers. This situation could partly be explained by the fact that women turn to be more tax compliant than men. (Richardson and Sawyer, 2001) Married women are, therefore, able to influence their male counterparts to be tax compliant as well.

Education

With respect to the education level, Beron et al. (1992) found a positive relationship between education and non-compliance, which was consistent with the findings of Witte and Woodbury (1985), but in conflict with the finding of a negative relationship by Dubin and Wilde (1988). (Loo, Evans & McKerchar, 2010) In addition, Lee & Carley (2009) reviewed education reduces propensity to evade; however, a curvilinear effect has been detected in one study. In another study by McGee & Tyler (2006) indicated that the lower educated group tends to be more tax-compliant than the higher educated group. Chan et al. (2000) on the other hand investigated the direct and indirect effects of two non-compliance opportunities, namely educational and income level. Furthermore, Chan et al. postulated that greater education is directly linked to a likelihood of

compliance. They argue that educated taxpayers may be aware of non-compliance opportunities, but their potentially better understanding of the tax system and their higher level of moral development promotes a more favorable taxpayer's attitude and therefore greater compliance. Chan et al., also, suggested that those with a higher education level are more likely to have a higher level of moral development and a higher attitudes level toward compliance and thus will tend to comply more.

While the education levels become more important in increasing tax compliance across countries, Mohani (2001) suggested that one of the measures to increase voluntary compliance is by assuring that taxpayers have a certain level of qualifications, ability and confidence to exercise their tax responsibility. In contrast, the most recent study, by Richardson (2008) also revealed that there is a negative association between education and compliance. To summarize, greater education potentially increases compliance, as educated tax payers may be more aware of their responsibility as well as the sanctions to be imposed if they were not compliant with tax laws, although other studies found a negative relationship between education and compliance.

Income

According to Lee & Carley (2009), low income and very high income individuals are more likely to evade, partly due to increased opportunities from either under-the-table income or investment-based income. It is also believed that progressive tax rates might be one of the reasons why high income group has more tendencies to evade or has non-compliance behavior due to higher taxable income, thus making the tax liabilities much higher than those in the lower income group. This is again supported by McGee & Tyler (2006) as they stated that the lower income group tends to be more tax-compliant than the upper income group. In a country where the income redistribution is not satisfactory, higher income groups tend to evade more (Mohani, 2001) because high income earners might feel the tax system is not treating them fairly.

Loo (2006) and Mohamad et al. (2017) in their study in Malaysia found that higher income earners were less compliant. These studies have evidenced that income level has a significant impact on compliance. However it is also believed that those taxpayers with higher level of education would tend to improve their tax knowledge, which eventually may improve their attitudes towards compliance. As suggested by Wearing and Heady (1997) and Torgler (2007), high income earners are likely to be more compliant rather than lower income earners. In spite of varied negative and positive relationships between income level and tax compliance, there are also studies that found insignificant results between the two. For example, Park and Hyun (2003) in their experiment in South Korea found that income levels had no significant effect on tax compliance. Another previous literature, also, suggested that direct relationship between income level and tax compliance remains unclear. (Jackson and Miliron, 1986) To summarize, while some research found income levels are the most important determinant of compliance, other previous studies however, have shown the impact of income on compliance is still vague and need to be investigated further. A higher level of education, perhaps, would lead to a better income level and would improve one's tax knowledge and consequently change one's attitude towards compliance. (Loo, 2006).

Occupation

A demographic factor such as occupation refers to an individual's employment or earning activity. (Jackson and Miliron, 1986) Sutherland (1949) argued that tax evasion is considered as a while-collar crime, committed by an individual of respectability and high social status in the course of performing his employment. Devos (2008) also found that those in more traditional white collar occupations (i.e. professionals, associate professionals, clerical sales and retail) are most susceptible to penalties and their influence upon compliance behavior. On the other hand, Lee & Carley's (2009) studies have shown higher non-compliance when professional preparer is employed. Occupational categories have ranged from specific occupational stratums according to Mason & Calvin (1978) to broad categories (Hassledine, Kaplan & Fuller, 1994).

Another reason for the lack of direction could be the suggestion that the opportunities for noncompliance are associated with the particular occupation rather than the occupation itself. (Robben, 1990; Devos, 2008) In addition, Tax Compliance Management Program (TCMP) data also indicate "among all sole proprietors those who engaged in sales from fixed locations (car dealerships, stores, restaurants, etc) understated taxes by the greatest percentage." (Andreoni et al., 1998; Chau & Leung, 2009).

Data And Methodology

Demographic variables' dataset including Age, Gender, Marital Status, Education, Income and Occupation were obtained from the previous national survey commissioned by IRB in 2011. The survey was conducted using questionnaire as a medium, which comprise only nominal and ordinal levels of measurement. About 3,469 observations had been collected and analyzed in this research. This dataset served as the explanatory variables. Current individual tax arrears dataset was obtained from IRB's own database. Using ratio as the level of measurement, this variable is used as the dependent variable. In consideration that the cross-sectional data comprises of different levels of measurement with different set of variables for the explanatory variables and the dependent variable in one period of time, multiple regression analysis is the most suitable approach in this study.

Table 1: Correlations Matrix of Variables

		Tax Arrears	Gender	Age	Marital Status	Education	Income level	Occupation
Tax Arrears	Pearson Correlation	**1**	-.016	.043*	.013	-.012	.042*	.013
	Sig. (2-tailed)		.361	.011	.454	.462	.013	.442
	N	3468	3468	3468	3468	3468	3468	3468
Gender	Pearson Correlation	**-.016**	**1**	-.118**	-.194**	-.018	-.153**	-.013
	Sig. (2-tailed)	.361		.000	.000	.291	.000	.457
	N	3468	3468	3468	3468	3468	3468	3468

Age	Pearson Correlation	**.043***	**-.118****	**1**	.225**	.061**	.141**	-.050**
	Sig. (2-tailed)	.011	.000		.000	.000	.000	.004
	N	3468	3468	3468	3468	3468	3468	3468
Marital Status	Pearson Correlation	**.013**	**-.194****	**.225****	**1**	.055**	.056**	-.050**
	Sig. (2-tailed)	.454	.000	.000		.001	.001	.003
	N	3468	3468	3468	3468	3468	3468	3468
Education	Pearson Correlation	**-.012**	**-.018**	**.061****	**.055****	**1**	-.277**	.104**
	Sig. (2-tailed)	.462	.291	.000	.001		.000	.000
	N	3468	3468	3468	3468	3468	3468	3468
Income level	Pearson Correlation	**.042***	**-.153****	**.141****	**.056****	**-.277****	**1**	.117**
	Sig. (2-tailed)	.013	.000	.000	.001	.000		.000
	N	3468	3468	3468	3468	3468	3468	3468
Occupation	Pearson Correlation	**.013**	**-.013**	**-.050****	**-.050****	**.104****	**.117****	**1**
	Sig. (2-tailed)	.442	.457	.004	.003	.000	.000	
	N	3468	3468	3468	3468	3468	3468	3468

Using SPSS to check whether the explanatory variables are correlated or otherwise, Table 1 displays the correlation matrix of the variables. It is observed that none of the correlation coefficients exceed the absolute value of 0.70 which implies that there is no high multicollinearity problem amongst the explanatory variables. The highest correlation registered among the explanatory variables is (- .277) between education and income level with an unexpected negative sign that is not in line with the previous literature. According to the previous literature, there is a positive correlation between these two variables as the higher the education level, the higher the income level will be. However, the correlation matrix shows a negative relationship, which we attribute to the quality of our dataset, as most of our explanatory variables are of nominal and ordinal level. This level of measurement could affect the quality of our result.

Analysis And Results

To test the significance of the model and to check the ability of the explanatory variables to explain the behavior of the dependent variable (i.e. Tax arrears), a regression analysis is performed

with all the six explanatory variables. Table 2 presents the results. As the rule states: *p*-value should be compared with the significance level which we set at α= 0.10 and α= 0.05. Since the *p*-value is 0.066, we can conclude that the model is overall significant at 10 per cent. In other words, there is a strong likelihood that there is no relationship between tax arrears among individual taxpayers in Malaysia and the set of explanatory variables identified if we set at a lower *p*-value, namely at 5 per cent or 1 per cent. The adjusted coefficient of determination for the multiple regression analysis (Adjusted R Square) = 0.002 which signifies that only 0.2% of the variation of the dependent variable (Tax Arrears) is explained by the regression model (the set of explanatory variables) and the remaining 99.8% variation is unexplained by the model. It could be due to residual error or other variables not included in the analysis. The Standard Error of Estimate is also very high at 107,499.936. It means that the regression equation will not provide an accurate estimate of the tax arrears among Malaysian taxpayers. Besides, since the residuals are expected to be approximately normally distributed; therefore, about 68% of residuals will be within ± RM107,499.936.

This result implies that the current explanatory variables cannot estimate the variability in the dependent variable (Tax Arrears). Other explanatory variables should be included to predict Tax arrears amount of taxpayers in Malaysia. On the other hand, the significance of the explanatory variables is determined by observing the absolute value of their corresponding *t*-statistic. As a general rule, if the absolute value of *t* -statistic is greater than 2 (i.e. |*t* -statistic| > 2), we conclude that the variable is significant and it could be included in the model; otherwise it is not significant and can be eliminated. Based on this rule of thumb. the *t*-statistic of the explanatory variables are significant at α= 0.05 and α= 0.10 for Age and Income level, respectively.

Table 2: Regression results of ANOVA

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-20324.165	16059.188		-1.266	.206
	Gender	-1277.051	4030.487	-.006	-.317	.751
	Age	4672.251	2147.222	.039	2.176	.030
	Marital Status	658.698	5440.913	.002	.121	.904
	Education	-701.265	1731.424	-.007	-.405	.685
	Income level	2916.509	1645.231	.033	1.773	.076
	Occupation	1764.552	2558.101	.012	.690	.490
Adjusted R-square: .002 Std. Error of the Estimate: 107499.93591 F-stats: 1.971 (sig 0.066)						

In our quest to develop the optimum model, stepwise backward elimination method is utilized.

Table 3 shows the results. It begins with the entire set of six explanatory variables and eliminates one explanatory variable at each iteration. The least significant explanatory variable based on the absolute value of *t*-statistic is removed from the model at each step. We can conclude that the best model is Model 5 as the Adjusted R-square has slightly improved from .002 to .003 with only two explanatory variables in the model, namely Age and Income level. From Table 3, it is also observed that the significance of the model has improved from 0.066 to .004 and the F-statistics has improved from 1.971 to 5.580 in Model 5.

Table 3: Results of stepwise backward elimination method

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-20324.165	16059.188		-1.266	.206
	Gender	-1277.051	4030.487	-.006	-.317	.751
	Age	4672.251	2147.222	.039	2.176	.030
	Marital Status	658.698	5440.913	.002	.121	.904
	Education	-701.265	1731.424	-.007	-.405	.685
	Income level	2916.509	1645.231	.033	1.773	.076
	Occupation	1764.552	2558.101	.012	.690	.490
	Adjusted R-square: .002 Std. Error of the Estimate: 107499.93591 F-stats: 1.971 (sig 0.066)					
2	(Constant)	-19160.533	12863.328		-1.490	.136
	Gender	-1359.470	3972.009	-.006	-.342	.732
	Age	4723.259	2105.180	.039	2.244	.025
	Education	-690.698	1728.976	-.007	-.399	.690
	Income level	2920.941	1644.589	.033	1.776	.076
	Occupation	1748.460	2554.282	.012	.685	.494
	Adjusted R-square: .002 Std. Error of the Estimate: 107484.63668 F-stats: 2.363 (sig 0.038)					
3	(Constant)	-21489.968	10913.904		-1.969	.049
	Age	4789.275	2096.058	.040	2.285	.022
	Education	-658.627	1726.215	-.007	-.382	.703
	Income level	3003.993	1626.382	.034	1.847	.065
	Occupation	1742.367	2553.894	.012	.682	.495

	Adjusted R-square: .002 Std. Error of the Estimate: 107470.93475 F-stats: 2.925 (sig .020)					
4	(Constant)	-23090.270	10074.537		-2.292	.022
	Age	4696.120	2081.533	.039	2.256	.024
	Income level	3194.298	1547.821	.036	2.064	.039
	Occupation	1595.394	2524.365	.011	.632	.527
	Adjusted R-square: .002 Std. Error of the Estimate: 107457.67963 F-stats: 3.852 (sig .009)					
5	(Constant)	-19098.521	7848.106		-2.434	.015
	Age	4607.867	2076.664	.038	2.219	.027
	Income level	3316.935	1535.476	.037	2.160	.031
	Adjusted R-square: .003 Std. Error of the Estimate: 107448.36657 F-stats: 5.580 (sig .004)					

A summary of excluded variables with their corresponding statistics such as coefficients, t-stats, significance level, partial correlation and collinearity tolerance level are displayed in Table 4.

Table 4: Summary statistics of excluded variables

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
2[a]	Marital Status	.002[b]	.121	.904	.002	.917
3[a]	Marital Status	.003[c]	.177	.859	.003	.944
	Gender	-.006[c]	-.342	.732	-.006	.964
4[a]	Marital Status	.003[d]	.154	.877	.003	.947
	Gender	-.006[d]	-.321	.748	-.005	.967
	Education	-.007[d]	-.382	.703	-.006	.892
5[a]	Marital Status	.002[e]	.126	.899	.002	.949
	Gender	-.006[e]	-.322	.748	-.005	.967
	Education	-.005[e]	-.282	.778	-.005	.913
	Occupation	.011[e]	.632	.527	.011	.982

a. Dependent Variable: Tax Arrears
b. Predictors in the Model: (Constant), Occupation, Gender, Education, Age, Income level
c. Predictors in the Model: (Constant), Occupation, Education, Age, Income level
d. Predictors in the Model: (Constant), Occupation, Age, Income level

e. Predictors in the Model: (Constant), Age, Income level

Results from the multiple regression to test the relationship between various factors and the tax arrears among individual taxpayers in Malaysia were discussed earlier. Gender, marital status, education, and occupation are found to be statistically insignificant at 5% level. The only two explanatory variables that are proven to be statistically significant are age and income level. Both age and individual income levels have a positive impact on tax arrears among individual taxpayers in Malaysia.

In terms of tax arrears and age, previous studies have evidenced that in the context of Malaysia, older people above 50 years are reviled to be less compliant, and hence have higher tax arrears. This claim is supported by the findings of our study as the variable age has a positive influence on Tax arrears. This positive correlation could be explained as that the older the individual gets, the higher the salary he/she earns. This is due to the fact that older employees usually hold higher positions as well as have long work experience in the industry. As the salary increases, the tax rate will increase proportionately. Consequently, these senior employees end up not declaring their real salary amount as taxable income and find ways to evade the tax.

Income level is found to be significant variable, which is also positively related to Tax arrears. This can be explained in relation to the tax system. It is believed that progressive tax rates could be one of the reasons why high income group has more tendencies to evade or disobey due to higher taxable income, thus making the tax liabilities much higher than those in the lower income group. Loo (2006) in her study of Malaysia's taxpayers found that higher income earners were less compliant, and hence have high tax arrears.

The insignificant relationship between gender and tax arrears is supported in this study. The literature revealed that gender has no significant impact on compliance across 45 countries and the relationship between tax compliance and gender is ambiguous most of the time. The finding of our study, also supports that there is no significant relationship between gender and tax arrears. Although the analysis proved that omitting this variable improves the model, we can say that the initial regression analysis showed that there is a negative relationship between gender and tax arrears. The tax arrears of males is RM 1,277.051 less than the tax arrears of the females.

According to the literature review, individual tax payers who have spouses are found to be more compliant than unmarried tax payers. However, this claim of the existence of such positive relationship between marital status and tax arrears is not supported in this study. Marital status variable turned out to be insignificant; hence being omitted from the model.

Based on the literature review, greater education potentially increases compliance, as educated tax payers may be more aware of their responsibility as well as the sanctions to be imposed if they were not compliant with tax laws. Therefore, the tax arrears is low. Even though this negative correlation between education level and tax arrears is proven to be true in our model; however, the hypothesis could not be supported as the finding showed that there is no significant relationship between education and tax arrears. Hence, education variable was excluded from the model.

A demographic factor such as occupation, which refers to an individual's employment or earning activity (Jackson and Miliron, 1986), is found to be insignificant also in this study. Hence, this variable is also being eliminated from our model.

Conclusion And Recommendations

This exploratory study has proven that there is a negative relationship between tax compliance behavior and tax arrears. Thus, when there is a lack of tax compliance, Tax Arrears of individuals will increase and vice versa. The analysis of the results also has shown that age and income are found to be significant determinants in influencing tax arrears amongst Malaysian taxpayers. Relating to previous literature, it has been concluded that age and income have negative relationship on compliance behavior. Therefore the positive relationship between age and income and tax arrears is verified.

The shortfall of our research is mainly due to the primary dataset that use nominal and ordinal level of measurement, which affect the quality of the results to a certain extent. Moreover, the existing survey was attributed to different objectives. Hence, the analysis must be interpreted with caution and further research must take into consideration of dataset which are ratio and interval level of measurement.

Using secondary data should be advocated in order to gain more feasible results especially when applying multiple regression analysis. We also consider extending explanatory variables to other areas such as tax rates, audit probabilities and penalty structures that would be useful to explore. Alternatively, expanding target groups to small medium enterprises (SME) and corporate sectors would be invaluable as there is a crucial need for more research in this area.

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FOREIGN TOURISTS' PERCEPTION, EXPERIENCE, SATISFACTION AND BEHAVIOURAL INTENTION ON SARAWAK LOCAL FOODS IN KUCHING

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Abstract: *Malaysia's local food and beverages had its own identity that can be promoted as gastronomic tradition in order to improve tourism industry in Malaysia. Survey among 150 foreign tourists by mean of questionnaire was conducted to investigate the relationship between foreign tourists' perception, experience, satisfaction and behavioural intention towards Sarawak local foods. Results showed respondents perceived Sarawak local foods are oily, exotic and authentic. Most of them also agreed that Sarawak local foods gave enough experience about Sarawak food cultures and its uniqueness. Besides, Sarawak local foods had met their expectation and they had high intention to try Sarawak local foods in future. Meanwhile, correlation analysis shows strong relationship between perception, experience and satisfaction towards behavioural intention of foreign tourists' on Sarawak local foods. The findings of this research may close the gap in the literature and provide knowledge concerning factors influencing tourists' intention to consume Sarawak local foods in which will benefit local food manufacturers and tourism-related bodies.*

Introduction

Tourism is termed as the activities, services and industries that convey a travel experience either individuals or groups travelling away from their homes for enjoyment and pleasure. Food becomes one of the reasons people travel these days and food has been considered as not only being a basic fundamental for tourists' consumption but also important component in local culture (Jones and Jenkins, 2002). Hence, food is measured as vital tool in a tourism sector.

Food activities in tourism such as food culture are frequently related to perception and experience among tourists. This perception and experience are created and occurred during tourists having their vacation or trip. Previous studies reported that tourists visit a specific destination which had been filtered through many influential passages on food and tourism (Henderson, 2009). Western tourists perceived that Malaysia offers high accessibility of food choices, snacks, beverages and preparation of foods (Jalis et al., 2009). This is supported by Ling and Janie (2012) who stated that tourists also perceived food culture in Malaysia that creates the unique and delicate identity. Foods offer pleasurable sensory experience that can complete an experiential part of vacation that pulls tourists to a destination (Kivela and Crotts, 2006). This experience will lead to satisfied tourists whom will have higher tendency to revisit the same destination and provide positive comments to friends and families (Chen and Tsai,

2007). This study focused on tourist perception, experience, satisfaction and behavioural intention towards Sarawak local foods and beverages because similar scope and context of study is scarce, aimed to determine the foreigner tourists' perception, experience, satisfaction and behavioural intention towards Sarawak local foods and the relationships among variables.

Literature Review

Food And Tourism

There is association between food and tourism (Abd Karim, 2006). Food could be an attribute whereby tourists see the attractiveness of the destination for a reason other than climate, accommodation and scenery which basic element of the tourists' product. (Zainal et al, 2010). Food tourism is the tourists' related activity at the destination such as dining, purchasing local food product or related product and experiencing the characteristic of unique food producing region (Shenoy, 2005). It could be visitation to primary or secondary food producers, food festivals, restaurants and specific location for which food tasting (Hall and Sharples, 2003). To some extent, there are tourists and visitors who plan their trips partially or totally in order to taste the cuisine of the place or to carry out activities related to gastronomy and this is termed as gastronomic tourism (World Tourism Organization, 2012). Tasting of local food is part of essential in tourists experience since it serves cultural activity and entertainment (Kim et al, 2009). The importance of the connection between food and tourism cannot be ignored. Each destination has different levels of attractiveness that can draw tourists from different countries (Au & Law, 2002). Authentic and interesting food can attract visitors to a destination. Marketers of a culinary destination must be able to know the image currently held by its targeted customers and how to affect their intention to visit through effective marketing strategies. Food images can be utilized to exhibit the cultural aspects of a country (Frochot, 2003).

Sarawak Local Foods

The recognition of local food as a driver in tourist spending helps in the diversification of agriculture and rural businesses as mediated through the development of rural economies, the strengthening of a region's identity and by sustaining cultural heritage (Sims, 2009). In line, Bujang (2002) stated that the uniqueness of Sarawak is depending on the presence of multi-ethnic groups in the state**.** Every native group has their own lifestyle, traditions, language, dialects and also cultures. Food is one of the most cultural identities for native groups in Sarawak with each ethnic have their own delicacies (Langgat et al, 2011).

Sarawak is one of Malaysian behalf on the island of Borneo which is known as Land of the Hornbills, and situated on the northwest of the island, bordering the nation of Sabah to the northeast, Indonesia to the south, and surrounding Brunei. With such nature, Sarawak is well known with large array of the tourism products like eco-tourism, cultural tourism, wildlife tourism as well gastronomic tourism (Sarawak Government, 2009). With the various ethnics, Sarawak offers several of food and which are *Laksa Sarawak, Mee Kolok, Umai or Umei, Manok Pansoh, Nasi Goreng Dabai* and *Sayur Midin*.

Perception

Perception can be regarded to customers' routine of the evaluative level of attribute as it affects the products (Jang et al, 2009). Several studies have focused on food perception among tourists. The aspects regarding food perception involved food culture and physical properties of Malaysia food products in a study among Western tourists' perception. (Jalis et al, 2009). Tourists are likely to rely on cultural food image, thus all effective marketing strategies should be aimed at improving the Malaysian food image in the minds of tourists as

clear food image may determine the selection of destination among tourists (Abd Karim et al, 2009). The food perception in this study does not limit to food as the main context of study but in precise gastronomy products as food represents food culture and experience. Combination of food as solid entity and culture as non-solid entity is somewhat important in influencing food perception.

Experience

Travel dining experience is pleasurable sensory experiences that fulfil an experiential part of a holiday (Chang et al, 2010). Precisely, experience with food is the upmost vital moment to understand tourists' food experience. An experience is made up of internal person and external depending on how individual in specific mood, state of mind and reacts to interaction with staged event (Mossberg, 2007). Food experience describes the image of cultural experience, status and cultural identity. The cultural side is generally built from the uniqueness aspects of gastronomy which can only found in the exact destination. Travel dining experience and local gastronomy have increasingly been promoted together as a combined "attraction" by many destinations (Chang et al, 2010). Zainal et al. (2010) argued that food has been found to be an attributes tourists perceive the attractiveness of destination for a reason other than climate, accommodation and captivating scenery. Thus, it is a fundamental element of the tourists' products. More importantly, food experience at the destination does not only satisfying tourists' physiological need but also their psychological aspect (Roozbeh et al, 2012). Visitors were found enjoying the pleasure that aroused from complete sensory experience of taste, smell, touch, sight and hearing. The exciting experience of food consumption through trying new foods will reflect their perception towards food when engaging in activities during travelling (Kim et al, 2009). Thus, the experience that tourists get especially from food is the major aspect that is important to this study.

Satisfaction

Satisfaction is an essential element for maintaining long-term relationships with customers (Khuong and Ngoc, 2014). Tourists' satisfaction is a common tool that is used by tourism operators as an important determination to the success of the destination in future because it is one of the key variables in assessing festival quality among the participants. Therefore, the term food satisfaction is more susceptible to be used which it could relates to other variables and focus on the food entity. The previous study also stated that there is significant relationship between food satisfaction and other variables such as food experience, food quality, behavioural intention and other related variables (e.g. Boo et al, 2012, Leong et al, 2010). Therefore, the tourists' satisfaction in food may intend them to revisit the destination that they had chosen.

Behavioural Intention

Customer behaviour involves re-patronizing intentions, repurchasing intentions and word-of mouth intentions (Soderlund and Ohman, 2003). In precise, tourists' behavioural intention involves revisit intention to the destination with several reasons such as low risk, emotion, advancement in destination exploration and introducing others (Ramli et al, 2011). The behavioural intention of the foreign tourists is related to their satisfaction of the food that they consumed which makes them revisit the destination. A tourist destination should be unique in order to compete with other destinations to attract tourists to return to the destination (Ramli et al, 2011). On that basis, this study examined behaviour intention among tourists focusing on local foods together with its determinants.

Materials and Method

Survey by mean of questionnaire was conducted to foreign tourists aged between 18 and above who visited Kuching city and Sarawak Cultural Villages. Screening question such as "do you have experience any local foods in Kuching?" and "do you have taste any local foods while staying here?" were asked to ensure only qualified respondents were chosen.

Questionnaire was constructed from the previous studies for example Roozbeh et al. (2012), Leong et al. (2010) and Jalis, et al (2009). The questionnaire consists of five sections. Section A comprises of 5 questions regarding demographic profiles. Travelling profile was asked in Section B. Section C measures foreign tourists' perception and experience towards Sarawak local food which consists of 28 questions in perception while experience consists 10 of question using 5-point likert scale (1=strongly disagree and 5=strongly agree). Section D consists of items measuring 5 questions related to satisfaction towards Sarawak local foods using 5-point likert scale (1=strongly disagree and 5=strongly agree). Final section measures 4 questions on foreign tourists' behavioural intention which used similar 5-point likert scale.

Pilot test was carried out prior to main data collection. All study constructs were found to be reliable with α value recorded was more than 0.60, ranging from 0.827 to 0.933 (Nunnally and Bernstein,1994). Measurement items were also subjected to validity test using correlation analysis. Convergence validity was achieved for all constructs foreign tourists' perception (r=0.345 to 0.845), experience (r=0.355 to 0.761), satisfaction (r=0.610 to 0.840) and behavioural intention (r=0.361 to 0.903) on Sarawak local foods.

Data was subjected for normality test, descriptive statistics analysis and inferential statistical analysis using the IBM Statistical package for Social Sciences (SPSS) version 20.

Results and Discussion

Demographic Profiles

There was 52% female out 150 respondents involved in this study. This is contrary to the previous studies which proven that the propensity of travelling abroad among male westerners is higher than the female westerner (e.g. Jalis et al, 2009). The largest age group involved in the research is 18-29 years old (34%) followed by 30-39 years old (29.3%), 60 years and above (14.7%), 50-59 years (11.3%) and 40-49 years old (10.7%). Majority respondents are single (51.3%), while 38% is married and the rest is widowed/divorced/separated (10.7%). Even though most foreign tourists' came to Kuching are single, most of them would come together with their partners or in groups. This indicates that majority of the tourists prefer to take a trip with their travel companions or groups as this would provide more safety measures during the trip (Jalis et al, 2009). Majority respondents are a Bachelor degree holder or higher (72.7%). The rest possessed certificate of high school or less or certificate/diploma (27.3%). 38.7% respondents are from European countries while others are Asian (20.7%), Australasia (14%), North America (12.7%), African/ Middle East (8%) and South America (6%). According to MOTOUR (2007), respondents of European continent often travel between September and January every year due to the winter season in some of the western countries. Besides, European tourists often found Malaysia as an ideal vacation destination for budget travelling (Euromonitor, 2010; Roozbeh et al., 2012).

Travelling Profiles

Majority respondents came to Kuching for the holiday purpose (60%) followed by other purposes (19.3%), businesses (9.3%), visiting relative and friends (8.0%) and the least purpose is experiencing food and culture (3.3%). This indicates that majority respondents choose Kuching not based on the gastronomy purpose but to have their vacation or holiday trip only.

64% respondents stayed less than 6 nights in Kuching. This is parallel with other studies (i.e. Jalis et al, 2009 and Ibrahim, 2007). 80.7% respondents involved in the research visit Kuching for the first time, while others 'second time' (11.3%) and more than three times (7.3%).

Tourists' Perception, Experience, Satisfaction and Behavioural Intention on Sarawak Local Foods in Kuching

Perception towards Sarawak Local Food

Perception of foreign tourists' towards Sarawak Local Food was examined for six (6) elements consist of 28 items in Table 1 i.e. "Kuching food offering", "Sarawak local food cultures and activities", "Sarawak local food acceptance and identity", "characteristics of Sarawak local food and beverage", "Sarawak local food preparation", and lastly "originality of Sarawak local foods and beverages".

Table 1: Descriptive statistics for perception of foreign tourists' towards Sarawak Local Food

	Median	Interquartile Range
Kuching food offering items		
Offers great choices of food and beverages	4.00	1
Offers great kind of snack food	4.00	1
Sarawak Local Food Cultures and Activities items		
Rich traditional eating manners	4.00	0
Food culture practice unique	4.00	1
Food culture own identity	4.00	0
Sarawak ethnic group can be seen through food and beverages	4.00	1
Different style different ethnics eating manners	4.00	1
Food culture activities	4.00	1
Hawkers stall and open food court	4.00	0
Sarawak local food acceptance and identity items		
Sarawak local food accepted in taste	4.00	0
Sarawak local food recognized internationally	3.00	1
Sarawak local snacks as good as imported	3.00	1
Characteristics of Sarawak Local foods and beverages		
Foods taste good	4.00	0
Foods are served hot	4.00	1
Foods aroma are adorable	4.00	0
Local snacks acceptable	4.00	0
Foods main dishes oily	4.00	2
Foods are salty	3.00	1
Foods too much carbohydrate	3.00	2
Foods delicacy and beverages too sweet	3.00	2
Foods too spicy	2.00	2
Foods use too much chilli paste	2.00	1
Sarawak local foods preparation items		
Freshly prepared	4.00	1
The way local foods preparation are attractive	4.00	1
Cooking style attractive	4.00	1
Truly portray Malaysian culture	4.00	1
Originality of Sarawak local foods and beverages items		

Sarawak local foods and beverages are exotic	4.00	1
Sarawak local foods are authentic	4.00	1

5 points Likert's is used, 1=strongly disagree and 5=strongly agree

Table 1 indicates that respondents expressed their agreement with almost all statements except few. With regard to Kuching food offering, ratings indicate that Kuching had great choices of foods, snacks and beverages. This is probably due to Sarawak Tourism Board (STB) did lots of advertising on Sarawak local foods, snacks and beverages by exposing the uniqueness as symbol of food culture in Kuching instead of having lots of local food court and ethnic restaurants. In addition, Kuching has a great deal of adventurous gourmet as there were more than thousand food outlets in Kuching (Sarawak Government Tourism, 2014).

The ratings for Sarawak local food cultures and activities were also positive. Respondents perceived Kuching is rich in traditional eating manners. This probably due to the cultural eating manner has been practice in daily life and has been inherited from one generation to another (Jalis et al., 2009). Respondents perceived Sarawak food culture practice is unique and had its own identity possibly because this state has a bewildering diversity of culture through over 30 ethnics or indigenous groups (Attila, 2007). Each ethnicity had their own identities and delicacies (Langgat et al., 2011).

In terms of acceptance of Sarawak local foods, respondents agree that the taste is acceptable but their perception towards recognition and standard of Sarawak local foods is somewhat neutral. This is possibly because Sarawak cuisine is less popular than other cuisines in the world and this requires more publicity. For instance, Thai government had held "Kitchen of the World" project to encourage Thai investors to invest Thai restaurants overseas and provide support in the form of training, information and financial loans (Othman et al., 2010).

With regard to characteristics of Sarawak local foods, respondents concurred that they taste good, served hot, have adorable aroma and local snacks is well and Sarawak local food main dishes are oily. This could be because some respondents have first visualize information about local foods through mass media (books, magazines, newspaper and brochures) and the internet before they visit the country or another reason because they had familiarity of some food while on vacation (Jalis et al., 2009). Respondents rated low for another five (5) characteristics of Sarawak local foods i.e. "Sarawak local foods are salty", "too much carbohydrate", "food delicacies and beverages too sweet", "too spicy" and "too much chilli paste". This could be because they Sarawak local foods suit their taste well.

Sarawak local foods preparation was also perceived good. Respondents agreed that the way local foods preparation are attractive, cooking style is attractive, the food truly portray Malaysian culture and it was freshly prepared. In line, Ling and Janie (2012) stated that style of cooking and the preparation methods portray the uniqueness of culture and this can be promoted as tourism products. Therefore, Sarawak local foods preparation is also related to the Malaysian culture. In addition, respondents concurred that Sarawak local foods and beverages are exotic and authentic.

Experience towards Sarawak Local Food

The data of foreign tourists' experience towards Sarawak local food were shown in the table 2 below.

Table 2: Median and Interquartile range of foreign tourists' experience

Experience items	Median	Interquartile Range
Interested to learn Sarawak local food	4.00	0

Good impression	4.00	0
Enjoy traditional preparation local food	4.00	0
Enjoy culture use hand and chopsticks	4.00	1
Enjoy most local food	4.00	2
Think local bring unique experience	4.00	1
Local food enrich knowledge	4.00	1
Experienced enough local food cultures	4.00	1
Add personal experiences	4.00	1
Good gastronomy tourism	4.00	1

5 points Likert's is used, 1=strongly disagree and 5=strongly agree

Table 2 indicates that most foreign tourists' who came to Kuching had experienced trying Sarawak local food. Moreover, they had a good impression towards Sarawak local food. This is probably due to high interest to explore food culture in Kuching to adapt the surrounding as their good experience. Foreign tourists' agreed that they enjoyed most local foods in Kuching because they believed it would bring them to have a unique experience and enrich their food knowledge. A unique and memorable culinary identity was a necessary asset to any successful tourist destination (Fox, 2007).

Satisfaction towards Sarawak Local Food

Result on foreign tourists' satisfaction towards Sarawak local foods is tabulated in the Table 3.

Table 3: Statistics of foreign tourists' satisfaction

Satisfaction items	Median	Interquartile Ramge
Contribute eating pleasure	4.00	0
Add visiting enjoyment	4.00	0
Meet expectation	4.00	0
Satisfy eating desire	4.00	1
Worth to try	4.00	1

5 points Likert's is used, 1=strongly disagree and 5=strongly agree

In table 3, foreign tourists agreed that they satisfied eating Sarawak local foods, it contributes to their eating pleasure and also add their visiting enjoyment. This might due to having experience to try new food i.e. Sarawak local food and beverage during their holiday is satisfying moments. The fact that respondents agreed that Sarawak local food have met their expectation, satisfying their eating desire and worth to try have strengthen their satisfaction towards Sarawak local foods. If this is achieved, repeat visitation became possible (Leong et al., 2010).

Behavioural Intention towards Sarawak Local Food

The reported descriptive statistics for measurement items of behavioural intention is presented in Table 4.

Table 4 : Statistics of foreign tourists' behavioural intention

Behavioural Intention items	Median	Interquartile Range
Intention to try in future	5.00	1
Revisit for local foods	4.00	1
Spread positive word	4.00	1

Recommend to friends and family	4.00	1

5 points Likert's is used, 1=strongly disagree and 5=strongly agree

From table 4, median ranges from 4 to 5 indicating respondents have intention to try Sarawak local food in the future and may revisit destination, spread positive word regarding local food and recommend local food to friends and family. Repeat visitation is as an indicator of loyalty in tourist destination that is strongly affected by destination attributes (Mat Som and Shirazi, 2010). In this case, local food acts as vital destination attribute to increase repeat visitation. Similar to this study, Richard et al. (2010) confirmed that tourists' love to share with friends and family when experience a memorable eating experience which is claimed as "Take-home memento". Another form of loyalty is word-of-mouth was found to be the most effective influences that make people interested in travelling (Mat Som et al., 2012) and will persuade tourists' in destination selection (Shanka et al, 2002).

Relationship between Foreign Tourists' Perception, Experience, Satisfaction and Behavioural Intention on Sarawak Local Foods

Table 5 shows the Spearman's correlation matrix between study constructs.

Table 5: r Values between Study Constructs

	Perception	Experience	Satisfaction
Experience	.697**		
Satisfaction	.648**	.752**	
Behavioural Intention	.568**	.605**	.567**

** Correlation is significant at the 0.01 level (2-tailed)

Table 5 shows that significant strong positive relationship ($r \geq 0.50$) was detected between all constructs either among independent variables and between independent variables to dependent variable (i.e. behavioural intention) (Pallant, 2001). This signifies that all variables are interrelated to each other thus could become important factors related to local foods in improving tourism sector in Malaysia, precisely in Sarawak. In addition, all independent variables i.e. perception, experience and satisfaction towards Sarawak local food could contribute foreign tourists intention to return to Sarawak, especially Kuching. This finding is similar to Roozbeh et al. (2012) who examined similar constructs.

Conclusion

This research revealed that, in term of perception, foreign tourists' perceived Sarawak local food only oily but not as spicy and use too much chilli. Tourists also perceived Sarawak food culture is unique and exotic. Moreover, majority of them agreed that trying Sarawak local food is a pleasurable experience which gives positive revisit intention to Sarawak. In addition, foreign tourists' perception, experience, satisfaction and behavioural intention towards Sarawak local food in Kuching are interrelated. This research however has more rooms for improvement. Future research may use larger sample size and sampling could be expanded to wider geographical area in order to increase representativeness and generalization of data. Findings may provide baseline data for the authorities to improve the quality characteristics of Sarawak local food in order to improve foreign tourists' perception, experience and satisfaction of foreign tourists' towards Sarawak local food. This will in turn increase repeat visitation to Sarawak and improve tourism sector and economy of Sarawak and Malaysia.

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FINANCIAL PERFORMANCE AND HUMAN RESOURCE INDICATORS: RELATIONSHIP AND SIGNIFICANCE

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Abstract: *Human resource or human capital is an asset to the organization. It is an agent for an organization to exist and develop. Even for an organization with full of technology, human resource's importance cannot be denied as human is an exclusive asset as compared to the machines. Nowadays, many companies replacing its human capital with technology for the reason of reducing cost and increase efficiency. Hence, this study been conducted on ten largest companies in Malaysia based on its market capitalization to identify the significant relationship between financial performance and human resource expenditure. Furthermore, the most significant indicator been identified. The study used five years secondary data which been extracted from the company's annual report and been analysed using STATA software version 12. It is found that all indicators chosen to represent human resource expenditures are significant to financial performance of the company which represent by earnings per share and operating profit with two indicators are in positive relationship and one is negative relationship. The result suggest that by expense or allocate on the human resource it is not necessary will reduce the financial performance of a firm. Hence, the study contribute an insights that allocating to human resource's expenditures might contribute to the furtherance of financial performance of an organization.*

Keywords*: Financial Performance, Earnings Per Share, Operating Performance, Human Resource Expenditures, Information Technology*

Introduction and Literature Review

Human resource (HR) or human capital is an asset to the organization. It is an agent for an organization to exist and develop. Even for an organization with full of technology, human resource importance cannot be denied as human is an exclusive asset as compared to the machines. Allah S.W.T had mentioned in the al-Quran in al-Baqarah, 2:30 and in al-Israa', 17:70 that human is the best creation on the earth. Hence, human should contribute better than a machines which are man-made. Nowadays, many companies replacing its human capital with technology for the reason of reducing cost and increase efficiency. Even though, the direct equation in the income statement resulted to reducing operating expenses would left more operating profit, however, in practice, that is not the case. Due to the development of research in the area which proven as reversed effect, the term used to the substantial item is transforming from the term 'cost' or 'expenses' to 'investment'. Besides that, the term 'human resource' also been improved to 'human capital' which reflects the value of an employee as equity or asset to the company, rather a cost which company need to bear.

Human Resource Management And Firm's Performance

Several research have proven that HR management have an effect to an organizational performance. For instance, study conducted by Huselid, Jackson and Schuler (1997), Hitt et al. (2001), Shrader and Siegel (2007), Marimuthu, Arokiasamy and Ismail (2009), and Crook et al. (2011) found in their study that human resource is significant to the firm performance. Those studies covers different industries, different type of research and in different countries. Huselid, Jackson and Schuler (1997) conducted research on 293 U.S. companies and found in their study there is relationship and impact of HR management on the firm's financial performance. Besides that, Hitt et al. (2001) performed study on professional service firms and looking on resource-based perspective, the result contribute to resource-strategy contingency fit which proved the strategic importance of human capital towards firm performance. Furthermore, Shrader and Siegel (2007) in their study on longitudinal data from 198 high-technology new ventures observed strong relationship between team experience and strategy and that lead to the vital factor of long-term performance for high-tech entrepreneurial ventures. In addition, Crook et al. (2011) conducted meta-analysis and found that human capital relates strongly to operational performance of a firm. The recent study on human resource management, Berkery et al. (2017) proved that flexible working arrangement would lead to the organizational performance.

Most of the study conducted proving the relation of HR management and it effects to the firm's performance. However, limited study been conducted relates between the HR expenditures and firm performance. Hence, this study been conducted to identify the significant relationship between financial performance and human resource expenditure. Furthermore, the most significant indicator been identified in order to suggest on the HR expenditure variable that most contribute to a firm performance. Due to previous study findings which have acknowledged human capital as an investment instead of an expenses, it is assumed that by allocating expenses for HR management it will contribute to better firm's performance. It may not be an immediate effect, but, it will contribute to better future earnings in a period of time.

Selected Indicators

This study been tested on two DVs that are operating profit and earnings per share (EPS) which are an indicators for profitability. Shamsudin, Mahmood, and Ismail (2013) stated that profitability is a measurement which reflects the performance of a company. Three independent variables (IV) been selected to represent human resource indicators to study its relation to the firm performance. The selected IVs are distributed benefit plan (DBP), office equipment and motor vehicles, and computer, software and network cost. The selected IVs consist of mixture of cost and asset. DBP is an IV extracted from income statement of an organization. It is an operating expense and are the items under employee cost that consist of defined pension plan and defined contribution plan. It is an investment spending by the firm for its employee's benefit to be given upon their retirement. A study conducted by Tremblay, Sire and Balkin (2000) on the role of organizational justice proved that employee benefit satisfaction have effects on work attitudes of the employee. Hence, the employee benefit should be taken care-off by the organization in order to stimulate the employee's motivation, satisfaction and decision to retain in the organization.

The DBP is a benefit and initiative by the employer (firm) which is very pertinent to a staff since it will secured the staff's financial standing upon retirement. A study conducted by Clark, Lusardi and Mitchell (2017) resulted to different result of investment performance which depends on level of financial knowledge of an individual. It proven that, not all individuals have finance literacy and earn the desired return including for an investment for retirement.

Hence, it is a very good initiative been conducted by a firm who have invested for a defined benefit plan for its employee. Besides that, Ippolito (1997) in his books explains that defined benefit plan actually contributing to more control on the composition and productivity of an employee which will contribute to a firm's performance.

Besides DBP, there are two other IVs included in the study stand from asset which retrieved from the statement of financial position of the company. Office equipment and motor vehicles are the items under fixed asset specifically property, plant and equipment. It is actually the sum of office equipment and motor vehicle which is seen as the asset that would accommodate and compliment the employee to perform their job. According to Chelladurai and Kerwin (1981), employees would be more motivated and excited in using the company's facilities and equipment if the assets are in well-maintained condition. Therefore, it suggested the organization not only to provide the office facility, but also to allocate expense on the asset in order to satisfy the employee's need. There is also study by Morrison, and Macky (2017) which is an example on proof of dissatisfaction of employee when their needs on the office facility is not been satisfied. Hence, a firm need a proper spacing with sufficient office equipment to facilitate the employee to perform job efficiently and further improve the organizational performance.

The third IV adopted in the study is computer, software and network items which can be classified as information technology (IT) variable. It is classified as an intangible asset in the statement of financial position. Khallaf, Omran and Zakaria (2017) suggest that there is a need for alignment between IT investment and the firm's operating environment in order to benefit from return on IT investment. Tahat, Ahmed, and Alhadab (2017) had confirmed in their study on 150 non-financial UK FTSE companies on the relationship between the intangible assets of software and networks with stimulating the firm's performance and it is consistent to the result of study conducted by Bharadwaj (2000). This is consistent with the study conducted by Scott, Reenen, and Zachariadis (2017) who conducted study of SWIFT adoption in financial services which includes 6848 banks in 29 countries in Europe and America. It is found that with the adoption of SWIFT which is an IT facility, there is existence of large effect on profitability in the long-run. Therefore, IT variable should be considered in this study to test its significant relationship towards the firm's performance. Gaggl and Wright (2017) in their study of short-run causal effect of information and communication technology (ICT) mentioned in their study that ICT is to complement non-routine and cognitive-intensive work. Hence, it shows that there is a support from a research that IT or ICT is a need facility in an organization since it will assist the employee to perform better job and increase the performance of an organization further.

Methodology

This study been conducted on ten largest companies in Malaysia justified by its market capitalization. The list been developed referring to MalaysiaStock.Biz which been retrieved on 9th November 2017. As can be referred in table 1, the ten selected companies stand from three finance firms, five trading-services firm, and one each for industrial products and infrastructure project company.

Table 1: List of Ten Largest Companies in Malaysia based on Market Capitalization

NO.	NAME OF COMPANIES	CATEGORY	MARKET CAPITALIZATION
1	Malayan Banking Berhad	Finance	98.626
2	Tenaga Nasional Berhad	Trading-Services	84.319

3	Public Bank Berhad	Finance	79.506
4	Sime Darby Berhad	Trading-Services	61.684
5	Petronas Chemicals Group Berhad	Industrial Products	58.960
6	CIMB Group Holdings Berhad	Finance	56.214
7	Axiata Group Berhad	Trading-Services	49.042
8	Maxis Berhad	Trading-Services	46.863
9	IHH Healthcare Berhad	Trading-Services	46.716
10	Digi.com Berhad	Infrastructure Project Company	38.175

Source: Adapted from http://www.malaysiastock.biz/Listed-Companies.aspx (9th Nov 2017)

The study used five yearly secondary data which been extracted from the company's annual report which incurs from 2012 to 2016. It is later been analysed using STATA software version 12. The study used log data of EPS and operating profit as dependent variables (DV), DBP, office equipment and motor vehicles, and computer, software and network expenditures as IVs. The data been processed separately for each DV to assess on different effect on different level of financial performance. The equation for the variables in the study as in equation 1 and equation 2 below:

$$\ln OprtgPrft_{i,t} = \alpha + \beta_1 \ln(dbp_{i,t}) + \beta_2 \ln(NtwkComp_{i,t}) + \beta_3 \ln(OefMtr_{i,t}) + \varepsilon \quad (1)$$

$$\ln EPS_{i,t} = \alpha + \beta_1 \ln(dbp_{i,t}) + \beta_2 \ln(NtwkComp_{i,t}) + \beta_3 \ln(OefMtr_{i,t}) + \varepsilon \quad (2)$$

Findings

Table 2 and table 3 below shows the similar result from STATA output on multiple regression between the dependent variables and IVs. It is found that all indicators chosen to represent human resource expenditures are significant to operating profit and EPS. Two indicators of DBP and computer, software and network expenditures are in positive relationship and on the other hand, office equipment and motor vehicles is in negative relationship towards both DVs. As for the regression result of operating profit with the IVs (table 2), it been represented by 65.17% as showed by adjusted R^2. It means that 65.17% of operating profit performance is explained by the IVs. Furthermore, the F-value shows significant value, hence, there is coefficient correlation between the variables. Referring to the significance level, it is found that all IVs are significant at 99% confidence interval with DBP found to be the most significant. Hence, the equation for operating profit and its IVs as shown in equation 3.

Table 2: Regression Table, Operating Profit as Dependent Variable

Source	SS	df	MS
Model	10.9707476	3	3.65691586
Residual	5.33057916	46	.115882156
Total	16.3013267	49	.332680137

Number of obs =	50
F(3, 46) =	31.56
Prob > F =	0.0000
R-squared =	0.6730
Adj R-squared =	0.6517
Root MSE =	.34041

lnoprtgprft	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lndbp	.4831733	.0644056	7.50	0.000	.3535315	.6128151
lnntwkcomp	.073799	.0265048	2.78	0.008	.0204476	.1271504
lnoefmtr	-.1100187	.0396455	-2.78	0.008	-.1898209	-.0302164
_cons	9.929757	.7061146	14.06	0.000	8.508422	11.35109

$\ln OprtgPrft_{i,t} = -9.929757 + 0.4831733\ln(dbp_{i,t}) + 0.73799\ln(NtwkComp_{i,t}) - 0.1100187\ln(OefMtr_{i,t}) + \varepsilon$ (3)

Referring to table 3, the regression result of EPS with the IVs, based on the adjusted R^2 is at 0.4916 which means, 49.16% of EPS is explained by the IVs. The F-value shows significant value (Prob>F=0.0000), hence, there is coefficient correlation between the variables. For dependent variable of EPS, it is found that one IV (DBP) is significant at 99% confidence interval whereas the other two IVs are significant at 95% confidence interval which resulted to DBP as the most significant IV towards EPS. Therefore, the equation generated based on the regress result in table 3 as in equation 4.

Table 3: Regression Table, Earnings per Share as Dependent Variable

Source	SS	df	MS
Model	16.9880269	3	5.66267562
Residual	15.5083203	46	.337137398
Total	32.4963472	49	.663190759

Number of obs =	50
F(3, 46) =	16.80
Prob > F =	0.0000
R-squared =	0.5228
Adj R-squared =	0.4916
Root MSE =	.58064

lneps	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lndbp	.5954082	.1098548	5.42	0.000	.374282	.8165345
lnntwkcomp	.0954874	.0452085	2.11	0.040	.0044875	.1864873
lnoefmtr	-.1361069	.0676222	-2.01	0.050	-.2722232	9.48e-06
_cons	-2.90485	1.204399	-2.41	0.020	-5.32918	-.4805211

$\ln EPS_{i,t} = 2.90485 + 0.5954082\ln(dbp_{i,t}) + 0.0954874\ln(NtwkComp_{i,t}) - 0.1361069\ln(OefMtr_{i,t}) + \varepsilon$ (4)

Conclusions and Recommendations

Based on the findings, it shows that between the two DVs, the IVs explain more on operating profit instead of EPS with the difference of 16.01%. It means that the IVs have better impact on operating financial performance instead of EPS. This might due to the reason that the expenditure of the three IVs are directly relates to the operation of the company, hence, the effect is more on the operating profit, even though only one variable in the study is represented by operating cost which is DBP. Due to the fact that employee in the organization is the agent for main operation of the business, the facility assistance, satisfaction and security of the

employee is pertinent to motivate the employee to perform better and lead to better performance of the organization. Tremblay, Sire and Balkin (2000) in their study on the role of organizational justice found that employee benefit satisfaction have effects on work attitudes of the employee. Hence, it is important for the organization to manage its human resource efficiently since it will affect the staff's performance and will lead to the organizational performance.

In order to answer the first research objective, referring to the coefficient of the two DVs, two IVs of DBP and computer, software and network allocation both having a positive relationship for both DVs which is at different level of earnings. However, it is found consistently for IV of office equipment and motor vehicles to have a negative relationship towards both DVs. Hence, the result of the study would suggest that a firm should spend more on DBP and computer, software and network expenditure, but, should reduce the allocation for office equipment and motor vehicles in order to earn higher operating profit and higher EPS. It is also suggested that the firm should focused more allocation on DBP compared to the other two IVs since DBP is the most significant IV towards both DVs of operating profit and EPS. This means that allocating more on DBP compared to the other two IVs would result to higher financial performance of the company. It is consistent to Black (1980) who stated that pension benefit affect the fund performance as if they were firm asset. This result answer the second research objective in analysing the most significant IVs that affect the financial performance of a firm.

In conclusions, the result of the study suggest that by allocate and expense on the human resource expenditure, it is not necessary will reduce the financial performance of a firm as in the direct equation of an income statement. Therefore, the study contribute an insights that allocating to human resource's expenditures might contribute to the furtherance of financial performance of an organization at both operating profit and EPS level, but, not all types of expense would provide positive relationship. For future research, it is suggested that it could be done by overcoming shortage in this study which are limited to five years annual data and been tested on ten companies only. It is suggested the future researcher should conduct on longitudinal based study and should be tested not only on largest market capitalization companies only, but to include different size of companies. Furthermore, future study could be conducted on selecting other variables as IVs representing the HR expenditure and explore result on focus industry or sector.

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PERSONALITI DAN HUBUNGANNYA DENGAN PELANGGARAN DISIPLIN DALAM KALANGAN ANGGOTA TAHANAN ATM

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Abstract: *Tujuan Utama Kajian Ini Adalah Untuk Melihat Hubungan Personaliti Dengan pelanggaran disiplin dalam kalangan anggota tahanan Angkatan Tentera Malaysia (ATM). Pemboleh ubah tidak bersandar dalam kajian ini adalah personaliti yang terdiri daripada dua tret personaliti iaitu personaliti introvert dan personaliti ekstrovert. Manakala pemboleh ubah bersandar pula adalah pelanggaran disiplin dalam kalangan anggota ATM yang berada di Pusat Tahanan Angkatan Tentera Malaysia, Kem Batu Kentonmen Kuala Lumpur. Teknik kajian eksploratori ini dilaksanakan dengan mengumpulkan sorotan literatur, kaedah temu bual dan perbincangan kumpulan fokus serta mengadakan sesi kaunseling bersama anggota tahanan. Hasil dapatan kajian yang diharapkan dari kajian ini adalah untuk menilai jenis-jenis personaliti yang menyumbang kepada kecenderungan melakukan kesalahan jenayah dan seterusnya mencadangkan langkah-langkah bagi mengatasi masalah pelanggaran disiplin dalam kalangan anggota tahanan ini.*

Kata Kunci: *Personaliti, Personaliti Introvert, Personaliti Ekstrovert dan Pelanggaran Disiplin.*

Pendahuluan

Manusia cuba untuk mengemukakan dan menonjolkan perkara yang baik dan menyembunyikan perkara yang buruk tentang dirinya. Corak dalam ciri pemikiran, perasaan dan tingkahlaku yang membezakan seseorang dengan orang lain. Demikian halnya yang berlaku dalam kalangan anggota tentera ketika ini yang memaparkan personaliti yang menarik tetapi sebaliknya terdapat sebilangan kecil daripada mereka melakukan kesalahan sehingga dijatuhkan hukuman dan dikehendakki menjalani hukuman di Pusat Tahanan Angkatan Tentera (PTAT). Kajian ini akan menilai personaliti anggota ATM yang sedang menjalani hukuman tahanan. Disamping itu kajian ini juga menilai dua tret personaliti iaitu personaliti *introvert* dan personaliti *ekstrovert* yang menyumbang kepada pelanggaran disiplin anggota ATM yang berada di Pusat Tahanan Angkatan Tentera.

Kajian eksploratori ini dilaksanakan di pasukan 92 Pusat Tahanan Angkatan Tentera, Kem Batu Kentomen, Kuala Lumpur. Teknik kajian eksploratori ini dilaksanakan dengan mengumpulkan sorotan literatur, kaedah temu bual dan perbincangan kumpulan fokus serta mengadakan sesi kaunseling bersama anggota tahanan. Hasil dapatan kajian yang diharapkan dari kajian ini adalah untuk menilai jenis-jenis personaliti yang menyumbang kepada kecenderungan melakukan kesalahan jenayah. Dapatan kajian ini juga akan dikemukakan kepada pimpinan tinggi ATM bagi mencari langkah-langkah terbaik dalam membendung perlakuan jenayah terutamanya dari aspek modifikasi personaliti dan tingkahlaku.

Personaliti

Personaliti merupakan sebahagian daripada bidang psikologi yang mengambil kira tentang manusia secara keseluruhan sebagai individu dan makhluk yang kompleks. Personaliti atau dalam bahasa Inggeris *'persons'* berasal dari perkataan Latin iaitu *'persona'* yang membawa maksud topeng muka. Topeng muka boleh ditafsirkan sebagai perlakuan baik yang ingin ditonjolkan oleh setiap manusia dengan menyembunyikan perlakuan yang buruk. Kajian saintifik yang dijalankan tentang personaliti mengajukan persoalan-persoalan tentang mengapa kita seperti mana kita sekarang. Dalam mencari jawapan kepada persoalan tersebut, kita tidak dapat mengelak dari menghadapi kenyataan bahawa tingkah laku manusia adalah sangat kompleks.

Pengujian dan pengukuran dalam personaliti bermula sejak perang dunia pertama lagi. Pada ketika itu ahli psikologi Amerika telah diminta untuk membina satu alat pengukur anggota - anggota tentera yang ingin memasuki kerjaya ketenteraan di mana mereka diminta untuk melihat sejauh mana anggota-anggota tentera yang baru dipilih ini dapat menyesuaikan diri dengan suasana kehidupan sebagai seorang tentera yang penuh mencabar. Ujian yang dibina berdasarkan sejumlah item yang dipilih yang dapat menghuraikan pola-pola tingkahlaku normal. Kajian seterusnya dilakukan pada tahun 1960an dan tahun 70an, dimana aplikasi komputer mula digunakan dalam mengendalikan ujian personaliti. Seterusnya pada era ahun 1990an sehingga kini memperlihatkan revolusi kepelbagaian ujian personaliti dan ujian-ujian psikologi umum ditadbir, diurus dan diinterpretasikan dengan lebih sistematik.

Definisi personaliti seperti yang diberikan oleh Hergenhahn dan Olson (1999), iaitu personaliti membolehkan seseorang itu lebih efektif untuk bersosial kerana individu tersebut dilihat sebagai orang yang mempunyai personaliti yang menarik, teruk atau langsung tiada personaliti. Menurut Gordon Allport (1961) pula menyatakan bahawa, personaliti adalah sebagai penyusunan sistem psikofizikal yang dinamik dalam diri seseorang individu di mana ia menentukan tingkah laku dan penyesuaiannya terhadap alam sekeliling.

Istilah dinamik yang diberikan adalah bermaksud sesuatu yang berkembang dan akan berubah-ubah dari semasa ke semasa mengikut keadaan. Begitu juga sistem psikofizikal, merujuk kepada unsur-unsur pemikiran dan juga hal yang berkaitan dengan keadaan fizikal seseorang. Mischel (1981), menyatakan personaliti merupakan susunan pola-pola tingkah laku manusia yang disesuaikan mengikut situasi kehidupan mereka. Manakala Eysenk (1967), menjelaskan definisi personaliti sebagai keseluruhan tingkah laku sesuatu organisma yang meliputi pelbagai aspek seperti perangai, peribadi, intelek dan juga bentuk.

Personaliti Ekstrovert

Seseorang yang berpesonaliti *extrovert* mudah menjadi bosan tanpa orang lain di sekeliling mereka, seseorang yang peramah yang suka bercakap dengan orang lain dan bukannya duduk

bersendirian dan berfikir. Keupayaan mereka untuk berbual, bercakap menjadikan mereka kelihatan lebih sosial dan berkemahiran berbanding dengan introvert walaupun introvert mungkin menghadapi kesukaran sedikit bercakap dengan orang yang mereka tidak kenal, walaupun sekiranya mereka boleh bercakap tentang konsep atau isu-isu yang dibincangkan.

Individu yang bersifat extrovert suka berkomunikasi dengan orang lain dan suka pada dunia luar. Mereka biasanya akan menganggap pemahaman sesuatu masalah menjadi jelas jika mereka dapat menyuarakan dan menerima pandangan orang lain. Contoh personaliti extrovert adalah bertindak dahulu sebelum berfikir, tidak selesa bersendirian, bersikap terbuka dan bermotivasi oleh ransangan luar, gemarkan kepelbagaian dalam perhubungan sosial (Bakri et al., 2004).

Menurut Mohd Juraimy (2013) *extrovert* mempunyai nilai yang peramah dan suka kepelbagaian. Seterusnya ia juga mempunyai sifat yang tidak suka kepada sesuatu prosedur yang terlalu ketat dan khusus. Seterusnya ia akan bebas bercakap tanpa menghiraukan perasaan orang lain. Hasil penyelidikan oleh O'Connor dan Paunonen (2007) mendapati *extraversion* sebagai peramal pencapaian akademik selepas sekolah menengah dimana seseorang yang berpesonaliti exstrovert mempunyai sikap yang lebih terbuka dan mudah untuk memperolehi pengalaman, dan menghasilkan keputusan yang bercampur-campur.

Personaliti Introvert

Individu yang bersifat *introvert* tidak suka berkomunikasi dengan orang lain dan juga tidak suka pada dunia luar. Individu yang *introvert* suka melaksanakan idea dan konsep yang tersendiri dan mereka lebih suka melakukan aktiviti dengan jumlah orang yang tidak ramai. Ciri-ciri *introvert* adalah berfikir dahulu sebelum bertindak, lebih suka bersendirian, bersikap tertutup, gemar berhubungan dan berkomunikasi satu sama satu sahaja (Bakri, Razak, Rahman, & Khalid, 2004).

Salah Laku Disiplin

Salah laku disiplin mengikut kamus Oxford Fajar Edisi Ketiga, bermaksud " kelakuan yang tidak sopan atau kelakuan buruk" atau " menguruskan sesuatu yang tidak cekap". Maksud yang kedua yang diberikan adalah lebih berkaitan dengan salah laku yang berlaku di sebuah organisasi, di mana seorang pekerja yang menguruskan kerjayanya yang tidak cekap atau boleh juga dikatakan melakukan sesuatu tindakan atau kelakuan yang menyalahi undang-undang dan peraturan organisasi.

Bagi anggota ATM, undang-undang yang digunapakai dalam menangani masalah salah laku ialah Akta Angkatan Tentera 1972. Didalam akta tersebut telah menerangkan secara keseluruhannya peraturan dan hukuman kepada setiap salah laku yang dilakukan oleh setiap anggota baik Pegawai mahupun anggota Lain-lain Pangkat.

Dalam sesebuah organisasi, tindakan salah laku oleh pekerja adalah dianggap sebagai suatu perkara yang serius dan perlu diambil tindakan sama ada dengan dikenakan hukuman yang lebih berat atau ringan, bergantung kepada jenis kesalahan yang telah dilakukan. Mengikut Maimunah Aminuddin (2003), pekerja yang mencari jalan bagi melanggar peraturan dan bersikap tidak berdisiplin seperti yang ditetapkan, adalah dikatakan telah melakukan suatu salah laku atau ''misconduct''. (Sharifah Nurul Faridah & Noornahar, 2001)

Salah laku juga disebut sebagai pelanggaran tatatertib atau disiplin. Tatatertib dan disiplin adalah merupakan tonggak utama dalam memastikan kejayaan sesebuah organisasi. Secara umumnya, tatatertib atau disiplin ialah apa yang disebut sebagai peraturan-peraturan yang

dipersetujui oleh sesuatu kumpulan atau organisasi bagi mewujudkan suasana yang aman, tenteram dan menjamin keharmonian ahli-ahlinya. (Sharifah Nurul Faridah & Noornahar, 2001).

Disiplin dalam organisasi bermaksud memberi perhatian terhadap peraturan yang diamalkan dalam organisasi, bertujuan mengekalkan kawalan, arahan, keamanan dan mutu untuk menjamin pencapaian matlamat sesebuah organisasi (Beach, 1980; Dunnette, 1976 dan Jaafar, 1988). Secara falsafahnya, ‘’manusia merupakan sumber penting dalam satu-satu organisasi yang didasarkan kepada kepercayaan, kesetiaan dan kemesraan dan etika kerja yang baik bagi keperluan organisasi mencapai matlamat yang diingininya’’. Matlamat ini dapat dicapai melalui kakitangan yang cekap, berdisiplin, setia dan gembira (Goss, R.P.1996). Dengan ini boleh dikatakan amalan disiplin dalam organisasi adalah sangat penting untuk membentuk tingkahlaku kelompok angggota yang berdisiplin, teratur, bertatatertib bagi menjamin kejayaan sesebuah organisasi mencapai objektif mereka.

Kenyataan di atas disokong oleh Ab. Aziz Yusof (2000) yang menyatakan disiplin adalah satu elemen yang menjamin kejayaan, kecekapan, keteguhan dan kemampuan sesebuah organisasi dalam menggerakkan segala aktivitinya. Disiplin juga dapat mencerminkan mutu organisasi dan memberi arah kepada tindakan bersama. Bagi beliau, konsep kebebasan adalah satu kemewahan bagi setiap yang mendisiplinkan diri dan akhirnya tatacara disiplin harus dipaksa kepada mereka demi mewujudkan keadaan yang aman dan selesa dalam organisasi.

Mengikut Laporan Jawatankuasa Kabinet (1979): ‘’ Rakyat yang berdisiplin adalah penting untuk mewujudkan sebuah masyarakat yang bertatasusila, bersatupadu, demokratik, adil, liberal dan progresif, seperti cogan kata yang berbunyi; Rakyat Berdisiplin, Negara Maju’’. Disiplin merupakan satu jenis latihan yang melahirkan individu supaya menjadi insan yang berakhlak mulia, berfikiran rasional, sanggup mematuhi undang-undang dan hak individu lain, bertanggungjawab serta sanggup memberikan sumbangan kepada masyarakat dan Negara.

Tujuan sebenar disiplin itu diamalkan adalah untuk kita berusaha sedaya upaya menuju kearah mencapai dan memenuhi falsafah yang terkandung didalamnya. Disiplin diwujudkan di dalam sesebuah organisasi dengan satu harapan yang hendak dicapai dan dihayati, bukan untuk mengawasi dan memerhati ataupun menghukum individu atau pihak yang terlibat dalam pelanggaran disiplin. Pengawasan berbentuk peraturan dan hukuman ini hanya layak diberi selepas usaha yang bersungguh-sungguh telah dilakukan kearah pencapaian akhlak yang mulia dan suasana yang harmoni sama ada untuk individu, kumpulan atau organisasi keseluruhannya. Itulah sebenarnya semangat, tujuan dan falsafah disiplin diadakan (Zaharudin, 1988).

Peningkatan kes-kes jenayah yang dilakukan oleh anggota tentera secara langsung telah memberikan gambaran negatif kepada imej dan kredibiliti Angkatan Tentera Malaysia (ATM) pada pandangan masyarakat awam. Melalui Buletin Cawangan Probos Maryal, Markas ATM, telah mengkategorikan kes salahlaku disiplin kepada empat bahagian utama iaitu kes jenayah, penglibatan anggota tentera dengan dadah, Tidak Hadir Tanpa Cuti (THTC) dan kesalahan tatatertib am.

Kes jenayah bolehlah didefinisikan sebagai kesalahan yang dilakukan merupakan kesalahan besar dan berat seperti kes bunuh, rogol, rasuah, penyalahgunaan kuasa, menipu, mencuri, merompak dan lain-lain lagi. Manakala kes dadah adalah meliputi kes-kes yang berkaitan penyalahgunaan dadah, pemilikan dadah, pengedaran dadah dan lain-lain lagi. Bagi THTC pula ketidakhadiran anggota tentera ditempat kerja melebihi 3 hari dan setakat ini bilangan yang THTC ini agak ramai dan merisaukan pihak pengurusan ATM. Bagi kes tatatertib pula kesalahan-

kesalahan kecil yang dilakukan oleh anggota tentera seperti datang lewat, tidak berpakaian betul, berambut panjang, ingkar perintah dan kesalahan ini tetap dikenakan hukuman.

Di antara kes-kes pelanggaran disiplin yang seringkali dilaporkan adalah berkaitan dengan penglibatan anggota tentera dengan penagihan dadah, tidak hadir tanpa cuti (THTC), bergaduh, membuli, peras ugut, rasuah, khalwat, menipu, mencuri, merompak dan perkembangan terkini terdapat juga beberapa kes anggota tentera yang terlibat dalam kes bunuh. Berdasarkan kepada statistik yang diperolehi oleh pengkaji, jelas menunjukan bahawa terdapatnya peningkatan yang begitu ketara kesalahan-kesalahan yang dilakukan oleh warga tentera tidak mengira pangkat. Peningkatan berterusan ini cukup merisaukan ramai panglima-panglima perkhidmatan dan setakat ini tidak ada satu kajian yang menyeluruh dilakukan bagi mengenalpasti punca peningkatan kadar pelanggaran disiplin.

Peratus anggota tentera yang melakukan pelanggaran disiplin dengan jumlah anggota tentera keseluruhanya tidaklah begitu tinggi, namun sebagai organisasi yang telah terkenal dengan didikan disiplin yang tinggi, peraturan-peraturan yang ditetapkan dengan adanya Akta Angkatan Tentera 1972 dan Mahkamah Tentera memperlihatkan betapa seriusnya ATM dalam mengawasi warganya agar tidak mengambil mudah dalam menguatkuasakan segala peraturan dan undang-undang sedia ada.

Tidak cukup dengan itu, ATM turut mengujudkan pasukan polisnya sendiri iaitu Kor Polis Tentera Diraja (KPTD) termasuk Cawangan Siasatan Jenayah (CSJ) dalam usaha mengekang pelanggaran disiplin oleh warganya. Setakat ini anggota tentera yang melakukan kesalahan akan dibicarakan samada oleh Mahkamah Tentera atau oleh Pegawai Memerintah dan Pegawai Pemerintah.

Seterusnya pesalah-pesalah ini akan menjalani hukuman masing-masing di Pusat Tahanan Angkatan Tentera di Kem Batu Kentomen, Kuala Lumpur. Setelah menjalani hukuman yang setimpal dengan kesalahan masing-masing, terdapat anggota tentera yang diberhentikan dari perkhidmatan dan ada juga yang meneruskan perkhidmatan mereka. Namun masih tidak ada usaha dan langkah untuk mengkaji kenapa mereka melakukan kesalahan-kesalahan tersebut terutamanya dari aspek personaliti, emosi dan tingkahlaku sehinggakan mereka sanggup melakukan pelbagai kesalahan pelanggaran undang-undang.

Sorotan Literatur

Personaliti merupakan sikap yang ada pada seseorang manusia, namun setiap orang mempunyai personaliti yang berbeza-beza. Ia merupakan perwatakan seseorang individu dan dapat dinilai melalui sikapnya didalam sesuatu situasi. Personaliti boleh didefinisikan sebagai perwatakan normal seseorang individu selain daripada kebolehan yang mempengaruhi sikapnya (Johari et. al. 2014). Selain itu, personaliti juga digambarkan sebagai reaksi seseorang individu terhadap sesuatu keadaan (Johari et al. 2014).

Menurut ahli psikologi, personaliti merangkumi kebolehan, cara berfikir, pandangan kasar, tingkahlaku, watak, kepercayaan, motivasi, kebiasaanya dan sebagainya. Personaliti adalah berkait rapat dengan cara berfikir, emosi dan perasaan dan reaksi individu (Norhaiza, 2015). Beliau juga mentafsirkan bahawa personaliti sebagai sifat peribadi dan dikaitkan dengan tingkahlaku seseorang.

Personaliti adalah hasil hubungkait antara cara seseorang itu berfikir serta bertindak balas dan setiap individu mempunyai cara yang berbeza-beza (Norhaiza, 2015). Menurut Eysenk (1997) dan

Norhaiza (2015), personaliti merupakan kelompok organisasi yang dihuni oleh individu yang mempunyai pelbagai sifat, sikap, persepsi dan mereka berkebolehan untuk menyesuaikan diri mereka denga situasi tersebut.

Menurut bekas Panglima Angkatan Tentera, Tan Sri Azizan Ariffin dalam akhbar tempatan, "Angkatan Tentera Malaysia (ATM) tidak akan sesekali berkompromi dalam kes pelanggaran disiplin, malah tindakan sewajarnya akan diambil keatas mereka yang disabitkan dengan kesalahan sebagai langkah memelihara disiplin, integriti dan etika warga tentera," (Berita Harian, 7 Okt 2010). Justeru itu, disiplin tentera yang diterapkan dalam ATM perlulah dipatuhi dan dipertingkatkan bagi memperolehi sebuah pasukan pertahanan negara yang setanding dengan pasukan tentera di negara lain.

Masalah disiplin anggota tentera merupakan perkara yang dipandang serius. Hal ini kerana, masyarakat secara umumnya mengambil berat dan menaruh kepercayaan penuh terhadap kreadibiliti ATM yang bukan sahaja untuk pertahanan Negara tetapi juga anggota-anggotanya sebagai ''role model'' kepada anak-anak remaja yang sedang mencari dan membina jati diri. Ini adalah kerana imej yang ditunjukkan setiap anggota tentera mempamirkan kekentalan disiplin yang mana menzahirkan produktiviti yang dilahirkan oleh ATM keseluruhannya. Kebanggaan ini dapat dirasai oleh setiap lapisan masyarakat tanpa ragu-ragu.

Menurut Rahman (2002), ada segelintir anggota yang terkeluar dari landasan dengan melibatkan diri dengan kegiatan melanggar batas undang-undang yang ditetapkan. Mereka ini dengan sengaja atau tidak telah menjatuhkan imej ATM. Sejak akhir-akhir ini, statistik perlakuan jenayah dan pelanggaran disiplin di kalangan anggota tentera semakin meningkat dan membimbangkan.

Fenomena salah laku segelintir anggota tentera dewasa ini sering diperkatakan samada di dalam media cetak atau media elektronik. Anggota tentera dituduh membunuh, merompak, merogol, rasuah, liwat, mencuri senjata, tidak hadir tanpa cuti dan sebagainya. Penagih dadah dan pengedar dadah sudah menjadi ancaman yang tidak lagi boleh dipandang ringan walaupun usaha dan pemantauan sentiasa dipergiat kepada anggota di semua unit. Berita terbitan akhbar Kosmo, 17 Oktober 2011 melaporkan empat anggota tentera termasuk 46 orang awam ditahan ketika menyalahguna dadah di sebuah ladang kelapa sawit berhampiran Kem Sungai Udang, Melaka. Lebih memalukan lagi, dua dari anggota tersebut lengkap berpakaian seragam.

Masalah disiplin lain yang turut dilaporkan di dalam akhbar New Straits Time 22 Ogos 2011, seorang dari dua anggota tentera dalam cubaan untuk merompak sebuah kafe siber di Kampung Baru Sungai Buloh dengan bersenjatakan pistol Glock semi-automatik dan kerambit telah ditembak mati, manakala rakannya cedera parah dan melarikan diri. Penggunaan pistol yang dibawa oleh anggota tersebut berkemungkinan telah dicuri dari simpanan senjata unit. Keterpaksaan untuk melakukan rompakan adalah berpunca daripada masalah disiplin dan kesempitan wang yang dialami oleh anggota tersebut.

Dalam kes salah laku disiplin lain dilaporkan empat anggota tentera telah merogol seorang gadis beramai-ramai di sebuah hotel murah. Kejadian berlaku di Kuching, Sarawak. Empat anggota tersebut telah mengaku melakukan perkara tersebut kerana ketagihan seks yang melampau. Kes ini dilaporkan dalam akhbar Utusan Malaysia bertarikh 19 Mac 2010. Dalam kesalahan disiplin dan jenayah ini anggota yang terlibat telah mencalarkan imej ATM sebagai sebuah pasukan keselamatan.

Kajian yang dilakukan oleh Roslan Hussin (1998) mendapati faktor-faktor yang mempengaruhi kemerosotan tatatertib dalam kalangan anggota Batalion Pertama (Istiadat) Rejimen Askar Melayu Di Raja ialah sikap individu ketika bertugas, pusingan kerja yang tidak

teratur, tidak mempunyai pegangan agama yang kuat, hukuman yang tidak setimpal dengan kesalahan dan bebanan dan tekanan kerja yang dipertanggungjawabkan adalah berat dan tidak seimbang. Kajian telah memberi penekanan di dalam empat faktor utama iaitu latar belakang respondan, sistem pengurusan pasukan, faktor luaran dan tatatertib anggota. Keempat-empat faktor berkenaan berkait rapat dengan penzahiran personality seseorang anggota battalion tersebut.

Kajian oleh Soppy bin Semail (2007) pula mengenai pandangan warga tentera terhadap faktor-faktor yang mendorong anggota tentera terlibat dalam gejala sosial; Satu kajian di Pasukan 10 Kompeni Kor Perkhidmatan DiRaja Para Kem Terendak, Melaka. Objektif kajian ini adalah untuk mengetahui faktor-faktor yang mendorong anggota tentera terlibat dalam gejala sosial yang secara tidak lansungnya boleh disabitkan dengan pelanggaran disiplin yang telah diterapkan selama ini. Merujuk kepada faktor utama yang mendorong anggota tentera terlibat dalam gejala sosial ialah faktor kurang didikan agama dan tidak ada kekuatan iman yang telah mencatatkan peratusan yang tinggi. Umum mengetahui bahawa asas agama dan iman memain peranan penting dalam mencorakkan personaliti yang unggul seseorang insan itu. Nyata sekali beriman kepada hadits Rasulullah SWT dan mencontohi cara hidup baginda adalah asas kepada pembentukan akhlak termasuk personaliti yang baik selaras dengan hadits dari Abu Hurairah R.A., ia berkata: Rasulullah –*shallallâhu 'alayhi wa sallam*– bersabda:

إِنَّمَا بُعِثْتُ لأُتَمِّمَ مَكَارِمَ الأَخْلاقِ

"*Sesungguhnya aku diutus hanya untuk menyempurnakan kemuliaan akhlak.*" (HR. Al-Bayhaqi)

Teori Eysenck (1967)

Teori Eysenck (1967) dalam Sasakila (2003), menyatakan personaliti bermaksud organisasi watak, perangai, intelek dan fizikal seseorang yang agak stabil dan mempunyai daya ketahanan yang menentukan keunikan penyesuaian dengan persekitaran. Watak menandakan seseorang yang agak stabil dan daya ketahanan sistem tingkah laku kognitif. Perangai pula menunjukkan seseorang yang agak stabil dan daya ketahanan tingkah laku efektif. Intelek pula menandakan seseorang yang agak stabil dari segi ketahanan keseluruhan sistem badan dan pembawaan.

Teori ini dapat menentukan sama ada seseorang individu itu mempunyai jenis personaliti berdasarkan skala ekstroversi iaitu ekstrovert atau introvert. Selain daripada itu, teori berkenaan menyatakan bahawa seseorang yang ekstrovert merupakan seorang yang kuat bercakap, suka berdampingan dengan orang lain dan senang bergaul, bertentangan dengan seseorang yang introvert iaitu cenderung untuk bersendirian dan pemalu. Dalam teori jenis ini, ia dapat menjelaskan tentang perkaitan antara jenis personaliti seseorang dengan pencapaian akademik. Hal ini kerana, jenis personaliti seseorang pelajar itu mempengaruhi interaksi sosial di sekolah seterusnya mempengaruhi prestasi pelajarannya.

Manakala Rohaty (1992), ada pendapat menyatakan bahawa seseorang yang introvert itu adalah lebih mudah terlazim dan lebih mudah menelaah di sekolah berbanding dengan seseorang yang ekstrovert. Melalui kajian-kajian yang telah dijalankan, dapatan menunjukkan bahawa seorang yang ekstrovert mempunyai prestasi pencapaian akademik yang lebih baik di peringkat sekolah rendah. Tetapi sebaliknya seorang introvert mendapat ijazah dari universiti yang paling tinggi dan terbaik.

Teori Behaviourisme (1974)

Ahli-ahli teori behaviourisme menyatakan semua gerak balas berlaku disebabkan rangsangan. Teori ini diasaskan oleh Ivan Pavlov dan diperkembangkan oleh pakar-pakar psikologi terkenal seperti J.B. Watson, B.F. Skinner dan E.L.Thorndike. Perspektif teori ini ialah perubahan tingkah laku manusia banyak dipengaruhi oleh alam sekeliling yang berperanan membentuk dan mengubahsuai perlakuan tersebut (Kamarudin, 1997) dan B.F. Skinner (1974) mempelbagaikan tingkahlaku kepada dua bahagian yang besar iaitu, tingkah laku pantulan yang dapat dipelajari mengikut pelaziman klasik Pavlov dan tingkah laku opponent, iaitu tingkahlaku yang ditunjukkan oleh seseorang tanpa rangsangan yang nyata. Teori ini membuktikan bahawa pelanggaran disiplin boleh berlaku berpunca dari personaliti agresif umpamanya yang sering kali dipamerkan oleh anggota tentera.

Kesimpulan

Melalui kajian yang dijalankan, pengkaji mendapati bahawa terlalu sedikit kajian yang dilakukan mengenai hubungan personaliti dengan pelanggaran disiplin dalam kalangan anggota tentera. Kebanyakan kajian mengenai disiplin adalah berkisar dalam kalangan pelajar sekolah dan pelajar universiti dan juga pekerja-pekerja swasta. Ini berkemungkinan warga tentera sememangnya terkenal dengan penekanan disiplin yang cukup tinggi dan dipandang mulia dan jarang sekali mendapat pandangan negatif dari masyarakat. Walau bagaimanapun melalui kajian ini, pengkaji mendapati personaliti anggota tentera perlu juga dipantau dan diberi perhatian memandangkan dalam situasi tertentu perubahan personaliti seseorang juga boleh mengubah tahap disiplin anggota tentera.

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INTRINSIC AND EXTRINSIC MOTIVATION IN TAX COMPLIANCE BEHAVIOUR

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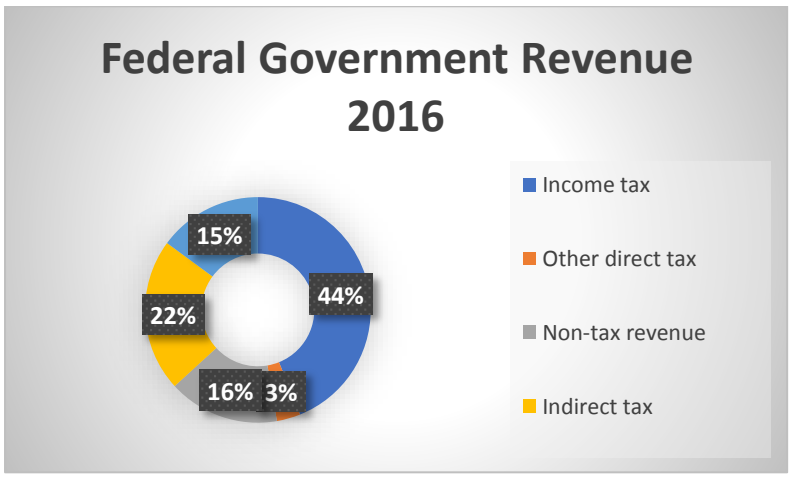
Abstract : *Tax compliance is still a worthy area to be examined in Malaysia since government relies on tax revenue to fund its operations and records from the Inland Revenue Board of Malaysia indicates that tax compliance is still an issue. Past studies in tax compliance indicate that many factors can influence the tax compliance behaviour of taxpayers. However, studies on intrinsic and extrinsic motivation in complying with the tax law is still scarce especially in Malaysia. This paper attempts to provide an overview into intrinsic and extrinsic motivation in complying with the tax law. A review of past relevant studies is presented and it can be concluded that intrinsic and extrinsic motivations can influence tax compliance behaviour. The review suggests that intrinsic motivation in tax context is normally associated with tax morale. Contrarily, extrinsic motivation in tax compliance is generally discussed as providing positive inducement to increase tax compliance.*

Keywords*: Tax compliance, Motivation, Intrinsic, Extrinsic, Paper review*

Introduction

A tax system has important roles in a government. It is used not only as a tool to collect income for the government but also a mechanism to ensure government policies are being performed. Thus, tax compliance issues are worthy to be discussed especially when the government relies on tax income to fund its operation such as in Malaysia. Based on a recent report published by Ministry of Finance, 2016 indicates that 44% of Federal Government Revenue come from income tax.



Generally, previous tax compliance studies debated the issues of tax compliance by using either economic approach or socio-psychological approach (Alm et al.,1995; Andreoni et al., 1998; James and Alley, 2002). While economic approach focuses on tax gap, psychological approach on the other hand, stresses on the importance of voluntary compliance. The concentration of economic approach is only on the trade-off between benefits of evading and the risk of detection. This is in contrast from the psychological approach which in the premise that compliance behaviour is constructed by various factors and not focuses on economic factor solely.

Individual income tax is a vital source of income for the Malaysian Government. The Government through the Inland Revenue Board intensified their efforts every year to accomplish high tax collection. The efforts prove succeeded when the amount of income tax collection showed a gradual increment as indicated in Table 1.1. It increases from 1.86% to 23.79% with the highest increment in 2008.

Even though there is an increment, the OECD report in 2016 is in the opinion that, the trend of tax revenue collection in Malaysia does not show significant changes. This view could be supported by looking at the number of registered taxpayers. It is reported that in 2013, out of 12 million labour force, there is only 6.4 million registered individual taxpayers, which constitutes only half from the total workforce. Interestingly, from that volume, only 1.8 million workforce pay tax or it can be concluded that only 15% of all salaried individuals in Malaysia pay their taxes. In a more recent statistics, provided by Ministry of Finance (2017), a slight increase is observed in the number of taxpayers whereby out of 14.6 million total workforce, 2.1 million pay their taxes. To conclude between 2013 and 2017, only 0.3 million increment recorded which is still considered as low.

Table 1.1: Individual Income Tax Collection from 2005-2015

Year	Collection (RM)billion	Percentage increase/decrease
2015	RM28,276.97	6.09%
2014	RM26,654.91	8.32%
2013	RM24,607.91	7.17%
2012	RM22,961.85	18.46%
2011	RM19,383.02	8.89%
2010	RM17,800.00	14.32%
2009	RM15,570.00	8.5%
2008	RM14,350.00	23.79%
2007	RM11,592.18	11.36%
2006	RM10,409.65	1.86%
2005	RM10,220.00	

Source: Inland Revenue Board Annual Report 2005-2015

The objective of this paper is to provide review of past studies on some selected variables in tax compliance which are intrinsic and extrinsic motivations. It attempts to provide an overview of how intrinsic and extrinsic motivations influence tax compliance as presented in past studies. Following this introduction section is the review of tax compliance studies. Then the evidence on intrinsic and extrinsic motivations in relation to tax compliance studies is discussed. Lastly, the findings and conclusion is presented.

Tax Compliance Studies

Generally, previous tax compliance studies debated the issues of tax compliance by using either economic approach or socio-psychological approach (Alm et al.,1995; Andreoni et al., 1998; James and Alley, 2002). The economic approach focuses on the benefits of evading and the cost of complying which can be considered a narrow based perspective. Alm (1991) argues that while audit and penalty rates affect compliance, but it does not explain the adherence by taxpayers to tax rules. It is assumed that individuals are selfish and will wish to maximize their personal income and wealth. They will not comply with the tax system unless the benefits of doing so outweigh the cost of doing so. The formal theoretical economic model on tax evasion was pioneered by Michael Allingham and Agnar Sandmo about 45 years ago. They adapted Becker's model of economics of crime. Becker's, (1974) model argues that individuals make rational decision before committing a crime by choosing among the different types of risky or safe options. Allingham and Sandmo (1972) then adopted the concept of crime and punishment into the Expected Utility Theory of Taxation and has become a benchmark in economic-based tax compliance studies (Andreoni et al., 1998).

Contrarily, the socio-psychological approach assumed that individuals are not necessarily selfish and seek to maximize their utility as portrayed in the neo-classical perspectives but are often motivated by many other factors such as social norms, morality, altruism and fairness. This view is consistent with the writings of Andreoni et al. (1998) which stresses the idea that psychological (guilt, shame, regret, envy, anger, sense of duty), demographic, social, and moral factors should be integrated into standard economic models. James and Alley (2002) also have a similar thought that individual is not independent, self-centered but they also interact with other human beings in accordance with the attitudes, beliefs, norms and roles.

Within the last 10 years, the focus on socio-psychological studies came from various themes for example ethics (See for example Alm & Torgler, 2011; Ho & Wong, 2008; Lisi, 2014; MacGregor & Wilkinson, 2012; Maciejovsky & Schwarzenberger, 2012), tax knowledge (See for example Mei, Carrol, & Chin-fatt, 2012; Saad, 2012; Savitri, 2015), tax fairness (See for example Khasawneh, Obeidat, & Al-Momani, 2008; Mei et al., 2012), geographical distance (See Loureiro, 2014), social norms (For example, Bobek and Hageman, 2015), religion (See for example, Raihana Mohdali and Pope, 2014), gender (See for example, Chung J. and Viswanath Umashanker Trivedi, 2003; Jeyapalan Kasipillai and Hijatullah Abdul Jabbar, 2006), ethnicity (See for example, Jeyapalan Kasipillai and Hijatullah Abdul Jabbar, 2006), attitude (See for example, Hays, 2000), self-perception (See for example, Feld and Larsen, 2012), government policies (See for example, Feld and Larsen, 2012), reward (See for example, Bazart and Pickhardt, 2011; Fochmann and Kroll, 2016), bureaucracy and corruption (See for example, Picur and Riahi-Belkaoui, 2006) and service quality (See for example, Andreas Enni Savitri, 2015).

Motivation

According to Campbell and Pritchard (1976), motivation refers to a force within someone that pushing him or her direction, intensity and persistence of voluntary behaviour. This definition is consistent with the definition proposed by Lambrou, et al. (2010) in which motivation is defined as the process that accounts for individual's direction, intensity and perspective of efforts towards attaining a goal. Robbins et al. (2010) posited that motivation is the process that accounts for an individual's intensity, direction and persistence of effort toward attaining a goal. This means that motivation determines amount of effort a person puts in his

or her work, the direction to which those efforts are geared and a measure of how long a person can maintain effort.

Direction implies that the motivation is goal-oriented, not random. Intensity is the amount of effort allocated to goal attainment. Motivation also involves a level of persistence to sustain the effort over a certain period of time. The level of persistence varies. Employees may sustain their efforts until they reach their goal, or they may give up beforehand. Note that motivation can come from both external and internal sources (Deci and Ryan, 1985).

The study on motivation has been done since 1930s. Among the early theories of motivation is Maslow's Hierarchy of Needs (Maslow, 1943), Theory X and Y (McGregor, 1960) and Herzberg's Two Factor Theory (Herzberg, 1959). The evolution of motivation work give birth to the contemporary theories of motivation such as McClelland Theory of Needs (McClelland, 1965), Goal Setting Theory (Locke, 1996), and Equity Theory (Adams, 1963). Although the abovementioned theories have discussed motivation from various angle and dimension, theorist like Herzberg to Hackman and Oldham to Deci and Ryan, all categorize motivation into two broad categories, which are intrinsic and extrinsic. Herzberg's Theory (Herzberg, 1959) is in similar view with Maslow (1943) which views intrinsic and extrinsic motivation as combining additively. Once the frame of extrinsic motivation is satisfied, intrinsic motivation can lead to high levels of satisfaction and performance. Hackman, et al. (1976) suggests that extrinsic motivation can add to internal motivation. Meanwhile Amabile (1993) is in the opinion that, extrinsic and intrinsic motivation do not mix well. In addition to that, other psychologists have posited two types of motivation theories: Dualism and Multifaceted theory (Reiss, 2004). Dualistic theories divide motivation into two types: intrinsic and extrinsic. Psychologists had associated the survival needs with extrinsic motives and psychological needs with intrinsic motives.

Deci (1975) in his book *Intrinsic Motivation* wrote that extrinsic motives arise from "tissue needs" (i.e the body) whereas intrinsic motives arise from the central nervous system (i.e the mind). Various scholars have different insight on intrinsic and extrinsic motivation, but they are similar in the senses that, they agree that individuals motivation can be grouped into these two categories.

Intrinsic motivation derives from within the person. It refers to doing something for its own sake or doing something because it is inherently interesting and enjoyable (Reiss, 2012; Ryan and Deci, 2000). It arises from the person's feelings about the activity and they are necessarily bound up to the work itself (Amabile, 1993). Vallerand et al.,(1992) posited the existence of three types of intrinsic motivation which are intrinsic motivation to know, intrinsic motivation to accomplish things and intrinsic motivation to experience stimulation. Intrinsic motivation to know refers to engaging or participating in an activity for the pleasure and satisfaction that one experiences while learning and exploring. Intrinsic motivation to accomplish things refers to an engaging in an activity for the pleasure and satisfaction that one experience when one is attempting to accomplish something or create something and lastly, the intrinsic motivation to experience stimulation pertaining to when one engage in an activity to experience pleasant sensations. In the scope of work related behaviour, examples of intrinsic motivations are achievement, accomplishment, challenge and competence which are derived from performing one's job well (Afful-Broni, 2004).

On the other hand, extrinsic motivation refers to the pursuit of an instrumental goal or doing something because it leads to inseparable outcome (Reiss, 2012; Ryan and Deci, 2000). Extrinsic motivators include anything from an outside source that is intended to control the initiation of the performance of work. If in the context of job scope, example of extrinsic motivation among others are promised reward, praise, critical feedback, deadlines, surveillance

or specifications on how the work is to be done (Amabile, 1993). Individuals with extrinsic motivation may opt to perform and activity even though they do not need it for pleasure

Intrinsic Motivation In Influencing Tax Compliance Behaviour

There are a number of studies that associates intrinsic motivation through a tax morale concept (For example, Cummings et.al., 2006; Torgler, 2005; Frey, 1997). Tax morale is defined as the intrinsic motivation to pay taxes (Torgler 2003a, 2003b, 2004; Cummings et al., 2006; Torgler and Schneider, 2006). Individuals comply voluntarily due to the belief to contribute to the society or, they might feel guilt or shame if they fail to comply. Those who have high tax morale comply due to reciprocal motivations, that is, they will pay taxes in exchange for the benefits the state have provided to them (Luttmer and Singhal, 2014). The feelings of pride and positive self-image that often associated with honesty, civic duties and altruism towards others are among the forms of intrinsic motivation in tax compliance (Andreoni et al., 1998).

The tax morale theme has been well researched by Torgler (Torgler, 2002, 2003a, 2004b, 2005, 2007; 2006). Torgler analyzed the influence of tax morale towards tax compliance from various angle and perspectives. Attempt were made by Torgler to study tax morale from cultural perspectives (Alm and Torgler, 2006; Torgler, 2003, 2004b, 2005; Torgler and Schaltegger, 2006; Torgler and Schneider, 2006) and the influence of variables like institutions, religiosity, democracy, trust, fiscal policy, corruption, governance quality to tax morale (Torgler, 2003b, 2003c, 2004b, 2005, 2007). Some researcher have also examined the influence of various variables towards tax morale such as public spending inefficiency (Barone and Mocetti, 2011), policy maker's effectiveness (Anno, 2009), trust (Aguirre and Rocha, 2010), tax administration (Pommerehne and Frey, 1992), tax enforcement (Fillipin, Fiorio, and Viviano, 2013), decentralization (Guth, Levatti and Sausgruber, 2005) and religion (Raihana and Pope, 2014).

Extrinsic Motivation In Influencing Tax Compliance Behaviour.

Past research that examined the influence of extrinsic motivation in compliance behaviour agreed that extrinsic motivation plays a significant role in tax compliance behaviour (See for example, Alm et al, 1992; Bornman and Stack, 2015; Dwenger et al., 2014;Falkinger and Walther, 1991; Feld and Frey, 2007; Frey, 1997; Sutinen, 1999).

In Dwenger et al. (2014), intrinsic and extrinsic motives to tax compliance behaviour was studied in the context of local church in Germany. The study utilized data from church district rewards containing true church taxes paid by each individual and state income tax records containing true taxes owed. The findings of the study revealed that deterrence and reward incentives have a significant effect on compliance behaviour. The findings is consistent with the findings of Bornman and Stack (2015) which found that rewards are most strongly favored as a strategy to encourage tax compliance. In a similar vein, Rillstone (2015), through the findings of interview study found that, rewards could be a more effective means to improve compliance.

Alm et al. (1992) investigated the role of positive inducement on compliance behaviour via experimental method. The results confirmed that positive inducement have a significant and positive impact on compliance behaviour. Feld (2009) expressed a similar perspective; rewards are seem to be perceived as a good acknowledgement for being a good taxpayer. The reward may take in a form of direct monetary payment or a gift. A gift that Feld (2009) regards as an exchange of relationship between taxpayer and the state. A gift may be in the form of free entry to museums, exhibitions, and other cultural activities undertaken by the state or as a reduction (say, 50 percent) on all public transport (Feld and Frey, 2009). When previous studies

focused on rewards and penalties as a forms of extrinsic rewards, the study of Sutinen (1999) offers a different perspectives. In this study, the researcher perceives social influence as another form of extrinsic motivation. Enforcement authorities and peer groups are examples of social influence that affect the compliance behaviour. The study demonstrates past evidence that support an individual is more non-compliant the more his community and peer groups are non-compliant.

Table 1.1 Summary of review on motivation, intrinsic and extrinsic motivation to tax compliance behaviour

Variable	Database	Author	IV	DV	Method	Findings
Intrinsic & Extrinsic motivation	Google Scholar	Vallerand & Bissonnette (1992)	Intrinsic Extrinsic Amotivational	Behaviour	Survey (n=1032)	individuals who persisted in the course had reported at the beginning of the semester being more intrinsically motivated, more identified and integrated, and less amotivated
	Google Scholar	Dwenger et al (2014)	Extrinsic motivation Intrinsic motivation	Tax compliance	Field experiment	a significant fraction of individuals comply in the zero deterrence baseline where compliance should be zero absent intrinsic motivations
Extrinsic Motivation	Ebscohost	Landen & Willems (1979)	Extrinsic rewards	Motivation	Survey (n=26)	Desirable activities when required can become undesirable
	Google Scholar	Rillstone (2015)	Rewards	Tax compliance	Interview	use of rewards could be a more effective means of improving the compliance behaviour of non-compliant taxpayers,
	Google Scholar	Bornman & Stack (2015)			Survey (n=176)	rewards had a positive effect on tax compliance behaviour
Intrinsic motivation	Science direct	Torgler (2005)	Direct democracy	Tax morale	Survey data (ISSP 1998)	direct democratic rights have a

						significantly positive effect on tax morale.
	Science Direct	Torgler (2003)	Trust	Tax morale	Survey (WVS)	trust in government, pride, and religiosity have a systematic positive influence on tax morale
	Proquest	Torgler (2003)	Trust in political and legal system	Tax morale	WVS & TOS	Trust in public officials and the legal system has effect on tax morale
	Science direct	Torgler (2004)	Trust in legal system Trust in government Democracy Satisfaction	Tax morale	WVS data	The results indicate that trust in government and the legal system and the satisfaction with national officials have a significant positive effect on tax morale.
	Science Direct	Torgler & Schneider (2006)	Culture & institutions Political attitudes & religiosity		WVS & EVS	trust in the legal system, government, and parliament; national pride; and pro-democratic attitudes all have a positive effect on tax morale
	Google Scholar	Aguirre & Rocha (2010)	Perceptions on government response	Tax morale	Lationobaromatro	a strong correlation between tax morale and the perception that money collected is well spend and voice.
	Google Scholar	Guth et al 2005	decentralization	Tax morale	Experiment (n=6)	people's propensity to pay taxes is higher in a decentralized tax structure,

	Google Scholar	Fjeldstad et al 2001	Coercion Fiscal exchange Social influence		Survey (n=44)	The relationship between taxation and service provision is important.
	Science direct	Hammar et al	Trust	Tax evasion	Swedish individual survey data	Distrust increase perceived evasion
	Science direct	Kogler et al 2013	Trust	Tax compliance	Experiment (n=329)	High trust lead to tax compliance
	Google Scholar	Murphy (2004)	Trust	Tax compliance	Survey (n=2292)	if taxpayers feel poorly treated by a tax authority as a result of their infractions (innocent or otherwise), this can lead to a decrease in taxpayer trust. This decrease in trust can then go on to affect their willingness to comply, and might in fact lead to active resistance towards a regulatory authority
	Google scholar	Wahl et al (2010)	Trust in authorities Power of authorities		Experiment (n=124)	positive effects of trust and power on taxpayers' (intended) tax payments. -trust in authorities and the power of authorities differently affect the motivation to comply on a voluntary or an enforced basis.
	Google scholar	Alm et al (1992)	overweighting of low probabilities recognition of government services	Tax compliance decision	Experiment (n=24)	tax compliance occurs because some individuals are oversensitive to or over-

						weight the low probability of audit that they in fact face.

Methodology

Overall, three databases are used to accessed the articles which are Google Scholar, Sciencedirect and Ebscohost. 18 articles from 1979 to 2015 were reviewed. The details on the database and the articles is presented in Table 1,1

Findings and Conclusion

Based on the review, it can be concluded that intrinsic and extrinsic motive plays a significant role in predicting individual tax compliance behaviour. As the studies that incorporates both intrinsic and extrinsic motivation in tax compliance behaviour framework is still scarce especially in Malaysian context, it is suggested that future studies should combine the two variables in a single study.

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BAHASA MELAYU DALAM WHATSAPP DALAM KALANGAN MAHASISWA DI UNIVERSITI PENDIDIKAN SULTAN IDRIS, TANJONG MALIM, PERAK

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Abstrak: *Kajian ini tentang penggunaan bahasa Melayu dalam WhatsApp dalam kalangan mahasiswa AT05 ISMP Bahasa Melayu di Universiti Pendidikan Sultan Idris, Tanjong Malim, Perak. Objektif pertama dalam kajian ini ialah mengenalpasti penggunaan WhatsApp dalam kalangan mahasiswa. Objektif yang kedua pula ialah menganalisis penggunaan bahasa Melayu dalam WhatsApp dalam kalangan mahasiswa. Dalam kajian ini, seramai 20 orang mahasiswa telah dipilih sebagai responden bagi borang soal selidik dan pemerhatian bukan peserta yang terdiri daripada 5 lelaki dan 15 perempuan . Manakala bagi sesi temu bual pula adalah seramai 10 orang responden telah dipilih secara rawak yang terdiri daripada 4 lelaki dan 6 perempuan. Kajian ini menggunakan kaedah kuantitatif iaitu melibatkan borang soal selidik, pemerhatian bukan peserta dan temu bual berstruktur. Penganalisisan data soal selidik menggunakan perisian Statistical Packages For Sosial Science (SPSS) versi 2.0. Kajian ini memfokuskan kepada penggunaan bahasa Melayu dalam WhatsApp dalam kalangan mahasiswa yang bersandarkan kepada teori Computer-Mediated Communication. Melalui dapatan kajian ini, dapat disimpulkan bahawa penggunaan WhatsApp mendapat tempat dalam alat berkomunikasi yang paling kerap digunakan. Hasil kajian juga mendapati, penggunaan bahasa Melayu dalam WhatsApp juga mengalami pelbagai variasi. Variasi yang paling tinggi berlaku ialah penggunaan singkatan dan akronim iaitu sebanyak 95% dan juga pencampuran kod dan peralihan kod yang juga sebanyak 95%. Kesimpulannya, WhatsApp memberi kesan terhadap perkembangan bahasa Melayu dari aspek variasi bahasa itu sendiri.*

Kata kunci: *Bahasa Melayu; WhatsApp; Mahasiswa.*

Pengenalan

Kemajuan dalam era teknologi maklumat telah menjadi satu medium yang serba guna dalam pelbagai bidang. Perubahan dunia sejajar dengan perkembangan teknologi komunikasi media massa. Malahan teknologi komunikasi media massa terutamanya media baharu semakin cepat berubah mengikut arus kemodenan dan industri komunikasi massa itu sendiri. Oleh itu, masyarakat hari ini mula mengubah teknik berfikir dan kegiatan mereka mengikut keperluan dan kegunaan teknologi yang berkembang.

Kini, pelbagai aplikasi internet yang digunapakai mengikut keperluan dan kesesuaian untuk komunikasi seperti *youtube*, *whatsapp*, *facebook*, *twitter*, *skype*, *linkedln*, *blog*, dan *Instagram*. Kesemua aplikasi internet itu digunakan secara maksimum dalam telefon pintar sebagai perhubung atau berkomunikasi dengan penggunanya. *WhatsApp* merupakan salah satu aplikasi yang menjadi perhatian dalam kalangan masyarakat terutamanya golongan remaja dan dewasa.

Sorotan Kajian

Kajian yang diperoleh daripada prosiding *International Conference on Management and Muamalah* pada tahun 2015 yang bertajuk Hubungan Penggunaan Media Sosial dan Penerimaan Mesej Dakwah (Faradillah, Hazlin, NurZakira, dan Nuraina, 2015). Media sosial menawarkan penciptaan personal maya dalam setiap profil pengguna serta sebagai bentuk komunikasi dengan pelbagai aktiviti. Laman jaringan sosial berfungsi seperti sebagai tempat untuk bertemu sahabat baharu, mengekalkan persahabatan, berkongsi maklumat dan idea sama ada untuk tujuan peribadi mahupun perniagaan serta menyatukan orang ramai.

Faradillah Iqmar (2015), mendapati bahawa terdapat implikasi yang signifikan antara penggunaan media sosial dengan penerimaan mesej dakwah apabila 62.2% responden menyatakan bahawa mesej dakwah di media sosial memberikan kesan yang positif terhadap jiwa mereka. Hal ini menunjukkan bahawa media sosial sebagai medium dakwah turut memainkan peranan dalam pembentukan peribadi Muslim. Penerimaan media sosial dipengaruhi faktor seperti mudah guna, faktor kaitan dan rangkaian antara peribadi dan sosial turut memberikan kesan signifikan ke atas penerimaan dan penggunaan medium tersebut.

Teori Computer- Mediated Communication (CMC)

Teori yang digunakan dalam kajian ini ialah teori *Computer Mediated Communication* (CMC). Teori CMC ini merupakan teori komunikasi yang pertama kali dibincangkan pada tahun 1950-an. Teori ini sesuai digunakan untuk mengkaji komunikasi yang menggunakan media komputer sebagai alat untuk berhubung antara satu sama lain. CMC merupakan sebuah bentuk komunikasi baharu yang dapat dihubungkaitkan dengan perkembangan teknologi komunikasi sehingga ke hari ini. Suatu ketika dahulu, CMC hanya dikaitkan dengan bentuk komunikasi interpersonal, intrapersonal dan hiperpersonal. Pada hari ini, dengan kemajuan teknologi, telefon pintar juga termasuk sebagai salah satu bentuk komunikasi CMC.

Computer-Mediated Communication (CMC) didefinisikan sebagai suatu transaksi komunikasi yang terjadi melalui penggunaan dua atau lebih komputer jaringan. David Holmes (2005), Teori CMC ini merupakan teori yang mengkaji sosial manusia dalam berkomunikasi. Jika hendak dibezakan dengan teori-teori kumunikasi yang lain, CMC digunakan terutamanya untuk interaksi sosial yang berlaku di alam maya yang menggunakan telefon pintar yang mampu memuat naik lagu, gambar, video dan sebagainya sebagai medium berinteraksi.

Selain berkomunikasi menggunakan telefon pintar, CMC juga merupakan salah satu cara berkomunikasi melalui medium interaksi secara atas talian, di mana tingkah laku manusia dan pertukaran maklumat atau pesanan atau informasi yang disampaikan melalui teknologi. Dalam berkomunikasi melalui medium ini, komunikasi yang tidak disampaikan ialah bukan verbal, konteks fizikal seperti ekspresi wajah, nada perbualan, jarak perbualan, posisi tubuh badan, penampilan, pergerakan dan sentuhan tidak disampaikan. Jan Van Dijk (2012), tidak berlaku konteks fizikal dalam komunikasi melalui medium internet ketika berkomunikasi melainkan satu perkara iaitu tanda verbal seperti penggunaan emotikon atau penggunaan leksikal bunyi iaitu “hehehe” yang melambangkan ketawa. Menurut Jan Van Dijk (2012), terdapat beberapa aspek yang menjadi pendekatan dalam kajian teori CMC yang telah dicirikan seperti berikut:

a) Kebergantungan teknologi
b) Aset dan defisit untuk komunikasi interpersonal
c) Kumpulan dinamik
d) Penglibatan dan membuat keputusan
e) Piawaian

Alat analisis komputer berdasarkan teori ini melihat analisis terhadap struktur bahasa yang digunakan di dalam aplikasi *WhatsApp*. Analisis secara kuantitatif digunakan terhadap struktur dan maklumat mengenai bahasa yang digunakan. Alat kajian ini merupakan alat yang memberi potensi besar terhadap kajian linguistik. Selain linguistik, alat ini juga turut mengkaji tentang konteks pedagogi dalam korpus bahasa (Scott, 2009), dalam Jan Van Dijk (2012).

Prosedur Penganalisisan Data
Data Soal Selidik
Data mentah yang diperolehi daripada soal selidik dianalisis dengan menggunakan perisian Statiscal Package Social Science (SPSS). Pengkaji menggunakan peratus dan kekerapan terhadap borang soal selidik. Bagi jawapan, subjektif, pengkaji mengira peratus kekerapan jawapan yang diberikan oleh responden.

Analisis Data Kuantitatif Soal Selidik
Maklumat Responden
Borang soal selidik diberikan kepada 20 orang mahasiswa dan mahasiswi ISMP Bahasa Melayu semester akhir di UPSI. Responden yang dipilih adalah secara rawak. Kesemua responden adalah berbangsa Melayu dan beragama islam. Latar belakang responden dipaparkan dalam jadual di bawah.

Jantina	Bilangan Responden	Peratus (%)
Lelaki	5	25
Perempuan	15	75
Jumlah	**20**	**100**

Jadual 1: Bilangan Responden Mengikut Jantina

Jadual 1 menunjukkan bilangan dan peratus responden mengikut jantina. Berdasarkan data yang dianalisis, didapati bahawa peratusan lelaki adalah lebih rendah berbanding perempuan. Peratusan lelaki adalah sebanyak 25% bersamaan dengan lima orang berbanding jumlah peratusan perempuan, iaitu sebanyak 75%, iaitu seramai 15 orang. Jumlah keseluruhan adalah seramai 20 orang, iaitu 100%. Yeobah dan Ewur (2014), membuat spekulasi bahawa pelajar perempuan didapati lebih cenderung untuk mempunyai ungkapan yang berkaitan dengan hubungan kekeluargaan dan hubungan romantis dengan menggunakan *WhatsApp* daripada pelajar lelaki. Pemerhatian mereka juga mendapati bahawa kebanyakan wanita lebih suka menggunakan aplikasi untuk berkomunikasi, terutama bagi perbincangan kumpulan tugasan yang diberi di dalam kelas daripada mencari ahli-ahli kumpulan mereka secara peribadi berbanding lelaki.

Pengguna Telefon Pintar, Internet dan *WhatsApp*

Perkara	Bilangan	Peratus (%)
Saya mempunyai telefon pintar		
Ya	20	100

Tidak	0	0
Jumlah	**20**	**100**
Saya menggunakan pelan data internet		
Ya	17	85
Tidak	3	15
Jumlah	**20**	**100**
Saya mempunyai akaun *WhatsApp*		
Ya	20	100
Tidak	0	0
Jumlah	**20**	**100**

Jadual 2: Pengguna Telefon Pintar, Internet dan *WhatsApp*

Jadual 2 menunjukkan seramai 20 orang mahasiswa (100%) mempunyai telefon pintar. Berdasarkan jadual tersebut, seramai 17 orang (85%) menggunakan pelan data internet manakala selebihnya tiga orang (15%) tidak menggunakan pelan data internet. Jadual ini juga menunjukkan semua mahasiswa mempunyai akaun *WhatsApp*, iaitu seramai 20 orang (100%).

Selaras dengan teori CMC yang menjelaskan bahawa aplikasi ini lebih menyerupai seperti teknologi yang terdapat dalam sesebuah komputer yang digunakan sebagai medium untuk berhubung. Kemajuan telefon pintar, rangkaian akses internet dan fungsi *WhatsApp* itu telah mendahului teknologi yang terdapat dalam komputer. Oleh itu, komunikasi sebegini menjadi pilihan pengguna berbanding menggunakan komputer.

Kekerapan dan Bilangan Jam

Perkara	**Bilangan**	**Peratus (%)**
Kekerapan		
Setiap hari	19	95
Beberapa kali seminggu	0	0
Jarang	1	5
Sekali-sekala	0	0
Jumlah	20	100
Bilangan jam sehari		
0- 1 jam	1	5
1-2 jam	0	0
2-3 jam	2	10
Lebih daripada 4 jam	17	85
Jumlah	**20**	**100**

Jadual 3: Kekerapan dan Bilangan Jam Menggunakan *Whatsapp*

Jadual 3 menunjukkan 19 orang mahasiswa (95%) yang menggunakan aplikasi *WhatsApp* setiap hari manakala seorang mahasiswa (5%) yang jarang menggunakan aplikasi *WhatsApp*

ini. Masa penggunaan dalam sehari pula, 17 orang (85%) menggunakan *WhatsApp* lebih daripada empat jam sehari, manakala dua orang (10%) menggunakan antara dua jam hingga tiga jam dalam sehari dan seorang (5%) menggunakan tidak lebih daripada satu jam sehari. Perkara ini disokong oleh Yeboah dan Ewur (2014), melaporkan bahawa *WhatsApp* telah menjadi ketagihan dan telah meninggalkan kesan yang besar kepada pengguna biasa terutama generasi muda. Secara keseluruhan, ia boleh diperhatikan bahawa responden aktif menggunakan *WhatsApp* dan menghabiskan sejumlah besar masa untuk menggunakannya.

Bilangan dan Keaktifan dalam Kumpulan *WhatsApp*

Perkara	**Bilangan**	**Peratus (%)**
Bilangan kumpulan *WhatsApp*		
1-3 kumpulan	0	0
4-10 kumpulan	11	55
Lebih daripada 10 kumpulan	9	45
Jumlah	**20**	**100**
Keaktifan dalam kumpulan *WhatsApp*		
Pasif	2	10
Aktif	4	20
Sederhana	13	65
Sangat aktif	1	5
Jumlah	**20**	**100**

Jadual 4: Bilangan dan Keaktifan dalam Kumpulan *Whatsapp*

Jadual 4 menunjukkan 11 orang (55%) mahasiswa mempunyai empat hingga 10 kumpulan *WhatsApp*. Manakala selebihnya 9 orang (45%) pula mempunyai lebih daripada 10 kumpulan *WhatsApp*. Keaktifan mahasiswa pula dalam kumpulan *WhatsApp* seorang (5%) yang bersikap sangat aktif. Empat orang (20%) pula bersikap aktif manakala 13 orang (65%) sederhana dan dua orang (10%) pula pasif dalam kumpulan *WhatsApp*. Perkara ini selaras dengan kajian Yeobah dan Ewur (2014), yang menjelaskan bahawa lebih banyak kumpulan pelajar yang terdapat dalam *WhatsApp*, lebih ramai rakan yang akan mereka ada dan mereka akan lebih memperuntukkan masa yang lebih kepada *WhatsApp* kerana mereka akan bergiat aktif dalam kumpulan tersebut untuk memberi respon atau info terhadap sesuatu perkara. Selaras dengan teori CMC yang menyatakan bahawa keaktifan penggunaan sesuatu aplikasi yang menggunakan internet sebagai media untuk berkomunikasi tanpa bersemuka secara populasi yang ramai lebih memudahkan perbualan dan perbincangan dan menjimatkan masa kerana berlakunya integrasi maklumat dengan mudah.

Kesimpulan

Berdasarkan kajian, pengkaji mendapati bahawa penggunaan bahasa Melayu standard dalam *WhatsApp* sangat membimbangkan kerana pengguna lebih mengutamakan singkatan dan percampuran kod ketika berbahasa dalam aplikasi ini. Begitu juga dengan fungsi yang terdapat dalam *WhatsApp* yang mendorong pengguna untuk menggunakan emoji yang telah disediakan sebagai alat untuk berkomunikasi dan menggantikan perkataan yang menujukkan perasaan dan emosi mereka. Oleh hal yang demikian, semua pihak perlu memandang serius tentang kesan penggunaan *WhatsApp* terhadap penggunaan bahasa Melayu itu sendiri.

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HUMOR MODEL MULTIMEDIA IN WRITING MALAY NARRATIVE

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Abstract: *In the process of teaching and learning, the use of multimedia plays an important role in helping students to master skills in writing Malay narrative. One of them is a humor model multimedia that has been used a lot in Malay narrative writing. Teachers teach the students on how to use the technology tools such as slides in teaching them to write the narrative writing. In fact, teachers also used the humor method to teach the students. The humor model multimedia involves the use of graphics, videos, animation and more that encourage the students to use it. Multimedia is used to make the teaching process easier. Qualitative data were analyzed by the method development models that justified the Dick and Carey Model (2005). Qualitative data were analyzed by the descriptive and inferential based on the research questions. An achievement test will be conduct before and after the humor model multimedia is exposed to the students. Pre and post test data will be collect before and after the test. Pre and post test involves the writing of a narrative essay according to the curriculum standards and the appropriate levels. The results show the effectiveness in using multimedia bring a lot of positive outcomes. Multimedia shows an interactive environment among the users where they do not only receive information passively by the books or televisions. The advantages of using multimedia in teaching the narrative writing is it provides an effective learning and offers models or examples that should be followed. In conclusion, the use of humor model multimedia can motivate and enable a variety of styles of teaching and learning.*

Keywords: *Model, Humor, Multimedia; Narrative Writing*

Introduction

Humor model multimedia recently has been used a lot in teaching english narrative. Teachers teach the students by using the technology tools such as slides in teaching them to write the narrative writing. In fact, teachers also used the humor method in teaching the students. The humor model multimedia involves the use of graphics, videos, animation and more that encourage the students to use it.

The use of multimedia in education has become a common things nowadays. By using multimedia, we actually use a variety of media, that help to stimulate the visual and auditory in teaching. Multimedia is defined as the integration of various media such as texts, graphics,

animation, videos and more in deliver all the things that have been controlled by the computer. Multimedia is used to make the teaching process easier.

Problem Statement

Malay education is not a new thing among students in school. However, it remains to be humorous or witty as a stimulant in the Malay language learning situations related to the increase in performance of Malay students in school. Most of the pupils in school have a lazy attitude to write the essay. It directly affects the overall achievement in writing. Another problem is they are not adapt and creative in developing the writing content. Students are more traditional in writing essays. With this humorous model, students will be more fun and relax when writing the narrative essay.

Studies on Appropriate And Inappropriate Humor (2006), according to Torok, McMorris and Lin (2006), said humor is one of communication that can be identified from the experience of one's self and to use them wether efficiently or inefficiently. Torok, McMorris and Lin (2006), made a speculation that there are four types of humor (sarcasm, jokes, ethnic jokes and jokes that are aggressive) used by the teacher is seen as negative by students.

This can be proved when one of the students managed to master the Malay language fluently, especially in the application of narrative writing humor in multimedia model. This shows that the students' interest and love towards people who are using Malay language and applying humor in multimedia model in their teaching of narrative writing, and have a desire to work together to communicate with the language. Thus, the researchers found that the students usually choose the development of humor model multimedia in teaching the narrative writing as an excuse to master more in Malay languange in school.

Lastly, this study is important to improve the effectiveness of humor model multimedia in teaching the narrative writing among students in schools and universities.

Literature Review

Computers are one of the tools that help us to connect virtually. Its ability is based on virtual functions. Their suitability of achievement can activate the techniques in teaching language subject. Computer helps the students to imrprove their achievements by the use of systematic techniques and student-centered. Relatively, the achievements of students are from others sprout effects (Doyle, 2007). According to Abdul Rahman Aziz Abdul (2006), the overall results of this study conducted by the lecturers from Open University Malaysia about the interaction techniques based on concept-map in writing essay.

The study revolves among the users, which are the teachers from some secondary schools show that students are more master in the aspects of writing, in addition to not making their thoughts confused. The efforts help them to make the surrounding of the class more active and creative. Lecturers or teachers that involved in these techniques become more positive towards the importance of technology in education, such as feeling more fun and confidence. This rejects the ideas of using the concept-map interactive techniques can make the process of mastering the language in class more complicated. The result shows the disagreement between them, which is the conventional techniques is better than the use of concept-map interactive techniques in language education. Most of all the respondents in the research confessed their interest of the application of the techniques. The function of interactive techniques in teaching narrative writing is to encourage all the academics programmes and in the same time exposed some of the gained benefits.

McCarthy (1988) believed the characteristics of hypermedia have the ability to encourage students to be more proactive. Turner and Dipinto (1992) testified that the environment of hypermedia inspire students to think in a metaphor context, and give freedom to their imagination. The humor study in education begins since the early of 1970s when Mc

Carthy still in fourth, fifth, and sixth grade. He has analyzed the data, not only the type of humor but also the IQ subject that has been learned. They found that "feeling funny have a high creative tolerance (r = .89) and expertise (r = .91)".

From the Saree study (2006), the use of interaction techniques in education of writing make the lecturers and teachers easier to gain students' attentions towards certain topics, in addition to improve their achievements. Other than that, Saree study also shows that the use of interaction techniques can increase the level of mastery of students in certain writing concepts. Quasi-experimental method was performed for 30 students, each of them is determined in experimental and control groups. Experimental studies was carried out for 8 hours. He approaches reading through a mix of techniques, which identify references because students like something that can attract their attention in grammar. The study emphasizes ways for students to master their language and writing by using the word bank. Students also interested in multimedia form and creativity in the learning disorder. Guided on the interactive techniques in writing, on-screen display is a mechanism that is synonymous or closely related to the needs of students for shaping and developing minds.

Multimedia Theory

Multimedia is the most powerful educational tool that is created and it strives to be the ultimate entertainment device. Multimedia can improve the quality and effectiveness of learning sessions. Multimedia has more advantages than other medias because it combines all the different types of media such as texts, pictures, animation, backgrounds, videos and sound. Thus, multimedia is more interactive which users are not receive passively such as by reading books or watching the televisions.

The material is text-based and no two-way interaction. Multimedia provided extensive informations in the form of text-based. This application acquires an appropriate information that is easy and fast to find. Multimedia development programme that includes text-based hypertexts. Hypertexts is a text overlay and usually users have to search other websites to gain the informations. Further information is available in the form of explanations, tables or charts. This application is also sometimes bring overlapping images, sound and videos that make multimedia applications become more real. Connection to other pages related to the information in the text is also provided so that users can effectively obtain it.

Conclusion

Scientifically study of the classroom is very important in the era of transformation nowadays. One of the aspect that must be examined is multimedia application in teaching Malay language. Multimedia applications on a variety of usage models need to be applied in the teaching of Malay language to generate the student's mind especially in writing. Thus, the study proposed to be implemented by using the model-based humor of the multimedia application in teaching writing of Malay language.

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PENGURUSAN TEKANAN EMOSI DALAM KALANGAN PELAJAR PINTAR BERBAKAT

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Abstrak : *Kajian tindakan ini bertujuan mengenal pasti tahap tekanan emosi dan seterusnya mencadangkan dan melaksanakan program untuk mengurus tekanan emosi dalam kalangan pelajar pintar berbakat di Kolej Permata Insan (KPI), USIM. Kajian ini melibatkan kesemua 159 pelajar ambilan 2015, 2016 dan 2017 KPI. Jumlah pelajar lelaki yang terlibat ialah 29 orang (ambilan 2015), 40 orang (ambilan 2016) dan 21 orang (ambilan 2017). Pelajar perempuan yang terlibat berjumlah 19 orang (ambilan 2015), 20 orang (ambilan 2016) dan 30 orang (ambilan 2017). Kajian tindakan yang melibatkan Penyoalan WH telah dijalankan ke atas peserta kajian ambilan 2016 dan 2017. Kajian ini turut melibatkan pengumpulan data menggunakan borang soal selidik untuk menilai tahap tekanan emosi. Data dianalisis secara deskriptif skor min. Dapatan kajian menunjukkan bahawa punca utama tekanan emosi dalam kalangan pelajar lelaki dan perempuan ialah faktor akademik. Secara keseluruhannya tahap tekanan emosi pelajar masih berada pada tahap sederhana walaupun setelah tindakan transformasi telah dijalankan kepada pelajar baru. Namun begitu terdapat pengurangan nilai purata min bagi tahap tekanan emosi peserta kajian mengikut tahun ambilan. Bagi pelajar lelaki, nilai skor min tahap tekanan emosi bagi pelajar ambilan 2015 ialah (3.0), ambilan 2016 (2.6) dan pelajar ambilan 2017 (2.6). Bagi pelajar perempuan pula, nilai skor min bagi tahap tekanan emosi bagi pelajar ambilan 2015 ialah (3.2), ambilan 2016 (3.0) dan ambilan 2017 (2.8). Secara keseluruhannya, pelajar perempuan mengalami tekanan emosi yang lebih tinggi berbanding pelajar lelaki. Melalui kajian ini, Program Minggu Taaruf dicadangkan untuk membantu pelajar baru untuk menyesuaikan diri dengan cepat dan seterusnya mengelakkan terjadinya tekanan emosi.*

Katakunci*: Tekanan, Pintar Berbakat, Remaja*

Pengenalan Dan Latar Belakang Kajian

Tekanan Emosi

Tekanan emosi boleh dialami oleh setiap individu pada setiap peringkat umur. Tekanan emosi terbahagi kepada tahap rendah, sederhana dan tinggi. Tekanan emosi peringkat rendah dan sederhana boleh membantu untuk memotivasikan individu untuk lebih berjaya. Namun begitu, tekanan emosi peringkat tinggi boleh menyebabkan seseorang individu tidak bermotivasi dan berputus asa. Apabila tekanan dihadapi secara negatif, ia boleh mendatangkan kesan negatif terhadap kesihatan dan pencapaian akademik seseorang pelajar (Campbell & Svenson 1992). Mereka yang mengalami tekanan pada tahap tinggi juga tidak dapat menikmati kehidupan seharian yang lebih baik.

Raber dan rakan-rakan (2005) mendefinisikan tekanan sebagai respon yang berlaku dalam diri kita terhadap situasi yang sukar dihadapi. Ahli psikologi Islam seperti Al –Ghazali, Al-Razi, Muhammad Uthman Najati, Muhammad ‘Izudin Taufik, Sami Hatif Al-Zin dan Hasan

Langgulung melihat tekanan dari sudut kegelisahan jiwa atau emosi manusia seperti gelisah, kecewa, bimbang keterlaluan dan takut (Fariza 2005). Secara kesimpulannya, tekanan adalah perasaan yang mengganggu seperti risau keterlaluan, gelisah, takut dan kecewa akibat dari tindak balas terhadap sesuatu peristiwa yang menganggu emosi. Situasi ini memerlukan seorang individu untuk melakukan penyesuaian diri supaya mereka tidak lagi terbeban dengan pemikiran yang mengganggu emosi.

Tekanan boleh berlaku dalam dua keadaan iaitu a) akut dan b) kronik (Hoe dan rakan 2013). Keadaan akut ialah tindak balas individu terhadap situasi berbahaya yang berlaku secara tiba-tiba dan individu kembali normal setelah keadaan bahaya tiada. Tekanan dalam keadaan kronik pula berlaku apabila individu berhadapan dengan masalah secara berterusan. Keadaan kronik ini boleh memudaratkan diri dan menjadi penyumbang kepada banyak penyakit. Dato Dr Ivan Hoe dan rakan (2013) turut mengkelaskan tekanan kepada tiga tahap. Tekanan reaktif yang disebabkan oleh faktor luaran menyebabkan individu hilang sebahagian kehendak atau minat untuk meneruskan aktiviti seharian. Mereka merasa rendah diri, tiada semangat menjalani kehidupan seharian, hilang tumpuan dan mudah lupa. Tahap kedua ialah tahap endogenus. Tekanan pada tahap ini disebabkan oleh faktor dalaman iaitu keturunan atau faktor biokimia dalam badan. Individu yang berada di tahap ini berfikir untuk membunuh diri, berasa diri tidak berguna dan merasakan masa depan mereka gelap. Tahap tekanan yang paling serius ialah tekanan psikosis. Pada tahap ini, individu tidak lagi menghiraukan diri sendiri dan persekitarannya sehingga boleh membunuh. Terdapat pelbagai faktor penyebab yang menyumbang kepada tekanan. Faktor ini bergantung kepada individu mengikut jantina, jenis pekerjaan, tahap kesihatan dan taraf sosio ekonomi.

Pelajar Pintar Berbakat

Umumnya, pelajar pintar berbakat berbeza berbanding rakan sebaya dalam beberapa aspek perkembangan fizikal, psikomotor, emosi, spiritual, intelek dan sosial (Davis & Rimm 2004). Sebanyak 17 ciri-ciri umum personaliti pelajar pintar berbakat yang ketara telah disenaraikan oleh Piirto (1999). Ciri-ciri tersebut ialah kreatif, imaginatif, intuitif, perspektif, mendesak, berani mengambil risiko, cekap, berdisiplin, mementingkan kesempurnaan, terbuka, toleran terhadap sesuatu ketidak pastian, memiliki pandangan yang mendalam, keamatan dalam bertingkah laku, amat meyukai kerja, corak pemikiran mirip kedua-dua gender, memiliki kemahuan yang kuat dan tabah berusaha. Ciri-ciri ini memberi nilai tambah kepada mereka berbanding rakan sebaya yang lain.

Abu Yazid (2014) melalui kajiannya pula mendapati tiga ciri unik yang sering dikaitkan dengan pelajar pintar berbakat ialah a) ingin kesempurnaan (*perfectionism*); b) keterujaan melampau (*overexcitabilities*) dan keserlahan berganda (*twice-exceptionalities*). Selain itu, Galbraith (1985) menggariskan lapan keadaan yang sering mencetuskan isu dan cabaran dalam kehidupan pelajar pintar berbakat seperti a) perasaan berbeza dan tidak diterima dalam kalangan rakan sebaya; b) ekspektasi untuk menjadi sempurna oleh ibu bapa, guru-guru dan rakan sebaya; c) perasaan kebosanan di sekolah; d) kekerapan diperlekehkan rakan sebaya di sekolah; e)perasaan tidak upaya untuk menyelesaikan isu yang bersifat global; f) kekeliruan dengan pelbagai pilihan kerjaya.

Sikap inginkan kesempurnaan yang sederhana mampu berperanan sebagai pendorong kepada seseorang individu untuk berusaha lebih gigih. Namun begitu, sikap kesempurnaan yang melampau boleh memberikan kesan negatif secara emosi dan menjejaskan kehidupannya. Schuler (1999) menyatakan sikap kesempurnaan yang keterlaluan lazimnya membawa tekanan atau beban dalam kehidupan harian individu. Schuler (1999) melalui kajiannya mendapati 87.5%

daripada pelajar pintar berbakat menunjukkan kecenderungan untuk bersikap inginkan kesempurnaan dalam kehidupan seharian mereka.

Keterujaan melampau pula kebiasaannya menyebabkan pelajar pintar berbakat lebih sensitif dengan menunjukkan tindak balas pada kadar ketegangan yang memuncak atau tinggi kepada setiap rangsangan yang wujud dalam persekitarannya. Samada mereka gembira atau sebaliknya dan juga teruja terhadap sesuatu, mereka boleh menunjukkan perasaan mereka secara lisan atau fizikal dengan lebih ketara. Sikap ini juga memberi risiko untuk pelajar pintar berbakat lebih cepat tertekan berbanding rakan seusia.

Permasalahan Kajian

Pendapat umum bahawa pelajar pintar dan berbakat adalah golongan pelajar yang stabil dan tidak memiliki sebarang masalah dalam aspek-aspek perkembangan fizikal, psikologi, sosial dan emosi telah lama ditolak dan dianggap sebagai mitos semata-mata (Abu Yazid & Aliza Alias 2009, Rosadah Abdul Majid 2004). Seperti remaja dan individu lain, mereka juga tidak dapat lari dari mempunyai konflik dalam diri mereka. Pelajar pintar berbakat ini mempunyai beberapa karakter khas yang juga boleh mendedahkan mereka kepada tekanan. Ng Sen Fa dan Sandiyao Sebastian (2005) merumuskan bahawa masalah sosio-emosi sering kali tercetus di kalangan pelajar pintar berbakat berpunca dari sifat diri mereka yang unik dan faktor persekitaran yang tidak merangsang perkembangan yang seimbang.

Sikap mementingkan kesempurnaan (*perfectionist*) yang tinggi boleh mendorong mereka ke arah takut terhadap kegagalan (Abu Yazid & Aliza Alias 2009). Ini akan menjadikan mereka cepat berputus asa dan mudah marah apabila tidak berpuas hati dengan hasil kerja mereka . Kerja mereka juga boleh tertangguh disebabkan mereka inginkan kesempurnaan sebagai persediaan untuk memulakan kerja tersebut dan juga kesempurnaan dalam hasil akhir. Selain itu, mereka juga mempunyai tahap estim kendiri yang rendah (low-self esteem), keterujaan melampau (overexcitabilities), perasaan tertekan serta kebimbangan yang berterusan (Abu Yazid 2014)

Mereka juga mempunyai sikap tidak mahu mengalah yang menjadikan mereka lebih agresif dalam mempertahankan pendapat (Aliza Alias & Hamidah Yamat 2009). Sikap tidak mahu mengalah ini boleh menyebabkan mereka menghadapi ketegangan perhubungan dengan rakan sebaya dan juga guru-guru mereka. Ciri-ciri ini akan memberi bebanan kepada diri mereka. Dalam konteks pembelajaran pula, isu penyesuaian sosial tersebut boleh merencatkan proses pembelajaran mereka akibat konflik interaksi yang timbul di antara mereka dengan rakan-rakan sebaya serta guru-guru (Bee 1999; Rimm 2003; Ng Sen Fa 2005; Ananda Kumar 2008; Mohd Zuri et al. 2008)

Tekanan boleh menyebabkan beberapa perubahan tingkah laku dan tubuh badan seperti kesakitan fizikal, gangguan emosi dan psikologi serta kemerosotan prestasi seseorang (Jerrold 2002). Oleh sebab itu, faktor-faktor penyebab tekanan dalam kalangan pelajar Kolej Permata Insan adalah sangat penting untuk dikenal pasti supaya program pengurusan tekanan yang berkesan dapat dirancang dan dilaksanakan. Jadi, kajian ini memberi maklumat kepada unit Hal Ehwal Pelajar untuk membantu pelajar menguruskan tekanan mereka supaya pelajar dapat menyesuaikan diri mereka dengan kehidupan di asrama dengan lebih baik dan cepat. Seterusnya program secara bersepadu dapat dilaksanakan untuk mengelakkan tekanan emosi yang tidak terkawal berlaku dalam diri pelajar.

Objektif

a) Untuk mengenal pasti tahap tekanan emosi dalam kalangan pelajar KPI berdasarkan jantina

b) Untuk mencadangkan dan mencuba pelaksanaan Program Pengurusan Tekanan kepada pelajar.

Kepentingan Kajian

Kajian ini amat penting kerana:

a) Memberi maklumat mengenai sejauh mana tahap tekanan emosi dalam kalangan pelajar berdasarkan jantina dan punca tekanan.

b) Maklumat yang diperolehi daripada kajian dapat membantu Unit Bimbingan Kaunseling untuk memberikan perkhidmatan kaunseling kepada pelajar yang tertekan dengan lebih berkesan

c) Membantu Unit Bimbingan Kaunseling untuk merancang program pengurusan tekanan dalam kalangan pelajar KPI dengan lebih berkesan

d) Memberi idea untuk Unit Hal Ehwal Pelajar mencadangkan dan mencuba Program Pengurusan Tekanan kepada pelajar.

Transformasi : Pelaksanaan Program Pengurusan Tekanan *Wh Questions*

Program Pengurusan Tekanan *WH Questions* merupakan satu saranan atau idea untuk ibu bapa dan pelajar bereaksi apabila berhadapan dengan suatu masalah, isu atau situasi yang membuatkan mereka merasa tertekan. Ibu bapa perlu turut dilibatkan dalam pelaksanaan Program Pengurusan Tekanan *WH Questions* ini. Melalui maklumat daripada kaunselor, pelajar yang merasa tertekan kebiasaannya mengadu kepada ibu bapa. Ibu bapa yang positif dan rasional boleh memberikan panduan yang rasional juga kepada anak-anak. Namun begitu, ibu bapa yang kurang rasional cenderung untuk memberikan komen atau saranan berbentuk negatif yang akhirnya tidak mampu untuk menyelesaikan masalah yang dihadapi oleh anak-anak bahkan akan lebih memburukkan keadaan dan membuatkan anak-anak lebih berasa tertekan. Pelaksanaan *WH Questions* ditaklimatkan kepada ibu bapa pelajar baru pada hari pendaftaran pelajar baru iaitu semasa sesi taklimat Hal Ehwal Pelajar. Bagi pelajar baru pula, taklimat berkenaan Pelaksanaan *WH Questions* dilakukan pada setiap kali perhimpunan rasmi berlangsung.

Jadual 1. Program Pengurusan Tekanan *WH Questions*

	Tindakan untuk anak dan ibu bapa menyesuaikan diri
WHAT	• Apa sebenarnya yang diceritakan oleh anak • (sekadar luahan perasaan /perlu penyelesaian)
WHY	• Kenapa berlaku? • Adakah ia berpunca dari anak/ org lain
HOW	• Macam mana boleh berlaku • Macam mana boleh saya tolong anak?
WHEN	• Bila saya perlu bertindak ke peringkat seterusnya?
WHO	• Siapa yang saya perlu rujuk?

Metodologi Kajian

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Reka Bentuk Kajian

Kajian yang telah dilakukan ini melibatkan kajian tindakan di lapangan kajian. Selain sesuai dengan objektif kajian, kajian tindakan dipilih sebagai kaedah kajian kerana permasalahan kajian tindakan lebih menjurus kepada sesuatu amalan yang tidak memuaskan, belum diselesaikan, terdapat kesukaran, sesuatu amalan yang perlu diubah dan sesuatu amalan yang berjalan tidak seperti yang diharapkan (Othman Lebar 2015) dan perlu ditambah baik. Menurut Faridah Yunus (2013) pula, kajian tindakan i) tidak dibentuk dari lompong yang dihasilkan daripada kajian lepas dan ii) kajian tindakan juga tidak memerlukan sumbangan ilmu terhadap teori sedia ada.

Peserta Kajian

Seramai 159 pelajar yang terdiri daripada tiga ambilan iaitu ambilan 2015, 2016 dan 2017 terlibat dalam kajian ini. Pelajar ambilan pertama (tahun 2015) terdiri daripada 48 orang pelajar iaitu 29 lelaki dan 19 perempuan. Pelajar ambilan 2016 pula terdiri daripada 40 orang lelaki dan 20 pelajar perempuan. Manakala pelajar ambilan 2017 pula terdiri daripada 21 orang lelaki dan 30 orang perempuan. Syarat utama pemilihan ialah pelajar perlu melepasi ujian kemasuskan UKM1, UKM2 dan USIM1. Pelajar dengan skor IQ melepasi 120 iaitu sekurang-kurangnya mempunyai *mental age* dua tahun melebihi umur biologi mereka akan dipilih. Kumpulan pelajar ini dikategorikan sebagai pelajar pintar berbakat. Majoriti daripada pelajar ini berjaya mendapat semua A dalam UPSR.

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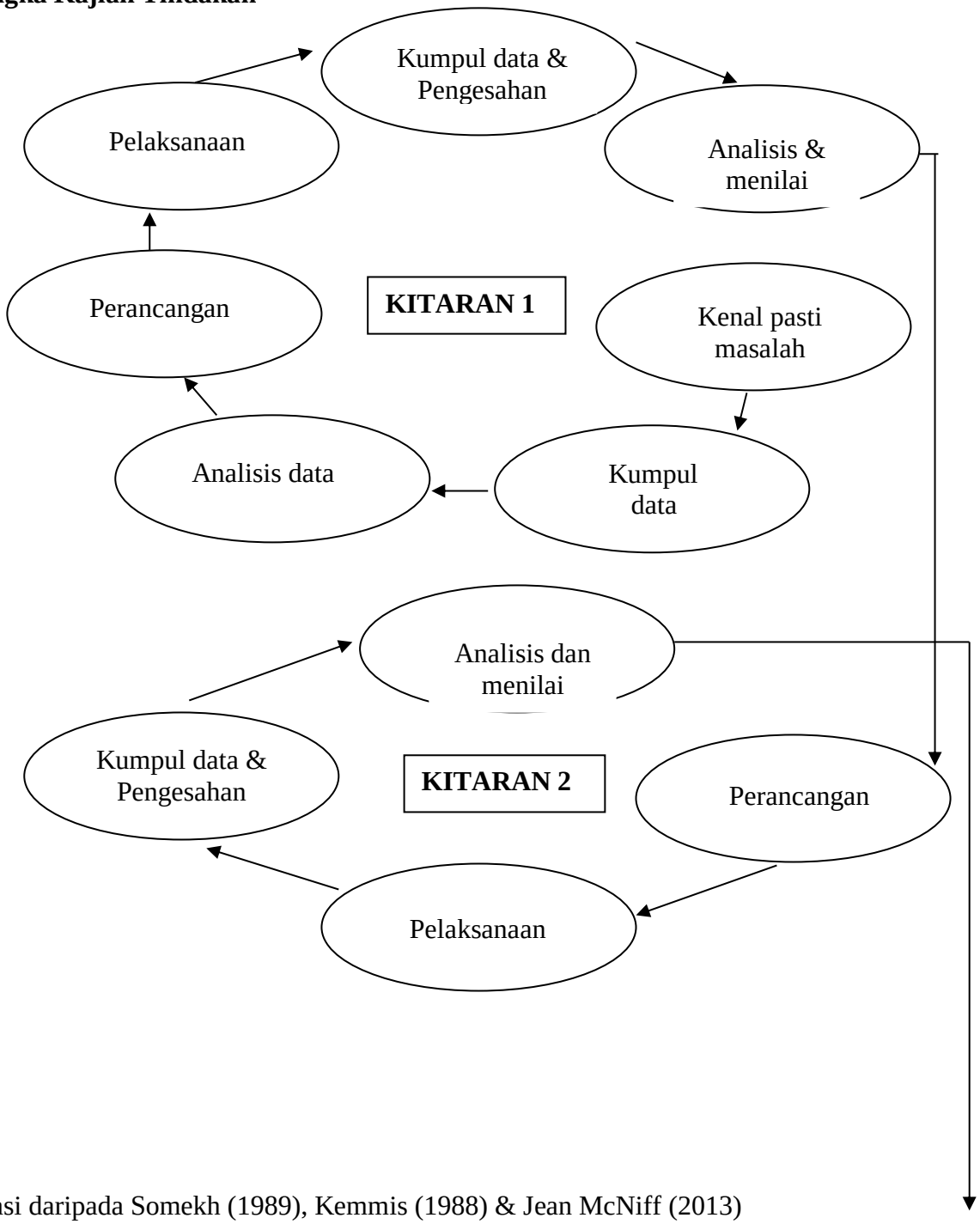
Kerangka Kajian Tindakan



Adaptasi daripada Somekh (1989), Kemmis (1988) & Jean McNiff (2013)

Huraian Kerangka Kajian Tindakan

Jadual 2. Huraian Kerangka Kajian Tindakan

KITARAN 1	
Fasa	**Huraian**
1.Kenal pasti masalah	Melalui pemerhatian, aduan daripada pelajar dan juga perbincangan dengan kaunselor, didapati pelajar Ambilan 2015 mengalami tekanan.
2.Kumpul data	Borang soal selidik diedarkan kepada pelajar ambilan 2015 untuk menilai tahap tekanan pelajar.
3.Analisis data	Tahap tekanan pelajar dianalisis.
4.Perancangan	Penyelidik berbincang dengan kaunselor berkenaan keperluan melaksanakan Program Pengurusan Tekanan (*WH questions*) untuk membantu pelajar menyesuaikan diri di awal kemasukan di kolej.
5.Pelaksanaan perancangan	Program Pengurusan Tekanan menggunakan *WH questions* digunakan seperti perancangan kepada pelajar Ambilan 2016. Pelaksanaan program dijalankan dalam sesi taklimat oleh Penyelaras Hal Ehwal Pelajar semasa pendaftaran pelajar baru Ambilan 2016. Taklimat semasa hari pendaftaran melibatkan ibu bapa. Taklimat kepada pelajar sebagai peserta kajian dilakukan setiap kali perhimpunan sekolah dijalankan.
6.Mengumpul data dan pengesahan	Borang soal selidik diedarkan kepada pelajar ambilan 2016 untuk menilai tahap tekanan pelajar.
7.Menganalisis dan menilai	Data tahap tekanan emosi pelajar Ambilan 2016 dianalisis. Refleksi seterusnya dilakukan.

KITARAN 2	
Fasa	**Huraian**
1.Perancangan	Berdasarkan analisis dapatan tahap tekanan pelajar Ambilan 2016, perancangan untuk melaksanakan Program Pengurusan Tekanan menggunakan *WH questions* dilakukan sekali lagi bersama kaunselor.
2.Pelaksanaan perancangan	Program Pengurusan Tekanan menggunakan *WH questions* digunakan seperti perancangan kepada pelajar Ambilan 2017. Pelaksanaan program dijalankan dalam sesi taklimat oleh Penyelaras Hal Ehwal Pelajar semasa pendaftaran pelajar baru Ambilan 2017. Taklimat semasa hari pendaftaran melibatkan ibu bapa. Taklimat kepada pelajar sebagai peserta kajian dilakukan setiap kali perhimpunan sekolah dijalankan.
3.Mengumpul data dan pengesahan	Borang soal selidik diedarkan kepada pelajar Ambilan 2017 untuk menilai tahap tekanan pelajar.
4.Menganalisis dan menilai	Data tahap tekanan emosi pelajar Ambilan 2017 dianalisis. Refleksi seterusnya dilakukan.

Kajian ini turut melibatkan penggunaan borang soal selidik yang mengandungi item-item untuk menguji tahap tekanan pelajar. Borang soal selidik ini diubahsuai daripada borang soal selidik yang telah digunakan oleh Mohamad Zaid Mustafa dan rakan (2009). Jadual 3 menunjukkan taburan item dalam borang soal selidik. Item terdiri daripada Bahagian A iaitu punca tekanan; bahagian B iaitu simptom akibat tertekan dan Bahagian C yang merupakan item pendekatan kendiri untuk menangani tekanan. Borang soal selidik kajian menggunakan skala Likert seperti dinyatakan dalam Jadual 2.

Kesemua 159 orang pelajar KPI dilibatkan dalam kajian ini mengikut kitaran kajian tindakan yang dirancang. Kesemua data telah dianalisis secara deskriptif. Data kuantitatif ini telah dianalisis mengikut tahap interpretasi skor min dan ukuran tahap tekanan seperti yang ditunjukkan dalam Jadual 4, 5 dan 6 di bawah.

Jadual 3. Taburan Item Dalam Borang Soal Selidik Kajian

Bahagian	**Pemboleh ubah kajian**	**No item**	**Bil item**
A	Punca tekanan		
	i.Faktor akademik	1-20	20
	ii.Faktor peribadi	21-35	15
	iii.Faktor persekitaran	36-45	10
B	Simptom tekanan	46-65	20
C	Pendekatan kendiri menangani tekanan	66-74	9

Jadual 4. Skala Likert yang digunakan dalam borang soal selidik

Skala	**Peringkat**
1	Sangat tidak setuju
2	Tidak setuju
3	Tidak pasti
4	Setuju
5	Sangat setuju

Sumber : Mohd Majid Konting (2000)

Jadual 5. Interpretasi Skor Min

Skor min	Interpretasi
4.01- 5.00	Tinggi
3.01-4.00	Sederhana tinggi
2.01-3.00	Sederhana rendah
1.00-2.00	Rendah

Sumber : Kamarul Azmi b. Jasmi (2010)

Jadual 6. Ukuran Tahap Tekanan

Skor min	**Interpretasi Tahap stres**
1.00 – 2.39	Tekanan rendah
2.40 – 3.79	Tekanan sederhana
3.80-5.00	Tekanan tinggi

Sumber : Wiersme (1995) yang telah digunakan oleh Mohamad Zaid Mustafa dan rakan-rakan (2009)

Dapatan Kajian Dan Perbincangan

Jadual 7. Skor Min Keseluruhan Tekanan Bagi Pelajar Lelaki

Punca tekanan	Ambilan 2015	Ambilan 2016	Ambilan 2017
Akademik	3.2	2.8	2.8
Peribadi	2.9	2.4	2.3
Persekitaran	2.8	2.7	2.6
Skor min keseluruhan	**3.0 (Sederhana)**	**2.6 (Sederhana)**	**2.6 (Sederhana)**

Jadual 8. Skor Min Keseluruhan Tekanan Bagi Pelajar Perempuan

Punca tekanan	Ambilan 2015	Ambilan 2016	Ambilan 2017
Akademik	3.4	3.2	3.0
Peribadi	3.0	2.6	2.6
Persekitaran	3.2	3.2	2.8
Skor min keseluruhan	**3.2 (Sederhana)**	**3.0 (Sederhana)**	**2.8 (Sederhana)**

Jadual 7 dan Jadual 8 menunjukkan tahap tekanan dalam kalangan pelajar secara keseluruhannya dan juga perbandingan di antara pelajar lelaki dan juga pelajar perempuan. Secara keseluruhannya pelajar lelaki dan perempuan mempunyai tahap tekanan yang sederhana.

Pelajar Ambilan 2015 mempunyai tahap tekanan sederhana (Lelaki;skor min 3.0, perempuan;skor min 3.2). Data tahap tekanan pelajar Ambilan 2015 merupakan data yang mencetuskan idea untuk pelaksanaan kajian tindakan ini dilakukan.

Kemudiannya, pelaksanaan Program Pengurusan Tekanan *WH Questions* telah dijalankan kepada ibu bapa dan pelajar Ambilan 2016. Ibu bapa diperkenalkan dengan program ini semasa taklimat pada hari pendaftaran pelajar baru. Pelajar -pelajar Ambilan 2016 sentiasa diingatkan berkenaan cara untuk bereaksi jika berhadapan dengan masalah, isu atau situasi yang menyebabkan mereka berasa tertekan. Terdapat penurunan dalam skor min keseluruhan pelajar Ambilan 2016 setelah pelaksanaan Program Pengurusan Tekanan *WH Questions* iaitu (lelaki; skor min 2.6, perempuan; skor min 3.0) walaupun tahap tekanan bagi kedua-dua pelajar lelaki dan perempuan Ambilan 2016 masih berada di tahap sederhana. Ibu bapa pula telah mengikuti Program Pengurusan Tekanan *WH Questions* dengan baik dalam jangka masa 2 bulan pertama anak-anak mendaftar sebagai pelajar baru. Ibu bapa saling mengingatkan antara satu sama lain semasa berkomunikasi dalam aplikasi *Whatsapp* berkenaan perlu mengikuti saranan Program Pengurusan Tekanan *WH Questions* apabila menerima aduan daripada anak-anak. Namun begitu, selepas tempoh tersebut, ibu bapa mula mengabaikan saranan Program Pengurusan Tekanan *WH Questions* atau lebih tepat lagi saranan untuk memberikan respon kepada aduan anak-anak. Situasi sebegini akhirnya menimbulkan kembali keadaan yang tertekan dan kucar kacir dalam kalangan ibu bapa dan anak-anak apabila berhadapan dengan isu-isu penyesuaian di tempat baru.

Pada tahun 2017, Program Pengurusan Tekanan *WH Questions* sekali lagi dilaksanakan kepada pelajar baru Ambilan 2017. Skor min keseluruhan pelajar lelaki Ambilan 2017 sama dengan skor min pelajar Ambilan 2016 iaitu 2.6. Namun begitu, walaupun skor min keseluruhan pelajar lelaki ini sama dengan skor min keseluruhan pelajar lelaki Ambilan 2016, terdapat sedikit penurunan skor min bagi punca tekanan dari aspek punca peribadi dan punca persekitaran. Pelajar perempuan Ambilan 2017 pula menunjukkan pengurangan dalam skor min keseluruhan iaitu 2.8 walaupun masih berada dalam tahap tekanan yang sederhana. Ibu bapa pelajar Ambilan 2017 pula hanya berjaya mengikuti program ini selama sebulan.

Kesimpulannya, pelaksanaan Program Pengurusan Tekanan *WH Questions* berjaya menampakkan perubahan dengan pengurangan tahap tekanan emosi pelajar. Namun begitu, program ini tidak berjaya diamalkan oleh ibu bapa pelajar. Oleh itu, Program Pengurusan Tekanan perlu dirancang dengan lebih menyeluruh dan lebih berkesan kepada ibu bapa. Menurut Ellis (2002), seseorang individu berasa tertekan bukan disebabkan oleh peristiwa yang berlaku terhadapnya, tetapi disebabkan oleh persepsi atau cara pemikiran yang negatif, tidak rasional serta tidak berasaskan fakta yang tepat.

Pelaksanaan Program Pengurusan Tekanan *WH Questions* ini merupakan satu program yang dirancang untuk membantu pelajar yang sedang menghadapi tekanan emosi. Namun begitu, pelaksanaan Program Pengurusan Tekanan tidak boleh hanya melibatkan pelajar yang sedang dalam keadaan tertekan tetapi Program Pengurusan Tekanan perlu juga dirancang bagi membantu mengelakkan tekanan dalam diri pelajar. Oleh itu, sebagai respon kepada kajian ini, Program Minggu Taaruf telah dibincangkan pelaksanaannya pada tahun 2018. Semua aspek yang terlibat dalam persekitaran pelajar seperti diri pelajar sendiri, ibu bapa, kawan-kawan baru, sekolah baru dan warga sekolah yang baru diambil sebagai aspek penting dalam pembinaan modul Program Minggu Taaruf 2018.

Kesimpulan

Kesimpulannya, pelajar pintar berbakat tidak terlepas dari mengalami tekanan emosi lebih-lebih lagi disebabkan keunikan kebolehan dan sikap mereka. Sikap seperti inginkan kesempurnaan yang terlalu tinggi, keterujaan melampau dan sikap tidak mahu mengalah baik untuk memotivasikan mereka untuk kekal cemerlang. Namun begitu, sikap sebegini jugalah yang boleh mengundang dan merangsang tekanan emosi dalam diri mereka jika tidak dikawal atau disalurkan dengan sebaiknya.

Melalui hasil kajian ini didapati bahawa pelajar pintar berbakat lebih terdedah kepada tekanan untuk mengekalkan prestasi akademik mereka dan menonjolkan kelebihan diri berbanding rakan-rakan yang lain.

Walaupun tahap tekanan di kalangan peserta kajian dalam kajian ini adalah sederhana, namun usaha-usaha perlu dilakukan oleh pelbagai pihak yang terlibat bagi memastikan tahap tekanan pelajar adalah terkawal serta mampu menguruskan pembelajaran di kolej secara efektif. Program pengurusan tekanan perlu dirancang untuk membantu pelajar cepat menyesuaikan diri dengan kehidupan di kolej dan juga untuk membantu mereka menangani isu-isu dalam kalangan pelajar pintar berbakat.

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PERKEMBANGAN POLITIK NEGERI KEDAH BERDASARKAN SURAT RAJA-RAJA (SRR) DAN SURAT-MENYURAT SULTAN ABDUL HAMID (SMSAH)

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Pengenalan

Setakat ini, dua manuskrip yang mengandungi maklumat penting tentang Kedah pada zaman pemerintahan Sultan Abdul Hamid Halim Shah (1882-1943). Dua manuskrip tempatan tersebut ialah Surat Raja-Raja (SRR) dan Surat-Menyurat Sultan Abdul Hamid Halim Shah (SMSAH). Surat Raja-Raja (SRR) adalah koleksi manuskrip mengandungi sejumlah 1083 pucuk salinan surat asal yang mencatatkan perjalanan pentadbiran dan pembangunan negeri Kedah. Secara umumnya, SRR ditemui dalam tahun tertentu sahaja iaitu tahun 1882, 1888 hingga 1889, 1895 hingga 1897, 1903 hingga 1904 dan 1899 hingga 1911 (Haslindawati Saari, 2015: 31). Surat-Menyurat Sultan Abdul Hamid Halim Shah (SMSAH) pula salinan surat asal yang bertulisan tangan dengan tulisan jawi dalam 14-16 buah buku meliputi sekitar tahun 1300–1362 Hijrah/1882–1943 Masihi dalam koleksi Arkib Negara Malaysia cawangan Kedah & Perlis.

Terdapat kira-kira 2,951 halaman naskah dalam koleksi SMSAH. Koleksi '*Surat-menyurat Sultan Abdul Hamid Halim Shah*' atau SMSAH telah diklasifikasikan kepada lima kumpulan utama. Salah satu kumpulan utama itu adalah koleksi surat menyurat kiriman yang mengandungi isi kandungan tertentu tentang maklumat penting kerajaan Kedah sepanjang pemerintahan Sultan Abdul Hamid Halim Shah (Mohd Kasturi Nor Abd Aziz, 2011: 46; Wan Shamsuddin Mohd Yusuf, 2001). Koleksi SMSAH telah diiktiraf sebaris dengan koleksi warisan dunia yang terdapat di Malaysia seperti *Hikayat Hang Tuah* dan *Sulalatus Salatin* (Sejarah Melayu). Ia diwartakan sebagai warisan dunia atau "*Memory of the World Register*" pada September 2001 oleh pihak *United Nation Educational, Scientific and Cultural Organization* (UNESCO) atas hasil usaha Arkib Negara Malaysia dengan kerjasama para penyelidik tempatan (UNESCO 2001). Pemilihan SMSAH sebagai warisan dunia dipengaruhi oleh kedudukannya sebagai satu-satunya kumpulan surat-menyurat manuskrip Melayu yang begitu bernilai dan agak tersusun jika dibandingkan dengan koleksi manuskrip berupa surat-menyurat kerajaan lain di Gugusan Kepulauan Melayu silam. Kehadiran SRR yang dijilidkan dalam tiga buah buku dan SMSAH dalam 14-16 buah buku ini mampu memaparkan dengan lebih jelas tentang

perkembangan politik negeri Kedah semasa pemerintahan Sultan Abdul Hamid Shah sebagai sebuah kerajaan yang berdaulat.

Gambaran paling menarik tentang Kedah di hujung kurun ke-19 hingga awal kurun ke-20 ialah kestabilan politiknya. Struktur politiknya telah berkembang ke arah berkerajaan yang mempunyai unsur-unsur raja berperlembagaan, khususnya melalui pembentukan Majlis Mesyuarat Negeri (State Council) di bawah pimpinan Raja Muda Kedah, Tunku Abdul Aziz pada tahun 1905 dan Tunku Mahmud pada tahun 1907 (Khoo Kay Jin, 1990:186). Satu penelitian dibuat mengenai perjalanan sejarah politik dalaman negeri Kedah dengan menekan terhadap isi kandungan SRR dan SMSAH. Dari aspek politik dalaman Kedah, SRR dan SMSAH mengandungi koleksi salinan surat-menyurat yang menyentuh dengan pelbagai isu berkaitan perjalanan pentadbiran negeri Kedah. Kandungan surat-menyurat banyak membincangkan pembabitan pihak istana dan keturunan Wan serta Syed yang memegang pelbagai jawatan penting sama ada di peringkat daerah mahupun di peringkat mukim dalam menangani pelbagai cabaran dalam politik negeri Kedah. Koleksi SRR dan SMSAH juga menjadi bukti penting usaha gigih pemerintah negeri iaitu Sultan Abdul Hamid yang dibantu oleh kerabat diraja serta pembesar negeri yang lain ke arah memajukan dan memodenkan negeri Kedah.

Peranan Golongan Pemerintah Dalam Politik Negeri Kedah

Masyarakat Melayu boleh dibahagikan kepada dua golongan iaitu golongan pemerintah dan yang diperintah. Golongan pemerintah memegang kuasa politik dan menuntut cukai, ufti dan buruh paksa daripada rakyatnya (J.M. Gullick, 1972: 94-96; Amarjit Kaur, 1991: 2-3). Dalam sesebuah negeri, kuasa kawalan lebih condong ke arah pemusatan yang berkesan dan kebiasaannya berada di tangan sultan (Sharom Ahmat, 1984: 75-78). J.M. Gullick mempercayai bahawa pengaruh peribadi atau tuah seseorang sultan itu membawa kepada kebaikan (J.M. Gullick, 1972:75-76). Kerabat diraja dan kerabat am mendapat kedudukan daripada keturunan ataupun hubungan kekeluargaan. Berdasarkan SRR dan SMSAH, beberapa rumusan boleh dibuat tentang politik dalaman Kedah yang dikaitkan dengan pemerintahan beraja berdasarkan penyataan yang dibincangkan. Negeri Kedah ditadbir oleh golongan kerabat diraja bersama-sama dengan kelompok yang mempunyai hubungan kekeluargaan dan setia kepada sultan. Tempoh masa dari tahun 1882 hingga 1911 menyaksikan pentadbir negeri Kedah memiliki kekuasaan yang tidak terhad dalam menangani pelbagai permasalahan dalaman negeri dan sekaligus memajukan serta memodenkan pentadbiran negeri dalam pelbagai aspek. Jelasnya, Kedah mengamalkan politik tradisional yang meletakkan Sultan pada kedudukan yang sah (Mohd Isa Othman, 2003: 18-19). Perkembangan politik Kedah yang paling menarik ialah pihak British yang cuba menekankan dasar penjajahan manakala golongan elit Kedah mahu mempertahankan autonominya.

Koleksi SRR dan SMSAH telah memaparkan dengan jelas tentang peranan Sultan Abdul Hamid Halim Shah sebagai pemerintah kerajaan negeri Kedah yang ke-26 sekitar tahun 1882 hingga 1943. Baginda adalah pemerintah Kedah yang dilantik dengan penuh kontroversi. Pelantikan baginda sebagai sultan Kedah, pada peringkat awal mendapat cabaran daripada kaum kerabat baginda sendiri dan pengesahan kedudukan sebagai pemerintah tertinggi dalam kerajaan Kedah juga dikaitkan dengan restu Raja Siam.

Sejak menjadi sultan, Sultan Abdul Hamid sentiasa memikirkan kemajuan dan pembangunan negeri Kedah. Menurut Sharom Ahmat, kestabilan politik di negeri Kedah turut berkait rapat dengan kualiti para pemerintahnya yang bersifat terbuka dan sentiasa mahu memajukan negerinya sehingga pihak British merasa kagum dengan pencapaian atau pemodenan negeri itu menjelang kehadiran mereka pada tahun 1909 (Mahani Musa, 2012: 57). Pandangan

Sharom Ahmat ini menyamai dengan pendapat beberapa pegawai kolonial Barat yang pernah berada di Kedah. Antaranya, Gifford (1889) yang menyatakan:

> Kedah berada dalam suasana yang cukup maju, dan Raja negeri itu menunjukkan daya pemikiran yang cekap serta mencuba sedaya upaya untuk memajukan negerinya…"

A.M. Skinner (1890) pula menegaskan:

> "…pengaruh Eropah dan pentadbiran yang baik dapat dilihat di mana-mana negeri Kedah, jalan rayanya elok, rumah-rumah kelihatan baik dan negerinya maju serta diperintah dengan teratur..." (Khoo Kay Jin, 1990:178).

Pandangan-pandangan di atas jelas menunjukkan pemimpin Kedah telah dan sentiasa berusaha mewujudkan suasana pentadbiran yang sukar untuk kuasa asing berterusan mencengkam politik dan pentadbiran negeri Kedah. Selain itu, bagi memastikan Kedah terus maju, Sultan Abdul Hamid sering mengadakan lawatan ke kawasan-kawasan yang berkepentingan dari aspek ekonomi. Misalnya, Kuala Muda Kerian adalah daerah yang kaya dengan hasil pertanian seperti padi dan Kulim pula kaya dengan bijih timah. Menerusi SRR dan SMSAH didapati Sultan Abdul Hamid sering mengadakan lawatan dalam negeri terutamanya ke kawasan-kawasan yang mempunyai kepentingan ekonomi seperti Kulim. Perkara ini dikesan menerusi surat yang bertarikh 22 Muharam 1313H (14 Julai 1895M). Kandungan surat memperlihatkan pemberitahuan tentang kedatangan Sultan Abdul Hamid ke Kulim dan seterusnya ke Karangan (SRR, 1312H/1895M No. 2: 4).

Selain lawatan dalam negeri, baginda juga sering mengadakan lawatan luar dari Kedah seperti Perak, Pahang, Terengganu, Kelantan, India, Singapura, Rangoon, Burma, Bangkok (Buyong Adil, 1980:78-79) dan beberapa wilayah Siam seperti Singgora, Raman, Patani dan Yala (Perbadanan Perpustakaan Awam Kedah, 1968: 239-246). Terdapat beberapa surat-menyurat dalam koleksi SRR dan SMSAH yang menyatakan tentang kekerapan Sultan Abdul Hamid ke Singgora (Songkhla) dan Bangkok (SRR, 1312H/1895M:17). Sebenarnya siri lawatan ini telahpun dilakukan sejak zaman ayahanda Sultan Abdul Hamid iaitu Sultan Ahmad Tajuddin tetapi daripada penelitian ke atas SRR dan SMSAH, didapati zaman Sultan Abdul Hamid menampakkan kerancakan dalam aspek lawatan keluar negara. Beberapa siri lawatan yang diadakan oleh pemerintah Kedah juga bertujuan meniru model pembangunan luar negara untuk membangun dan memodenkan pentadbiran negeri Kedah. Malah, usaha ini turut dipraktikkan oleh Tunku Abdul Aziz, Wan Muhammad Saman dan beberapa pentadbir negeri yang lain. Kedudukan sebagai seorang pemerintah tertinggi di negeri Kedah menjadikan Sultan Abdul Hamid seseorang yang mementingkan keakraban dalam perhubungan. Keakraban yang wujud bukan sahaja melibatkan hubungan kekeluargaan tetapi juga hubungan diplomatik yang merentas sempadan.

Sepanjang pemerintahan, Sultan Abdul Hamid dianggap bertuah kerana memperoleh beberapa pembantu yang berpengalaman untuk membantu baginda dalam pentadbiran negeri (Ismail Hj Saleh, S175: 4). Antara individu yang yang bnayak memantu baginda ialah Tunku Yaakob, Dato' Wan Mat Saman dan Wan Hajar (SMSAH, 14 Syawal 1305H/24 Julai 1888M, 25 Muharam 1306H/11 Ogos 1888 & 25 Muharam 1306H/1 Oktober 1888). Namun, baginda tidak terkecuali daripada berdepan dengan pelbagai cabaran dalam memperkukuhkan kekuasaan baginda. Peringkat awal melibatkan pelantikan baginda sebagai Sultan Kedah yang dicabar oleh Tunku Kudin dan Tunku Yusuf. Walaupun SRR tidak menjelaskan dengan terperinci tentang

cabaran berkenaan, terdapat beberapa surat-menyurat yang menampakkan tindak-tanduk sultan terhadap kedua bapa saudaranya dan perkara ini dicatat secara jelas di dalam SMSAH. Antaranya, surat kiriman yang menjelaskan tentang tindakan Sultan Abdul Hamid memerintahkan kedua bapa saudaranya membuat bil atau senarai perbelanjaan kewangan mereka sekitar tahun 1888 (SRR, 1312H/1895M: 9-11; SMSAH, 16 Jamadilakhir 1305H/28 Februari 1888). Keadaan ini berkemungkinan besar berkait rapat dengan tindakan Tunku Kudin dan Tunku Yusuf yang suka berhutang. Berdasarkan beberapa sumber lain, kedua-dua bapa saudara Sultan Abdul Hamid juga berhutang dengan peminjam wang (ceti) di Pulau Pinang dan menggunakan nama Sultan Abdul Hamid tanpa kebenaran (Mohammad Isa Othman, 1990: 45).

Berdasarkan penelitian ke atas SMSAH didapati, Kedah mula mengalami zaman kestabilan dan kemajuan setelah berakhirnya krisis politik dan ekonomi di antara Sultan Abdul Hamid dengan Tunku Kudin. Suasana aman ini banyak dipengaruhi oleh dasar pemerintahan Sultan Abdul Hamid yang membawa masuk unsur-unsur pembaharuan ala Barat ke Kedah dibantu oleh para pembesar dan pegawai kerajaan yang setia dan bersedia menghadapi dan menerima perubahan. Pada zaman pemerintahannya, baginda telah memimpin Kedah dengan baik dan cekap ke arah arus pemodenan walaupun pembangunan yang dijalankan pada ketika itu agak ketinggalan berbanding dengan Negeri-Negeri Selat (SMSAH, 7 Zulhijjah 1305H/15 Ogos 1888M & 24 Zulhijjah 1306H/1 September 1888M). Namun usaha baginda itu adalah lebih baik berbanding dengan pemerintah Kedah sebelumnya dan pemerintah negeri-negeri Melayu yang lain kecuali Johor (Usaha Sultan Abdul Hami dalam membawa unsur pembangunan dan pembaharuan dan mengatasi bebanan kewangan negeri Kedah turut diakui dan dipuji oleh beberapa orang pegawai British (*C.O. 273/136*, 29 Oktober 1885). Tambahan pula, Sultan Abdul Hamid sedar dan begitu peka dengan perubahan politik serantau yang memerlukan baginda bersedia menghadapi arus pemodenan dunia dengan membawa dan menerima masuk unsur-unsur asing dalam proses pembaharuan bidang politik Kedah selagi ia tidak bertentangan dan mencabar kedudukan baginda sebagai Sultan Kedah. Perkara ini membuktikan pejabat Sultan begitu memainkan peranan penting menjaga perjalanan pentadbiran negeri sehingga mampu mengawal hal-ehwal dalaman negeri Kedah demi menjaga identitinya walaupun terdapat campur tangan daripada kuasa Siam berdasarkan SMSAH.

Cabaran kedua datangnya daripada Tunku Abdul Aziz selaku Raja Muda Kedah dan Presiden Majlis Mesyuarat Negeri. Antara perkara yang menampakkan percanggahan pendapat atau keputusan yang dibuat antara keduanya adalah hal yang berkaitan dengan kerahan tenaga. Namun, surat bertarikh 2 Syaaban 1327H (18 Ogos 1909M) menunjukkan keakuran bersyarat daripada Sultan Abdul Hamid berkenaan penghapusan kerahan tenaga rakyat. Alasan awal tentangan Sultan Abdul Hamid tentang adat lama ini ialah ketiadaan tenaga kerahan untuk menangani masalah pergaduhan antara kongsi gelap Cina. Sekiranya pihak British memberi bantuan tenaga bagi mengatasi masalah pergaduhan maka baginda bersetuju menghapuskan sistem kerahan tenaga rakyat.

Sebenarnya, isu penghapusan sistem tenaga kerahan ini telah dikemukakan terlebih dahulu oleh Tunku Abdul Aziz melalui persetujuan bersama Majlis Mesyuarat Negeri pada tahun 1905. Namun, rancangan ini tidak mendapat restu daripada sultan (SRR, 1317-1329 H/1899-1911M: 308; CO 273/351, 7 Nov 1909 & 18 Nov 1909; SMSAH, 1323-1325H/1905-1907M)). Sememangnya kewujudan Majlis Mesyuarat Negeri yang diterajui Tunku Abdul Aziz menampakkan kuasa mutlak Sultan Abdul Hamid dalam pentadbiran negeri kian tergugat. Akhirnya, timbul pertentangan pendapat tentang keputusan berkaitan tentang pentadbiran negeri yang telahpun diputuskan oleh pihak majlis (Mohammad Isa Othman, 1990:72-74).

Hakikatnya, Majlis Mesyuarat Negeri mempunyai bidang kuasa yang luas dalam mengendalikan pentadbiran negeri tetapi dalam hal-hal tertentu menampakkan sultan lebih berkuasa daripada pihak Majlis. Misalnya, Sultan Abdul Hamid lebih berkuasa menentukan sendiri pemberian ampun kurnia, penetapan cukai dan pajakan, sistem kerah, pentadbiran tanah dan beberapa perkara lain yang menyentuh pentadbiran kewangan negeri. Dengan demikian, agak sukar pihak Majlis menguruskan pentadbiran negeri dengan adanya campur tangan daripada sultan sehingga Tunku Abdul Aziz dan Tunku Mahmud terpaksa membelakangkan sultan dalam meluluskan beberapa perundangan negeri (Kobkua Suwannathat-Pian, 1988:102; Mohammad Isa Othman, 1990: 75; SMSAH, 1323-1325H/1905-1907M; Yearly Report on the Administration of the State of Kedah, September 1905-Ogos 1906: 7-9).

Berkenaan sistem kerahan tenaga, ianya bukanlah semata-mata dikaitkan dengan kerja-kerja buruh tetapi turut melibatkan kerahan tenaga untuk mempertahankan keamanan negeri. Melalui SRR, dikesan sepucuk surat bertarikh 15 Rabiulawal 1306H (19 November 1888M) mendedahkan tentang kerahan tenaga yang dikenakan ke atas rakyat untuk menjaga keamanan di Kulim terutamanya selepas berlaku pergaduhan kongsi gelap di kawasan tersebut (SRR, 1306H/1888M: 23; SMSAH, 8 Jamadilakhir 1307H/31 Disember 1889M). Berikutan dengan insiden pergaduhan tersebut, Sultan Abdul Hamid sentiasa menjaga keselamatan kawasan-kawasan yang menjadi sumber kekayaan ekonomi negeri Kedah terutamanya kawasan pajakan utama seperti Kulim dengan meletakkan lebih ramai „mata-mata‟ dan „sepahi‟ (SRR, 1306H/1888M: 94; SMSAH, 15 Syawal 1305H/25 Julai 1888M).

Sultan Abdul Hamid yang mendapat jolokan sebagai "*Bapa Pemodenan Kedah*" seringkali membuat keputusan yang dilihat akan menguntungkan kerajaan negeri Kedah untuk jangka masa panjang. Baginda bersetuju dengan penubuhan Majlis Mesyuarat Negeri dan bekerjasama dengan Tunku Abdul Aziz menubuhkan pelbagai jabatan yang menjadi jentera kepada pentadbiran negeri Kedah seperti Jabatan Perbendaharaan, Jabatan Tanah dan Ukur (SRR, 1312H/1895M: 133 & 135). Mahkamah Keadilan, Jabatan Polis, Jabatan Kerjaraya, Jabatan Audit, Jabatan Pos dan Telegraf serta lain-lain lagi.

Sepanjang pemerintahan baginda, diperkatakan tentang kemakmuran ekonomi negeri Kedah dan pertumbuhan pesat dalam proses pembandaran. Tanah-tanah paya ditebusguna untuk dijadikan kawasan pertanian padi dan tanah-tanah yang terbiar diusahakan untuk dijadikan kebun serta lading (Afifuddin Hj Omar, 1986: 1; Zaharah Hj. Mahmud, 1990: 195- 200). Terdapat juga kawasankawasan tertentu dipugar dan dipajakkan kepada pemodal Cina (SRR, 1312H/1895M: 53-54). Malah, jambatan dan titi kayu digantikan dengan jambatan dan titi besi (Perbadanan Perpustakaan Awam Kedah: 254-255). Politik negeri Kedah berada dalam keadaan stabil apabila sultan dibantu oleh ramai kaum kerabat baginda sendiri termasuk Tunku Abdul Aziz dan Tunku Mahmud. Koleksi SRR dan SMSAH banyak menghimpunkan surat-menyurat yang berlaku sesama mereka berkaitan hal ehwal politik negeri. Di Kedah, pentadbiran pusatnya terletak di tangan sultan tetapi peranan para pembesar yang terdiri daripada kerabat diraja dan golongan bangsawan tetap penting. Pada hakikatnya, bagi menguruskan pentadbiran, sultan bergantung kepada para pembesarnya. Pada praktiknya pengagihan kuasa dalam kalangan elit amat perlu bagi mengelak atau sekurang-kurangnya mengurangkan konflik.

Konflik Politik Dalaman Negeri Kedah

Bagi mengelakkan krisis politik dalaman berlaku di negeri Kedah, pembesarpembesar tradisional yang setia, tetap diberi tempat sebagai penggerak jentera pentadbiran negeri. Antaranya, Wan Abdullah Haji (daerah Kota Kuala Muda), Ku Baharuddin Ku Meh (Ketua Mukim Merbuk), Syed

Muhamad Al-Jefri (Ketua Mukim Jenderi), Syed Othman (Ketua Mukim Yan), Che Ariffin Kerani (Setiausaha Sultan), Haji Wan Ahmad (Ketua Mukim Kupang), Syed Muhamad Shahabudin (Ketua Mukim Hutan Kampung), Haji Wan Ismail dan Wan Yahya Wan Mohd Taib (SRR, 1312H/1895M: 18, 40, 42, 155 &337; SMSAH, 14 Safar 1305H/31 Oktober 1887M, 6 Zulhijjah 1306H/3 Ogos 1889M & 25 Zulkaedah 1306H/ 23 Julai 1889M). Para pembesar ini memainkan peranan penting dalam memastikan pentadbiran negeri berjalan dengan lancar.

Sememangnya tindakan membabitkan pembesar tradisional dalam kerajaan adalah taktik golongan elit pusat untuk mengawal peranan mereka agar tidak menimbulkan sebarang konflik dalam negeri Kedah. Hal ini ada kebenarannya apabila SRR 1 memaparkan sepucuk surat yang ditujukan kepada Penghulu Kuala Muda iaitu Syed Husain. Surat kiriman yang bertarikh 20 Zulhijah 1307H (6 Ogos 1890M) tersebut melarang Syed Husain mengutip hasil daripada kebun-kebun miliknya yang telah dilelong kerana tindakan beliau menyebabkan tiada sesiapa yang sanggup memajak kebun-kebun berkenaan (SRR, 1306H/1888M: 142). Perbuatan Syed Husain ini sebenarnya merugikan kerajaan negeri Kedah kerana beberapa tanah kebun tidak dapat dipajakkan.

Menurut Md Isa Othman, pihak pentadbiran pusat negeri Kedah juga cuba memastikan para penghulu tidak bertindak sewenang-wenangnya meskipun sebahagian besar masyarakat yang mereka pimpin adalah buta huruf. Dengan ini konflik di peringkat bawahan dapat dikawal (Md Isa Othman, 1986: 69). Selain konflik dalam perjawatan, isu perebutan takhta dan konflik sesama golongan elit turut berlaku dalam politik Kedah. Sebenarnya, konflik sedemikian telahpun wujud sebelum pemerintahan Sultan Abdul Hamid lagi. Masalah perebutan takhta bukanlah perkara baru dan permasalahan ini telah berlaku sejak zaman pemerintahan moyang Sultan Abdul Hamid lagi. Hal ini dilihat berlaku antara Sultan Ahmad Tajuddin III dengan kekanda ipar baginda iaitu Tunku Muhammad (Md Isa Othman, 1986: 43). Kemudian, persaingan kuasa berlaku pula kepada Sultan Abdul Hamid dengan bapa saudaranya iaitu Tunku Kudin yang disokong oleh Tunku Yusof (J.M. Gullick, 1987: 7-11, 13-15 &73-91; SRR, 1306H/1888M: 7-11 & 13-15; SMSAH, 21 Zulkaedah 1304H/11 Ogos 1887M).

Persengketaan ini telah diperkatakan ramai sarjana dan pengkaji dalam kajian mereka. Hakikatnya, konflik ini turut memberi impak yang besar kepada kewangan negeri Kedah termasuk faktor kegeringan Sultan Abdul Hamid dan tindakan kedua bapa saudara sultan, Tunku Kudin dan Tunku Yusof. Perasaan tidak puas hati Tunku Kudin dan Tunku Yusof terhadap Sultan Abdul Hamid sentiasa wujud antara mereka. Keduanya sering menganggu urusan pentadbiran negeri anak saudaranya itu terutama dalam hal-hal kewangan negeri.

Berikutan dengan isu kewangan negeri Kedah yang semakin meruncing, SRR telah mendedahkan tindakan kerajaan negeri memotong elaun perbelanjaan Tunku Kudin sebanyak $1500 daripada elaun perbelanjaan selama empat belas bulan sebanyak $11,200 manakala Tunku Yusof pula sebanyak $1000 daripada elaun yang berjumlah $5600. Melalui surat kiriman ini juga tercatat penyataan tentang hutang kedua bapa saudara Sultan Abdul Hamid dengan pihak Siam (SRR, 1312H/1895M 13-14; SMSAH, 4 Ogos 1887 & 16 Mac 1888). SRR dan SMSAH juga turut memaparkan beberapa pucuk surat kiriman yang lain dan surat-surat ini diutuskan antara sultan dengan kedua bapa saudara baginda (SRR, 1312H/1895: 5-11 & 15). Permusuhan yang berterusan antara Tunku Kudin dengan Sultan Abdul Hamid menganggu perjalanan pentadbiran dan kewangan negeri Kedah ketika itu (SMSAH, 21 Zulkaedah 1304H (1887M); Mohammad Isa Othman, 1990: 43-45; Sharom Ahmat, 1984: 47).

Selain berdepan dengan masalah perebutan takhta dan konflik sesama kerabat, wujud pula konflik keluarga diraja antara Perlis dan Setul. Hal ini terjadi apabila pihak Siam melaksanakan pemusatan kuasa yang menyatukan beberapa daerah ke dalam Monthon mulai 7 April 1897. Oleh demikian, Kedah telah disatukan dengan Perlis dan Setul yang membentuk sebagai Monthon Saiburi (Kobkua Suwannathat-Pian, 1892: 62). Hal ini diperkatakan dalam SRR yang menyebut tentang penyatuan berkenaan. Suratsurat dikirimkan kepada Raja Perlis Syed Sofi dan Raja Setul Tunku Abdul Rahman untuk datang ke Kedah bagi menyambut surat „tera‟ berkaitan penyatuan Kedah, Perlis dan Setul (SRR, 1312H/ 1895M: 346; SMSAH, 1304-1312H/1886-1894M: 347). Kemudian, beberapa pucuk surat dikirimkan pula kepada Tunku Yaakob, Tunku Mohamad Saad, Kudin (Ku Baharuddin Ku Meh), Wan Ahmad dan Syed Osman untuk tujuan yang sama (SRR, 1312H/1895M: 348-350).

Pembentukan Monthon Saiburi menyaksikan Sultan Abdul Hamid dilantik sebagai Pesuruhjaya Tinggi bagi ketiga-tiga negeri (SMSAH, 1304-1312H/1886- 1894M: 464; Che Mohd Hassan Kerani Mohd Ashad: 123; Buyong Adil, 1981: 33). Walau bagaimanapun, Perlis dan Setul diberi kebebasan menjalankan pemerintahan sendiri tetapi berdasarkan panduan yang ditetapkan oleh Sultan Kedah. Begitu juga dengan bunga emas, Perlis perlu menyediakannya sendiri tetapi dihantar ke Kedah dahulu sebelum ke Bangkok (Ahmad Ismail & Yazid Mat, 1992; Julie Tang Su Chin, 2002: 100-101; Mohammad Isa Othman, 1990: 59-61). Peranan Kedah sebagai negeri perantaraan melalui Monthon Saiburi terbukti melalui koleksi SRR. Antaranya, beberapa surat kiriman yang menunjukkan Kedah sebagai pusat pengedaran surat-surat berbahasa Siam yang diutuskan dari kerajaan Siam kepada kerajaan Perlis dan Setul. Kemudiannya, surat berkenaan dikirimkan bersama dengan surat iringan berbahasa Melayu untuk tujuan makluman kepada pemerintah Perlis dan Setul (SRR, 1306H/1888M: 31, 56, 63, 67, 105 &133-134).

Berdasarkan penelitian terhadap SRRdan SMSAH, dikesan pemimpin negeri, daerah mahupun peringkat mukim tidak terkecuali daripada melakukan kesalahan. Apabila berlaku masalah yang melibatkan salah guna kuasa terhadap kepentingan rakyat, hal ini disuarakan oleh mereka kepada pemimpin utama negeri. Misalnya, surat aduan bertarikh 24 Syaaban 1314H (27 Januari 1897M) daripada sepasang suami isteri berkaitan dengan tindakan Penghulu Abdul Rahman (Mukim Kuala Muda) yang mengenakan wang lima puluh rial untuk menyelesaikan masalah dengan pihak ketiga (SRR, 1312H/1895M: 274; SMSAH, 1315-1331H/1897-1912M). Selain surat kiriman ini, terdapat pelbagai lagi aduan dari masyarakat Kedah yang melibatkan pemimpin setempat. SRR dan SMSAH membuktikan bahawa pimpinan pusat dan pimpinan negeri bekerjasama menyelesaikan masalah yang berlaku dalam kalangan masyarakat Kedah. Walau bagaimanapun, segala permasalahan dalaman negeri banyak diselesaikan oleh pemangku raja iaitu Tunku Abdul Aziz, terutamanya ketika sultan dalam kegeringan.

Kesimpulan

Pada awal abad ke-20, negeri Kedah masih lagi bersifat negeri kesultanan Melayu tulen dan pemodenan di Kedah pada peringkat ini semaju Johor dan Negeri-negeri Melayu Bersekutu. Sama seperti Johor, Kedah melihat model pentadbiran British di Negeri Selat termasuk negara-negara yang dilawatinya untuk membuat pengubahsuaian sebagai persediaan menghadapi perubahan. Sejak zaman pemerintahan Sultan Ahmad Tajuddin III, baginda tidak lagi memenuhi jawatan-jawatan tradisional yang kosong selepas kematian penjawatnya. Ini bukan bererti jentera kerajaan tidak ada penggeraknya. Tugas pembesar tradisional mula digantikan dengan penubuhan jabatan-jabatan yang diambil modelnya dari Pulau Pinang. Dasar ini diteruskan pada bahagian awal pemerintahan Sultan Abdul Hamid. Walau bagaimanapun, proses pembirokrasian pentadbiran

tidaklah nyata sehingga campur tangan British. Meskipun berada di bawah pemerintah British, Sultan Abdul Hamid berupaya mengekalkan penglibatan golongan istana dan golongan bangsawan dalam pentadbiran politik negeri Kedah.

Pembaharuan dalam pentadbiran negeri Kedah memperlihatkan peranan yang dimainkan oleh Sultan Abdul Hamid sendiri dan dibantu oleh kaum kerabat baginda. Hubungan luar yang erat dan kekerapan lawatan yang diadakan membantu pembangunan dan pemodenan negeri Kedah. Pemerintah negeri dapat mengawal kuasa pembesar negeri melalui ampun kurnia termasuklah kuasa memerintah di sesebuah daerah ataupun sesebuah mukim. Kelancaran dalam pentadbiran negeri Kedah juga berkait rapat dengan penubuhan Majlis Mesyuarat Negeri pada tahun 1905. Walaupun wujud konflik kuasa antara kerabat diraja atau para pembesar tetapi kuasa menjalankan pentadbiran masih lagi di bawah kekuasaan pemimpin tempatan Melayu. Dengan pengekalan tradisi dalam pemerintahan, kekuasaan Kedah terus berada di tangan sultan. Perkara ini dibuktikan melalui koleksi SRR dan SMSAH.

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RISK MANAGEMENT: A REVIEW OF RECENT PHILOSOPHICAL PERSPECTIVES

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Abstract: *Risk management is not a new organisational discipline, however most of previous literatures in the field were almost monopolize by a single approach, those of positivism. Such inclination towards a single approach could prove problematic as it might stymie alternative conceptions of problem in the risk management field. Moreover, this approach see risk management as a technical value free discipline which identical to the practice of natural science instead of its true nature as a social science that can be prove by observing the interrelationship of the field with other elements in organisation, particularly the behaviour of organisation's actors. This paper aims to review existing risk management research approach and its underlying assumptions that might be has evolve towards multiple approaches. The review found the conventional approach is still dominant in the field, however there are significantly increase in the recent literatures on the post-positivistic approach such interpretative and radical approach in studying risk management in organisation. The alternative approach is used to study the interpretation and meaning of risk management through the practices in organisation, the impact of the practice and its mutual interrelationship with the other organisational elements. In review and analysis of this topic, the paper notes the rather surprising importance of Burrell and Morgan's paradigms has played in the conception of the discipline's philosophical discussions.*

Keywords*: Risk Management Practice, Interpretative, Functionalist, Research Paradigm*

Introduction

While there is general agreement that Risk Management (RM) is a broad field and consist of many themes and areas, there is far less agreement on what it actually includes and does not includes, and what its core features are, that is the beginning of narrow view of RM which makes functionalism as the most dominant philosophical lenses to view the discipline. Lack of understanding and agreement on this issues leading to misunderstanding on the efficiency and effectiveness of risk management role in the organisation. Despite its multiple features, many traditional risk management frameworks contain general RM process and complicated statistical model to evaluate and assess risk, however this is very technical and hard for risk officers to understanding and forced them to implement RM into the organisation process without solid understanding on the actual view on RM. That makes things worse, very little that gives attention to the whole features of RM system that is used and adopted in organisation, all these caused a very narrow perspective on the capability of RM in protecting organisation from loss and danger.

It is not an exaggeration to say that the notion of risk has penetrated every aspect of our modern day lives, ranging from financial risks associated with major financial crises to security issues pertaining to identity theft and terrorism (see Baud and Chiapello, 2015; Pelzer, 2012; Moerman and Laan, 2012; Linsley and Shrives, 2009; Asenova et al., 2015; Arena et al., 2010; Hayne and Free, 2012; Ezzamel and Bourn, 1990; Power, 2013; Power, 2009; Mikes, 2011; Beck, 1992). Consequently, the notion of risk has become a central theme in almost all academic fields, For example, sociologist and political scientists are now talking about "risk society" (see Beck, 1992) while finance and banking are dealing with mitigating financial risk through global financial risk management schemas such as Basel III (see Baud and Chiapello, 2017). In accounting, specifically, risk management has become a hot topic related to other issues such as corporate governance, accountability and performance management (see Bebbington et al, 2007). This interdisciplinary perversity of risk management has made a meaningful review of literature rather demanding and overwhelming; direct comparisons of literature from different disciplines has become rather misleading due to not only their normative goals but also due to their ontological and epistemological underpinnings. One way to overcome this challenge is to narrow the scope of the review to a very specific stream of research on risk such as use of Basel III in mitigating financial risk in banks. However, this approach would limit the possibility of seeing the notion of risk from an interdisciplinary perspective and would prohibit us to see wider socio-political implications of organisational actions of risk management. Another way to overcome this issue is to rely on a specific analytical framework that can capture the ontological and epistemological differences between different streams of research on risk management.

Burrel and Morgan (1979) framework is such a framework, which has laid the philosophical foundation for understanding paradigmatic differences between different approaches to organisational analysis. It provides a framework for a paradigmatic classification of research. Here the notion of paradigms emanates from the ontological and epistemological assumptions that underlie any piece of research. In other words, Burrell and Morgan provides a framework to classify and interpret organisational research on the basis of ontological, epistemological and methodological assumptions implicit or explicit in any given piece of research. This framework has long been much appreciated by the critical management scholars in general and critical accounting scholars in particular (see Hopper and Powell 1985; Goles and Hirschheim, 1999).

Burrell and Morgan asserts having an understanding and a recognition on the underlying assumption of research helps the researcher to be consistent with their own values and beliefs concerning the nature of social sciences and the nature of society (Burrell and Morgan, 1979; Hopper and Powel, 1985). Hence, their framework can be used to locate any RM research according to its nature. However, Hopper and Powell assert that it would be a foolhardy to maintain that all social science could be uniquely and meaningfully classified with respect simply with two dimensions as proposed in Burrell and Morgan (e.g. subjective-objective dimension and regulation-radical change dimension). As such, there would inevitably be certain limitations in using Burrell and Morgan framework in reviewing literature in any field of study, but it is my understanding that it would provide an appropriate framework at least to grapple with the complexity and diversity of risk management literature that pervade across many academic disciplines. It should be mentioned, nevertheless, the aim of this paper is neither to discuss the extent to which social science literature can be paradigmatically classified using Burrell and Morgan framework nor to debate the distinctive contribution of Burrell and Morgan: the aim is

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rather to explore, in their ontological, epistemological and methodological stances, what is thought to be very crucial issues behind accounting research associated with management of risk.

For that, it is necessary to first provide an outline of Burrell and Morgan framework. Figure 1 depicts Burrell and Morgan mutually exclusive paradigmatic framework on studying the nature of social science and society. They divide the four paradigms according to the combinations of two dimensions as depicted in Figure 1. Both radical humanism and structuralism paradigms are heading for radical change but classified as one on subjectivism and the other one on objectivism respectively. Whereby Interpretive and Functionalism paradigms are heading for regulation that often promotes unity among society however one is classified as on subjectivism and the other one on objectivism respectively. These paradigms help locate and coordinate accounting literatures into its underlying issue on what thought to be important in accounting research, the philosophical standpoint of each research. Similar to Hopper and Powell, this study regards these dimensions are continuous and divide literatures concerning the organisational and social aspects of accounting into three distinct approaches- functional, interpretive and radical. Additionally, under functional approach, the accounting literatures are divided into three sub-approaches- pluralism, social system theory and objectivism.

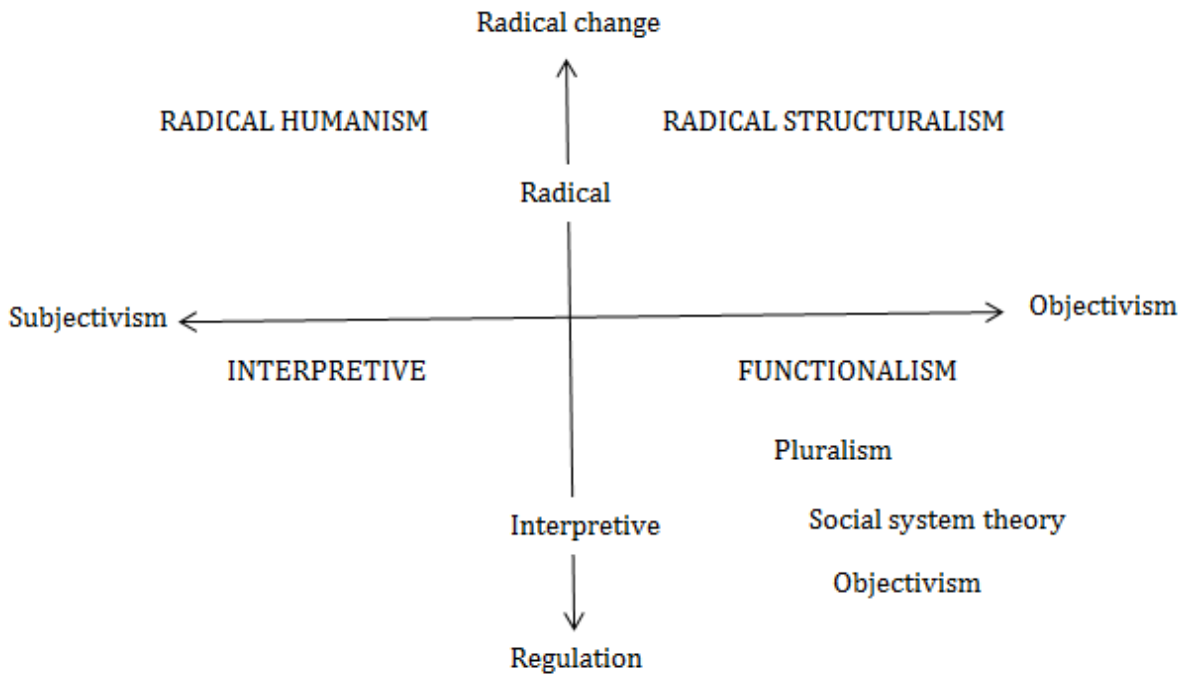

Figure 2 Burrell and Morgan Paradigmatic Framework

Functionalism In Risk Management

Functionalism can be refers as a belief that world and its structures are objective and concrete object (refer Table 1). In other words, functionalist agrees human actions and thought are products of external world (realism), not from individual internal cognition. This paradigm is an opposite of interpretative approach that believes creation of the world and its structures are products of individual thought. In the context of risk, functionalist in the realms of risk research such Ulrich

Beck, Anthony Giddens and Mary Douglas believe risk is somehow created by natural world events that already exist and ready to be faced by human such as natural disasters, wars, scientific discoveries, social conflicts which are not something that man can imagine or capable of doing (see Beck 1992). These disasters are regarded as risky, harmful and dangerous to social world which forces them to react and respond whether to opt for change or to tighten the regulation and stick with the status quo (Zinn, 2006) which the latter is a chosen belief for functionalism. Even though there are critics on Beck's narrow view on environmental risk, it is still brought a huge impact on many disciplines especially economic, sociology and management. His contribution initiate many other study on organisation as according to Beck's opinion, risk possess additional qualities such as undetectable, unavoidable and irresistible which causes organisation less efficient and leading to failure (see Dean, 2006). Moreover, risk management in organisation is regards as a technology that have ability to control risks from continuously causing adverse effect on the organisation performance (Andersen and Meyes, 2014). The implementation of the technology is guided by various risk management standards such COSO framework (COSO, 2004; Kelffner et al., 2003; Acharyya and Mutenga, 2013), ISO 31000:2009 standard and few others. As evidence in Table 1, the functionalist perspective is conceptually developed from the papers in Table 1

Authors	Level of analysis	Focus	Main findings
Acharyya and Mutenga (2013)	Industry and intra-organisational	Understanding, evolution, design and performance of risk management systems in insurance company.	The understanding of risk management systems varies significantly between companies and between different parts of the same organisation. Risk management is dominantly practices from a single discipline (finance) with no interdisciplinary treatment of risk.
Kleffner et al. (2003)	Inter-organisational	Obstacle in implementing risk management system.	Compliance, risk experts and pressure from all bring about the adoption of risk management at the enterprise level. Organisational structure and resistance to change are the most common reason against adopting risk management at the enterprise level.
Wahlstrom (2009)	Interviews in four different banks/inter-organisational	Usefulness of regulatory frameworks	Risk experts support the implementation and alignment toward regulatory frameworks, while staff in operations questions their usefulness.
Woods (2009)	One case/intra-organisational	Risk management system in the public sector	Operational controls are contingent upon central policies, information and communication technology and the organisational size.
Wu and Olsen (2009)	One case/intra-organisational	The use balance scorecard in enterprise risk management	Business risk scorecards are important tools for monitoring organisational performance with respect to risk management.

Young (2011)	Macro	The integration of accounting and risk management	Risk management systems rely on hierarchical principles that do not mirror the dynamic economic environment.

Table 2 The functional perspective on risk management system.
Source: adapted and modified from Andersen and Mayes (2014).

From epistemological assumptions, functionalist focus on providing empirical evidence and hypothesis testing based on cause and effect relationship. They also believe organisational actors are deterministic. Meaning every action made by organisational actors is cause by managerial manipulations of situational variables (Hopper and Powell, 1985). However, that is from the most objective view of functionalist, there are more lenient view from social system theory approach (refer Figure 1) which also a sub-approach in functionalist paradigm of Burrell and Morgan. Social system theory recognizes human factor as one of the biggest contributors in organisation performance. As evidence in Table 2,

Authors	Level of analysis	Focus	Main findings
Hall et al. (2015)			Some risk managers tend to focus on compliance activities and regulatory requirements, via formalised and standardised tools; others embrace a more business-oriented role through sustained interaction with front-line personnel, via simple tools rather than sophisticated risk models. M
Mikes (2011)			some senior risk champions tend to be sceptical about compliance roles and use 'risk talk', namely 'an organizational discourse about risk issues ranging from taskrelated problems and perceived organizational weaknesses to concerns about resource planning', in order to facilitate risk management as part of day-to-day business activities.
Kaplan and Mikes (2016)			Emphasise how risk functions consist of different layers of roles and work modes, carried out by different groups of risk managers. On this basis, some risk functions are able to balance compliance and business-oriented activities via a 'dual risk management' process.

Table 3 The functional perspective on risk management with specific on social system theory.

Functionalist Believes On Regulation

According to Burrell and Morgan framework, functionalist view on society can be understood to respond with the risks by either getting together by strengthening the regulation or to go for radical change (refer Table 3). Functionalist perceives having stronger regulation may protect each other from the risk consequence and the risk impact can be divided into smaller part

among people in the society. Having this believe is a door opening for risk management to be easily accepted by the social world and the organisation as a social construct, which risk is a reason for making profit and should be handle very carefully. Considering risk as a natural element that has to be face by all living creature although everybody will not face the same risk, hence hiding or running from risk is just a way to face another kind of risk. As a result, it is the best option to have a systematic way to control risk by using regulation. Regulation is able to gather participation from all group of society in educating the society and organisational life, to make the risk understandable, therefore the control action can be prepare based on what is acceptable as norms.

Risks in organisation are named or labelled differently according to its nature and sources. Risk that related to financial is named financial risk, risk that are related to operation are called operational risk, risk that are related to information system are named management information system risk or analytical risk and the same goes to risk that related to other business process are named according to that process. The name and labelling purpose is to regulate each specific risk management activity to its policy and standards. Several general standards and guidelines have been developed worldwide to provide standardise framework for risk management implementation by organisation such IRIM/Alarm/AIRMIC RM standard 2002, COSO 2004-ERM integrated framework, ISO/IEC 31010 Risk management-Risk assessment techniques, ISO 31000 2009-Risk management principle and guideline, OCEG 'Red Book' 2.0: 2009-a Governance, Risk and Compliance Capability Model. For example, according to ISO 31000: 2009, risk can be managed using risk management processes which consist of risk identification, risk assessment, risk monitoring and control. Having a standard is normally voluntary, although adherence to a standard must always in accordance with regulation and contract.

Regulation	Radical Change
Society tends towards unity and cohesion.	Society contains deep-seated structural conflict.
Society forces uphold the status quo.	Society tends to oppress and constrains its members.

Table 4 Assumptions about the nature of society
Source Burrell and Morgan (1979)

Where there are many accounting literatures are paying attention to the problem and issue arise from the objective view of organisation. There are also others sought issues from its subjective view. The subjective view involves intuitive, experience, belief and other intrinsic elements that creates value through the risk management practice, this is refers to the Interpretative approach.

Interpretivism In Risk Management

Interpretivism is another way to see different view on risk management, which a contrast to the view offers by functionalism paradigm. Interpretivism generally accept risk management as a set of tools that is socially constructed within the internal cognition of one's mind. Risk itself is a product of individual's thinking. It can be generated from feeling of fear and threat over one's life, therefore recognised as risk to the affected people (Slovic, 2002). Under this paradigm, reality is also socially created, it is typified according to its nature to make it understandable by human.

Here, human judgement is the ultimate mechanism to understand every piece of reality such risk as the aftermath of natural or man-made disasters.

Any study that focus on individual's personal experience and his personal perceptions about risk is categorised under interpretive approach of looking at the risk management. Instead of focusing independent reality that is external to them, people have rights and power to interpret his own meaning of reality based on his own experience about the world (Hopper and Powel, 1985). For a social construct entity, such organisation, the interpretative approach is applied when it comes to an attempt of understanding how the risk management team practice risk management system in the organisation. Even though there is available standards and framework for adopting risk management system, the way it is absorbed into the practice is vary to suit the local organisation's environment and culture which adding more value to the standard that had been selected for practice. This includes what risk management system means to the risk management team of the organisation. Here, their values will distinguish risk management practice by them with the one practice by others.

RM literatures	Interpretative features
Slovic (2002)	Using experience that linked to intuitive and emotional feeling (i.e. feeling of fear) as a mechanism to identify and measure risk.
Padayachee (2002)	The central theme of this study, which considers the perspectives and perceptions of software project managers concerning risk management.

Table 4 Risk management research under interpretative paradigm

Role Of Consultation Service For Justification And Explanation

Hopper and Powell (1985) asserts if reality exist from only in a conscious mind, the problem becomes one of explain the common sense of the belief, specifically on what is real social world and what is not without reifying social phenomena. Under this approach risk manager is the most legit person that can verify the meaning for risk management practice such what makes the thing as risk and how much attention required from the organisation deal with it that is based on his experience and judgement. However, it is difficult for risk manager to convince other stakeholders to produce a mutual agreement as the others might lack of understanding, lack of information and do not see the importance of the decision as far as the risk manager did. Therefore, some interpretative researcher interested to study the imperative role of consultation service in the process of justifying the belief and explanation provided by risk managers in order to convince the upper management officers.

Radicalism In Risk Management

The most critical paradigm of viewing the reality of society and organisation is radicalism. This paradigm is not just focus on how people perceives about reality and how they obtain knowledge but it seeks to explain the human action and behaviour in corresponding to the surrounding environment tension. The tension lead people to take certain action and resist to follow the status quo, thus opt for radical change. According to Burrell and Morgan there are two paradigms associated with radical change in society and organisation, namely radical humanist

and radical structuralist paradigms. Even though both paradigms leading society and organisation for radical changes, there is objective-subjective dimension that distinguish both of the paradigms. The radical structuralist paradigm located within objective dimension because organisation is regard as an entity similar to a person which able to make decision and act on behalf of its owners. This objective view allows organisation to be responsible for its own action and decision, simultaneously limit the liability of people who own it. Whereas radical humanist located within subjective dimension as it involves personal experience and cognition of individual. One see the world differently than the others based on one own experience and surroundings. The experience of which developed by norms, culture and belief.

The radical structuralist paradigm is associated with the failure of organisation in delivering good service or product to the customer and society which causes dissatisfaction. This issue having possibility of facing structural radical change. In other words, people will go against the failed organisation and opt for alternative that can gives better service. In the context of managing risk, stable entity such organisation is perceived by society of having extra ability to cater higher risk which exceeding the ability of a person, hence, an organisation should be able to secure individual from losses and danger. On the other hand, instead of going through such huge institutional changes, it is an option for people to change their own fundamental belief which gradually changing the norms they inhabit. The latter is harder to achieve as every individual or group have their own personal interest which need to be match with the others.

Risk management research orienting radical change usually useful for policy makers as it gives special attention to the welfare of society. For instance, Chowdhry et al. (2013) suggest development and freedom as risk management. They assert development and freedom allow individuals to better cope with risk and uncertainty, rather than using market based insurance mechanism. This kind of research cannot be seen as very important to identify the problem if it is viewed according to functionalist and interpretative paradigms, hence need for radicalism paradigm to see the author's point of view.

Discussion And Conclusion

Different ways of understanding the society and organisation is needed if dealing with complex human being. Human sometime presume as rational and sometime not, there are variety of variable from internal and external environment that influence human to react and respond to the situation. It can be argue that most of the time human are rational but when their life is distracted by dangerous or threats they may produce unpredictable reaction and respond. However, in whatever situation whether it is difficult or not human always aim for better living and peaceful life, hence, need for proper system to manage risk.

Regardless of which paradigm adopted in risk research, risk is initially part of social aspect in management accounting research and remain the same in present and future. Challenging the conventional view on risk management, its function to social world and institution is far more beyond the technical aspect. Despite, its exploration becomes one important area in the critical and social aspect of accounting research.

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TAX LITERACY AND ITS DETERMINANTS: THE CASE OF INDIVIDUAL EMPLOYEES.

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Abstract*: Tax revenue is vital in ensuring the development and sustainability of a country. Malaysia is looking forward to be a developed country by the year 2020. To achieve this target, it is important for the Malaysian government to ensure that tax collection is efficient to enable development activities and progress of the country to be achieved as planned. However, low tax literacy among Malaysian taxpayers will prevent them from paying tax, inhibit the incremental of tax revenue and subsequently drag the target for Malaysia to become a developed country. This study is conducted to examine the level of tax literacy and its determinants among Malaysian taxpayers by focusing on the sample of 250 individual employees. Findings revealed satisfied results pertaining to the level of tax literacy on taxpayers' general responsibilities and right, employment income, personal relief, rebates and penalties and offences. On the other hand, study found dissatisfied results pertaining to tax literacy on child relief. As for the determinants of tax literacy, results of multiple regression conducted shows that age, marital status and level of education are significant factors in influencing tax literacy of taxpayers. Finding is fruitful in contributing towards knowledge as well as tax policy in Malaysia.*

Keywords*: Tax Literacy, Taxpayers, Employees, Malaysia.*

Introduction

Taxation is the instrument of economy that is vital in generating revenue for the development of a country. Among objectives of tax are to raise government revenue for the growth and welfare program in the country, to maintain economic equalities, to improve economic conditions of people, to encourage production and distribution of basic needs products as well as to discourage production of harmful products and to discourage import trade in order to protect domestic and national industries.

Due to the importance of tax in raising revenue, it is essential for the government to ensure that employees are paying their taxes. In order to create willingness among the taxpayers to pay tax, creating understanding among them on how and where the tax collected is spent by the government is crucial (Mohamad Ali Roshidi, Mustafa and Mohd Asri, 2007). Also, they need to be tax literate on their roles of paying tax in developing the country. This can be done through public announcement using medium of newspaper, internet, public magazines and other media communications. Merriam-Webster's Collegiate Dictionary (2017) defined tax literacy as "the quality or state of being literate", while Bhushan and Medury (2013) describe tax literacy as the knowledge which an individual should possess in order to manage the issues concerning personal taxation effectively. Tax literacy anticipates to assist individuals receive information about taxes, to explain them taxes within a domestic system as well as regional and international system (Cvrlje,

2015). A low level of tax literacy is associated with diminished in tax revenue. In another words, as tax literacy level increase, the government inputs will increase (Mutascu and Danuleiu, 2013. Tax literacy is said to have significant impact on tax morale, tax compliance and tax revenue (Cvrlje, 2015).

Malaysia is said in the right track to become a developed country and high income nation by 2020 (Idris, 2017). As tax revenue is the important sources of government income, tax illiteracy among taxpayers can become a hindrance in achieving the target. However, Malaysia still have room for improvement in terms of increasing the tax literacy rate to 99 per cent by the year 2020 (Muhyiddin, 2009). Therefore, this study is conducted to gauge the level of tax literacy as well as examining factors influencing tax literacy among Malaysian taxpayers.

Literature Review

A study by Bhushan and Medury (2013) examine level of tax literacy of 516 salaried individual from the district of Shimla, Solan and Kangra, Himachal Pradesh, India. The sample consisted of various demographic and socio economic factors. In addition, the study investigated the relationship between tax literacy and various demographic background and socio0economic factors. Data were collected by suing a structured questionnaire. Results of descriptive statistics revealed the overall tax literacy level of 57.08 per cent among all respondents of the study, thus reflected discouraging literacy level. This showed that respondents are still not much concern about personal tax issues. Level of tax literacy was also said to vary significantly among respondents on the basis of diverse demographic and socio-economic factors. Results of ANOVA uncover that level of tax literacy is positively related to factors of age, education and income level. In addition, males, employees working in urban areas as well as in private sectors are found to be more tax literate than females. On the other hand, study found no significant relationship between geographic region of employees and tax literacy.

A study by Cvrlje (2015) discusses on the importance of tax literacy and possible consequences and negative outcomes that possibly occur due to low level of tax literacy among citizens in Croatia. Tax literacy is said to have significant impact towards tax revenue. Heavy fines and public humiliation are the method used in Croatia to combate with tax compliance and shadow economy. However, these methods did not yield expected results. Therefore, it is suggested by Cvtlje (2015) that Croatian government should work on promotion and expansion of tax literacy among citizens in order to increase tax morale and tax compliance. Cvrlje (2015) concluded that Croatian government should take a larger step and start adding in more tax literacy projects. In addition, Croatian citizens should engage themselves in becoming more educated, tax literate and socially responsible citizens to ensure their personal financial wellbeing.

Mutascu and Danuletiu (2013) conducted a study to examine the relationship between tax literacy and tax revenue. The study is conducted in 123 countries in the world, including Australia, Philippines, Eygpt, Ireland and Hungry based on the panel model approach for the period of 1996 to 2010. Finding shows that the level of literacy fluctuates from one taxpayer to another taxpayer, and from one country to another country. Results also show relationship between very poor literacy level and reduced tax revenue, and an increase in tax revenue in parallel with literacy level. Specifically, the poor states investigated have very low literacy level. Taxpayers in these countries either do not have or have poor information about taxation, and do not understand the main constitutional rights represented by public good and financial transfers. As for states with medium gross domestic products, study found that the capacity to understand the taxation environment is minimal. However, for the rich countries with literate taxpayers, the taxpayers have capacity to

better understand the tax environment and procedures, accepting high tax revenue with properly public good and financial transfers. Therefore, Mutascu and Danuletiu (2013) concluded that for rich countries with literate taxpayers, an increase of tax revenues can be easy obtained through raising the level of literacy. However, for the poor countries, an increase of tax revenue can only be obtained if the increase of literacy is accompanied by coherent economic growth policy in order to sustain the tax base.

Methodology

The study is conducted by using questionnaire survey. Questionnaires are distributed to 250 sample of individual employees around the area of Selangor and Wilayah Persekutuan Kuala Lumpur based on a technique of convenience sampling. To measure the level of tax literacy of individual employees, structured questionnaires is designed. The questionnaire consisted of two sections. Section A aims to obtain information on demographic background of taxpayers. Respondents are asked about their gender, age, marital status, nature of employment, education, income and designation. Section B focus on the six items of tax literacy and tax knowledge which aims to test the basic knowledge of the respondents. The items consists of taxpayers' general responsibilities and rights, employment income, personal relief, child relief, rebates and awareness of penalties, offences and compound on taxation. Answer for questionnaires on Section A is based on rigid answers of yes and no as well as multiple choices, while for Section B, it is based on likert-scale questionnaires ranging from the scale of 1 to 6. Data is collected in a period of one month. In conducting data analysis, a statistical package of SPSS is used. Data is analysed by using descriptive statistics and multiple regression.

Preceeding the actual data collection, pilot study is conducted to test the reliability and validity of the questionnaire constructed. Result of the reliability test revealed the Cronbach's Alpha of 0.626 for the total of 49 items in the questionnaire. Sekaran (2006) stated that the Cronbach's Alpha ranging between 0.6 to 0.7 indicates that the questionnaire is fairly reliable. Therefore, the questionnaire in the study can be said as reliable.

Findings and Discussion

Out of 250 questionnaires distributed, 116 questionnaires were sent back. However, 14 of the questionnaires are not completely answered, thus resulting to 102 useable questionnaires. Therefore, the response rate is 40.8 per cent. The reliability test of the questionnaire is 0.626, thus implied that the questionnaire is reliable.

Pertaining the descriptive statistics of the respondents, numbers of female respondents (n=69) is two times more than male respondents (n=33). Majority of respondents are between the age of 26 to 35 years old (n=58), which reflects the middle age of employees in Malaysia. Half of the respondents are married (n=51). 43 respondents are diploma holders and 35 respondents have degree or professional qualification. As for the designation, half of them (n=53) work as clerical, while officers comprises of 37 respondents. Nearly half of the respondents (n=43) obtain monthly salary of between RM 2001 to RM 4000. 60 respondents are government employees and 38 respondents attached in private sectors.

Findings regarding the level of tax literacy is discussed based on six different categories of tax literacy items tested in the questionnaires. Questions on the item of general responsibilities and rights of taxpayers indicate satisfied level of tax literacy, with mean value of 4.235. This reveals that respondents tend to do all the three general responsibilities stated in the questionnaire, specifically, to inform and declare actual income received from all sources to the Inland Revenue

Board, to keep records and documents pertaining to income and expenditure for a period of seven years after submission of the tax return and to pay tax within 30 days from the date of issues of the notice of assessment or within the stipulated period. Second, finding of the study pertaining employment income also indicate satisfactory level of tax literacy among respondents with the mean value of 4.220, thus shows their awareness of what need to be included and excluded in the calculation of chargeable income. Similar result is found pertaining to the item of personal relief with the mean value of 4.507, indicating that respondents in the study are aware of the personal relief that can be claimed. As for the item of child relief, the mean value is 3.673. As the questions for this item is set in a revise way, the result reveals unsatisfactory level of tax literacy. This indicates that the respondents are not really sure on the type of child relief that can be claimed. In fact, they are also not aware about the changes the amount of child relief announced through yearly budget by the Minister of Finance. The mean value for the item of rebate is 4.392, thus indicating satisfactory level of tax literacy, thus shows the knowledge of the respondents with regards to the rebates applicable for tax purpose. Item of awareness of offences, penalty and compound also reveals satisfactory level of tax literacy with the mean value of 3.729, indicating respondents' consciousness of facing the risk of being penalized if they do not comply with tax rules and regulations.

As for the factors influencing the level of tax literacy, result of multiple regression indicates positive relationship between age and education and level of tax literacy, with $p < 0.1$, and negative relationship between marital status and level of tax literacy. Thus, it can be interpreted that the higher the age and level of education of taxpayers, the higher the level of tax literacy. As marital status, it is divided into single, married and widow or widower. Therefore, further study is needed to examine the effect of each marital status of taxpayers upon tax literacy level. Furthermore, no relationship was found between factors of gender, designation, income and employer and tax literacy with $p > 0.1$, thus indicates that these factors do not influence tax literacy level of taxpayers. Details of the findings can be referred to in Table 1.

Table 1
Result of Multiple Regression
Method Enter

Model	**Unstandardized Coefficient**		**Stadardized Coefficient**		**Sig**
	B	Std Error	Beta	T	
Constant	4.096	0.891		4.599	0.000
Gender	0.302	0.184	0.157	1.638	0.105
Age	0.139	0.082	0.245	1.703	0.092
Marital status	-0.314	0.178	-0.198	-1.761	0.082
Education	0.222	0.112	0.215	1.978	0.051
Designation	-0.020	0.107	0.023	-0.188	0.852
Income	-0.048	0.116	-0.065	-0.418	0.677
Employer	-0.092	0.147	-0.065	-0.628	0.532

F	2.452
Sig	0.015
R2	0.193
Adjusted R2	0.115
Durbin -Watson	1.604

Conclusion

This study is conducted to investigate the level of tax literacy and its determinants among individual taxpayers. The study concludes satisfactory level of tax literacy pertaining to items of general responsibilities and rights of taxpayers, employment income, personal relief, rebates and penalties and offences. In contrary, item of child relief indicates disappointing level of tax literacy. Both age and level of education are said as positive drivers of tax literacy level, even though with weak significant effect. In addition, marital status influences tax literacy in an adverse way.

Findings of the study might contribute to policy makers and knowledge. As developing tax knowledge among taxpayers is vital element in operating a successful tax system (Bhushan and Medury (2013), results of the study might assist the Malaysia Inland Revenue Board as tax regulators in Malaysia to find ways to improve tax literacy of the Malaysian taxpayers. It is suggested that earlier education on taxation is provided to potential taxpayers. Necessary actions need to be taken by the government to increase the awareness of taxpayers about tax related matters. As for the existing taxpayers, tax talks and workshops might be conducted at the workplace as an effort to increase tax literacy among employees. Besides, as there is argument of relatively poor literatures regarding "tax-revenue-literacy" and scarcity of studies which introduce literacy as determinants of tax revenue (Mutascu and Danuletiu 92013), findings of the study might contribute to the knowledge and literature in the area of taxation.

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SEX EDUCATION IN MALAYSIA: A LEGAL ANALYSIS

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Abstract: *This paper neither support nor reject the idea of introducing sex education in schools, but it attempts to explore the United Nation Convention on the Right's Child (the UNCRC) as a public treaty in promoting the rights of children. A critical examination of the literatures suggest that children are being portrayed as vulnerable and innocent, but due to external factors such as media and peers influence, today's children are said to have some knowledge about sexuality at an earlier age compared to the previous generation. This paper stresses that there are other fundamental issues need to be addressed such as moral and religion teachings as well as parental responsibility which also need to take into account in proposing sex education as an alternative to curb social problems associated with sex. Malaysia upholds the teachings of Islam and customary law, the subject of sex education alone is a taboo. There has been research conducted in relation to introduction of sex education in Malaysia. In a recent survey conducted in 2016 among Malaysian teenagers, it shows that Malaysian teenagers are still naive on sex education. This paper suggests that while it is the right of a child to get more information about health including sexual reproductive issues, such right should be placed with caution, as parents and guardians also have the rights to determine what would be the best interest of a child in cases of 'sex education'.*

Keywords: *Sex Education, Parental Responsibility, Child's Right*

Introduction

In June 2016, the Minister of Education, Dato Seri Mahdzir Khalid announced that the ministry was pursuing steps to introduce a suitable sex education syllabus for preschoolers. The calls to introduce the element of 'sexuality' in school curriculum is not new but due to the wake of convicted British paedophile Richard Huckle's sexual abuse cases involving young Malaysian victims (Hazlina Aziz, 2016). In an announcement during the curricula revamp by the Director-General Tan Sri Dr. Khair Mohamad Yusof stated that the content of Reproductive and Social Health Education (PEERS) currently taught in primary and secondary schools will be upgraded, too. Although PEERS have been in schools since 1989 (Curriculum Development Centre, 2011), no more than two-thirds of respondents recalled learning about puberty, sexual and reproductive system, and relationship with the opposite sex. A large number of respondents were unaware about this subject matter being taught to them while in class. This research somewhat reflects that holding information was less effective the current integrated curriculum. (Hazlina Aziz, 2016). Hence, it is critical that the relevant authorities take action and not simply introduce a curriculum which half-baked to our children.

This paper examines the arising issues surrounding the proposal of sex education in Malaysia by examining the existing local research. A critical analysis is made to the United Nation Convention on the Rights of the Child (Convention) (UNCRC) and it ends with the suggestion to rethink the rights of children and parents, its social implications not only to

children but also to parents and school teachers in taking the burden of teaching matters related to sexuality in classrooms.

Literature Review

Children represent many groups which consist of different responsibilities, rights and needs. Children have been defined as those under the age of eighteen years old (Section 2 of the Age of Majority Act 1971 [Act 21], Article 1 of the UNCRC) and yet those adolescents who is reaching adulthood is a stage which is critical as some may face identity crisis and the desire to know more about sexuality. There is a saying which state that "sex is no play for children", but as children grow up, they are being exposed to all kind of information. The question is how do we teach children about sex? There is a belief among the Malaysian society especially Muslim –Malay society, that sex matters will be learnt naturally once the person enters marriage. The issue of sex education is not limited to marriage only, various issues as illness associated to sex and emerging social problems such as teenager's pregnancy, abortion, abandoned babies and arising crimes also part and partial of issue sex education. Despite that there is misconception that our children will do sex if they learn sex, there is an urgency to examine the surrounding issues related to sex education.

As suggested by Alireza Tabatabaie (2015) that there is an increasing overlap between 'immaturity' and 'sexuality' in the lives of contemporary young people has rendered childhood/adolescent sexuality and sex education a challenging issue for many Muslims in present times. This calls for an acknowledgement of childhood or adolescent sexuality and agency as crucial subjects of (re)examination, particularly in Islamic studies and regarding young Muslims' sex education needs. On the other hand, Zahra Fazli Khalaf and others (2014) Malaysia is multicultural society as a barrier to national sexuality education, and they believed that school-based sexuality education is not easily accomplished in Malaysia. Balancing the advancement of technology with children's development needs support and guidance and arguably, the moral guidance that begins at home and in school. (Syahirah Abdul Shukor, 2007).

Research on Children and Sex Education in Malaysia.

There have been surveys and research conducted in determining the impacts of sex education in Malaysia. In 2011, a study by the Centre for General Studies, Universiti Kebangsaan Malaysia (UKM), on whether sex education or elements of it are being taught in Malaysian schools concluded that 90 per cent of the respondents agreed that sex education had not been taught in Malaysian schools. The respondents were asked to compare what they had learned in school with the aspects of sex education based on the United Nations Educational, Scientific and Cultural Organisation's (UNESCO) 2009 curriculum guidelines. According to respondents, what was taught in classes was a combination of two or three topics related to the physical development of children and adolescents, development of the reproductive and fertility system and sex within the Islamic context, which they said was needed to pass exams. (Johari Taib, *et. al*, 2012).

In another 2011 study by Universiti Malaya's Department of Social Administration and Justice on the effectiveness of a school-based sexual abuse prevention curriculum, it was found that only 40 per cent of 9-year-old respondents said they knew what to do in instances of an adult stranger touching them in an inappropriate way — evidence that the sex education we currently have is not fit for the purpose. In another research, it was found that there was no formal sex education in schools in Malaysia during the period of the survey, and this may explain the lack of knowledge found in this.

Findings of the study conducted by Mazlina Che Mustapha and others (2015) exhibit lack of knowledge about sexuality and reproductive health in Malaysian adolescents. In February 2016, a non-government organization providing family planning services has offered its assistance to Malaysia to carry out sexuality education sessions in schools. International Planned Parenthood Federation (IPPF) East and South-East Asia and Oceania regional director Nora Murat says that if the Government cannot do it for one reason or another, many NGOs are able to assist the Government. (*The Star* 2016). In respond to the suggestion, the Minister in charge is no plan to implement sex education as a subject in schools, yet he welcomed NGOs who wish to assist the government in creating awareness among teenagers.

Morality of young people is worrying in Malaysia as it was reported that there were increment of 111 percent in a year numbers of criminal involving juvenile. In 2013, the statistic released by the Royal Police Enforcement showed that there were 7,816 reported cases compared to 3,700 cases reported in 2012. The statistic shows increment to 4,116 cases including sexual crime involving rape and sodomy. The research conducted by Haja Mydin and others (2016) was to identify the contributing factors to social crisis, which show that peers influence, family's condition, attraction to each other is among the factors in committing crime in sexual offences. Perhaps the African proverb is true, "it takes a whole village to raise a child". However, with urbanism, such proverb might not suit with the current society. Next, this paper attempts to relate with parental responsibility laws and sex education of children.

Parental Responsibility and Sex Education

Parents are considered the closest person to the child. Introducing sex education is not without obstacles and challenges. A quick glance to developed countries such as the United States of America (USA), the introduction of sex education has been greatly influenced by political domain. In the USA, the government introduces the concept of abstinence until marriage. In the United Kingdom (UK), the introduction of sex education at schools is also not free from critics especially parent's groups, religious groups and peers. In fact, the American College of Pediatricians American (ACPA) claims that Comprehensive Sexuality Education (CSE) is one of the greatest assaults on the health and innocence of children. CSE is usually disguised with innocuous sounding names like human rights education, gender equality education, or sexual and reproductive health education or information. The worth scenario is CSE is typically taught to children at the youngest of ages, often without the knowledge or consent of their parents. (see http://www.comprehensivesexualityeducation.org/). ACPA has been campaigning against CSE to be introduced in schools.

The term 'parental responsibility' seems a new catchphrase which has been adopted by the Malaysian Child Act 2001. However, parental responsibility laws seem limited to child neglect as mentioned in Section 31 of the Child Act 2001 and the requirement to appear before the court in cases their children are involved in trials in court. The proposal to introduce sex education can be divided into two perspectives: political rhetoric and reality. Malaysia as a signatory to the Convention has reserved eight Articles from the Convention. Among the right which has been reserved is the right to information (Article 13 of the Convention). Although there has been suggestion (see SUHAKAM: 2005) to withdraw the reservation, unfortunately, the action to withdraw is still ambiguous. According to Dr. Farah Nini Dusuki (2012), the reservations will be lifted until the government has introduced a new legislation which makes it possible to lift the reservations. For example, the Malaysian government has reserved compulsory education and the reservation was lifted once the Education Act 1996 was amended to include compulsory schools. Thus, are we going to legalize sex education and has the main thrust of introducing sex education?

Sex Education and Children's Rights

Since the introduction of the UNCRC, there has been rapid development to bring children's rights to the public attention. Although Professor Jane Fortin (2009) states that children's right brings uneasiness to scholars but one cannot denies the importance of children's rights. Various non-governmental organizations, United Nations Special Rapporteurs, and treaty-monitoring bodies assert a right to comprehensive sex education, a controversial approach to sex education that arguably encourages adolescents to experiment with their sexuality. This assertion of a right to comprehensive sex education is erroneous and misleading. International human rights are created in two ways: by treaty and by custom. Treaties do not mention comprehensive sex education, or any other form of sex education or training. Custom, found in international consensus documents and other declarations of political will, and confirmed by State practice, holds no universal agreement on sex education. Because neither treaty nor custom creates a right to comprehensive sex education, no such right exists. (Curvino and Fischer, 2014).

This paper explores the rights of a child to education and the rights of parents in determining education to their children. According to Athar (2006), there is an obvious reason for Muslim parents do not or cannot discuss sex education with their children is because of their cultural upbringing, not their religious training. Sex education for children and adolescents is widely regarded by Muslims as 'dangerous knowledge to the vulnerable' that 'awakens' premature (i.e. premarital) sexuality and undermines Islamic identity. Issues arising from sexuality are not new at all in Islam. Islam highlights the importance of puberty and this can be seen when Islam teaches us to separate bedrooms between sister and brother. Parents are required to teach their children on cleanliness especially in taking the mandatory bath once they reach the age of puberty. Islam also stressed the importance of covering *aurah* not only for female but male. This arguably shows that Islam does not abandon issues relating to sexuality. The issue here is how knowledge and information on sexuality can be delivered to our young generation?

In Malaysia, the content of Reproductive and Social Health Education (PEERS) have been in schools since 1989 (Curriculum Development Centre, 2011), no more than 2/3 respondents recalled learning about puberty, sexual and reproductive system, and relationship with the opposite sex. However, the reality is that exposing school teachers to such information is complicated as there is no consensus as how such information should be taught to our young generation and again it depends on the creativity and knowledge of school teachers. The same issue also arises when it involves parents. But what happen if parents themselves are not well-informed? For instance, the problem of cyber stalker or sexual predators on the Internet is relatively new problem. Parents also need update themselves on the types of child abuse, which is not limited to physical abuse but it may have occurred in diverse types of abuse.

Lack of information on sexuality could be harmful to children especially for those children who are adventurous to try something new. Islam reminds us to control our vision when looking at the opposite gender. How could this be embraced by today's generation in the advance of technology? Watching porno videos and VCDs are not considered as controlling our vision, yet, it could be a triggering factor to initiate sex. Knowledge on sexuality will presumably harmful to our children if they misunderstood the concepts and objectives of such education. Sex education can be a preparation to adulthood in such a challenging environment when there is a blurring boundary in discussing sexuality. In addition, the emerging issues such as homosexual, lesbian and even pan kid, if it is not properly dealt with by parents and the members of the society, it could exacerbate into a serious problem in the society. It is a challenging part is to control the sexual desire among children and young people who have the

high sense of exploration and adventurous about sexuality. The problem of out-of-wedlock teen's pregnancy is not new in Malaysia and yet sexuality problems are not an open topic to be discussed between adult and children.

In fact, children especially teenagers who are pregnant out of wedlock are being fragmented and socially excluded due to their acts. There are magazines which try to discuss on sexuality in Malaysia, the concern is that how many of us are well-informed as regard to sexuality problems? It is true enough that sexuality is treated as a private discussion especially in certain culture which rarely being discussed with children. Interestingly, in introducing sex education, what concern me is as regard to human values involves in teaching children, what is the main objective of introducing sex education? Whether it is considered as an effort to curb social problems or to introduce healthy lifestyle to our young generation? The concern of values in sex education is not new and it has been voiced:Unless we can help young people to understand human values in relation to sexuality, people may increasingly attempt to measure sexual fulfillment in terms of quantifiable experiences rather than in terms of fundamental and mutual human enrichment (J. Mark Halstead and Micheal J.Reiss, 2003, p.23).

The value of fear to Allah for committing out of wedlock pregnancy is essential in sex education. Not only are that, respecting one's body and protecting al-*nasl* one of the *maqasid al-syariah* which need to be addressed in schools. The Malaysian government suggests that children will be taught about physical and emotional changes during puberty, about friendship, love and marriage, on how to seek help if they face sexual harassment or abuse, the challenges of marriage and the rights of children. Social problems occurred in marriage and relationship with the opposite sex is not an easy issue to be tackled and arguably it is complicated to be discussed especially with children. Even adults face difficulties and reluctant to discuss martial problems. Again, the question of what types of challenges of marriage is going to be taught to our children?

Thus, the proposal to introduce sex education to the Malaysian children is complicated due to two reasons, firstly, parental willingness and consent about to their children's education, secondly, the author believes the details of the proposed sex education need to be disclosed by the government to the public as it is not only children should have sexuality information; the public also need to be informed on the importance of gender differences and sexuality in society. It seems that we are giving the information to the vulnerable groups but how about parental responsibility and respect for parent's culture and choice over sex education in schools?

Discussions and Conclusions.

The introduction of sex education at Malaysian schools are inseparable from our moral and religion values and teachings to ensure that the teachings is moulded based on our social environment, beliefs and heritage i.e. a belief which strongly uphold on the teaching of religions and customs as how our young generation perceive and understand sex. Furthermore, Islam is not only the religion of the country but also it is a way of life for many Malay-Muslims and inseparable in the context of daily life. In discussing sex education, there are fundamental issues which need to be tackled; such as respecting woman and children as vulnerable parties and the importance of highlighting security and safety in our society. It is difficult to pin point the causal factors to the arising crime which relates to sexuality and children. Various causal factors constantly interact with one another, it is often difficult to partition the causes of sexual crime related to children.

The attempt to introduce sex education at schools implicitly reflects the government's intention to instill new perspective about sex in today's world. No matter how advance we live in today's world, the old values about relationship between man and woman is precious. In

other words, the government attempts to construct children and sexuality are inseparable in governing children and the young generation today. However, we tend to forget the implication of such policies to school teachers who are already stressed out with heavy workload and responsibility. Besides that, how far is our school teachers are willing to discuss openly and discuss about sex in classrooms with the students. The possibility of age gap between the school teachers and children might create unease among school teachers in discussing sexual matters during classroom. For example, the government says that they will include information about sex predators on the Internet whereas there is still a generation gap between the adults and children in understanding the usage of the Internet.

The existing Malaysian Education Act 1996 [Act 550] is silent about parental rights in determining their child education but the attempt to share the obligation to introduce sex education in schools can be seen as a way to provide some legal rights to school teachers in tackling problems associated to sexuality. However, the issue of confidentiality is also important if teachers are given the rights to provide advice to their students. Again, how reliable the source of information given by school teachers need to be addressed in the school's curriculum. Bearing in mind, school teachers are not medical professionals or well-trained in sexuality. The suggestion to rethink the rights of children and parents, its social implications not only to children but also to parents and school teachers in taking the burden of teaching about sex in classrooms.

In short, in charting sex education in Malaysian schools, one cannot deny the importance of the existing tradition and social values of the society compared to the Western counterparts. In fact, sex education itself has been a controversial area of public policy for the past twenty years in England (Monk, 2002). The move to introduce sex education can be interpreted as a radical move by the Malaysian government as implicitly it relates to our young generation future on how they will perceive sex in their life.

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APPLYING TECHNOLOGY MANAGEMENT CONCEPTS IN ADDITIVE MANUFACTURING

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Abstract: *In an increasingly complexity global economic and social environment, additive manufacturing stakeholders are facing rapid growth in technological development and global technology based competition. Due to the critical role of various technologies for additive manufacturing in a competitive environment, strategic technology management is important for the stakeholders in this industry. For the long-term success, the stakeholders must develop and sustain their technological capabilities to create internal and external impacts within an ambiguous socioeconomic context. The uniqueness of additive manufacturing is a suite of emerging technologies that fabricates 3D objects directly from digital models through an additive process, typically produce layer by of polymers, ceramics or metals. Unlike traditional manufacturing processes involving subtraction of the materials, additive manufacturing joins materials together to build the desired products. Evolving and fluid, additive manufacturing technology is shaping the future a lot of product development and manufacturing. This paper explores the development and application of additive manufacturing in various industries as well as technology management concepts to achieve positive impact among industrial players. It also provides the additive manufacturing technology's effect on firm and industry production activities, as well as the implications of technology management concepts for manufacturing competitiveness. By applying technology management concepts, it concludes that the most significant factors affecting the potential of additive manufacturing to contribute competitiveness in this industry are developing standards, improving the selection and affordability of materials, and increasing the accuracy and reliability of equipment and processes.*

Keywords*: Technology management, Additive manufacturing, 3D printing, Tooling*

Introduction

Today, there is general agreement regarding the importance of technological management for the growth, competitiveness of companies or industrial players in the industries and for the improvement of national economic performance. A rapid change in the business environment and global competition forces the shareholders and stakeholder to understand the business opportunities and risks of new technologies, and how important technological innovations are for industrial competitiveness. Technological innovations can involve changes in products and services or changes in the ways of operating. To create these changes, technology management is an inevitable necessity for the industrial players to survive in global competition and sustain their business for a long time. However, there is ongoing

complex discussion in the scientific community about what really is the significant terminology of technology management. The main reason is the practitioners in industry are setting different practices for managing technology into their firms. Therefore, it will create the situation become more complicated in real management situations.

Additive manufacturing (AM) is the process of joining various materials to build an object from Computer Aided Design (CAD) model data, usually layer upon layer, as opposed to subtractive manufacturing methods defined by The ASTM International Committee. Additive manufacturing is also known as 3D printing, additive fabrication, or freeform fabrication. These new techniques, while still evolving, are projected to exert a profound impact on manufacturing. Wohler (2014) reported that the additive manufacturing technologies can give industry new design flexibility and complexity, reduce energy use, and shorten time to market. The current steps in AM are developing a 3-D model using a computer modelling software and converting the model into a standard AM file format, changing the size, location, or other properties of the model using AM software, then building the built object in layers using the AM technologies (Huang, Liu, Moskadar & Hou 2013). Interest in additive manufacturing techniques has grown swiftly as applications have growth from rapid prototyping application to the production of tooling. Guo & Leu (2013) conclude additive manufacturing equipments and machineries can now use various metals, polymers, composites, or other powders to "print" a range of functional parts and components, layer by layer, including complex structures that cannot be manufactured conventional approaches. Other researchers (Thomas & Gilbert 2014) agree with the capability of these technologies to fabricate the desire build object. However, a number of factors complicate minimizing the cost of additive manufacturing, including build orientation, envelope utilization, build time, energy consumption, product design, and labour should be considered.

Technology management is a set of management disciplines that allows organizations to manage their technological fundamentals to create competitive advantage in their business. Technology management is defined by several researchers, authors and institutes such as National Research Council of U.S.A. (1987) and European Institute of Technology and Innovation Management (2010). Gregory (1995) has proposed a definition based on a generic process view to technology management. The generic processes for technology management identification, selection, acquisition, exploitation and protection are also included in the definition of European Institute of Technology and Innovation Management. Cetindamar, Phaal and Robert (2009) have summarized the definitions of technology management from several authors (Roberts 1988, Gregory 1995, Rush, Bessant & Hobday 2007, Dodgson, Gann & Salter 2008, Levin & Barnard 2008). Cetindamar et al. (2009) concludes that there might be a consensus about the core process activities of technology management. However, the scope of technology management is diversely enhanced by certain criteria, for examples, capability, commercialization, competence, innovations, knowledge, learning, planning, product development, resource and strategy. There exists various definitions and differing understandings concepts on what is knowledge management. In a simple term, (Wilson 2002) propose knowledge management is about managing what we know. Typical concepts used in technology management can be summarized into 4 categories. There are technology strategies, technology forecasting, technology roadmap and technology project portfolio. The role of the technology management concepts in an organization is to understand the value and benefit of certain technology for the organization. Continuous development of technology is valuable as long as there is a value for the customer and therefore the technology management concepts in an organization should be able to argue when to invest on the new technology development and to withdraw when the technology become obsolete.

In this paper, it provides overall concepts in an AM technology strategies and technology forecast section. The significant of the technology assessment for this AM technology plays important role to address the need for existing and potential future AM industrial players to have an implementation framework to guide their efforts in adopting this new and potentially disruptive technology class to produce high value products and generate new business opportunities.

Additives Manufacturing

Various AM processes have been introduced to the commercial market by industrial companies, including the Electro Optical Systems (EOS) in Germany, Arcam in Sweden, MCP Tooling Technologies in the UK, and Stratasys, 3D Systems, Optomec, and Z Corporation in the United States (The Economist 2011). There are several systems to classify the AM processes, e.g., the one proposed by the ASTM F42 Committee classifies the AM processes into seven areas as shown in Table 1.

Table 1: The Seven AM Process Categories by ASTM F42

Process Type	Brief Description	Related Technologies	Materials
Powder Bed Fusion	Thermal energy selectively fuses regions of a powder bed	Electron beam melting (EBM) Selective laser sintering (SLS) Selective heat sintering (SHS) Direct metal laser sintering (DMLS)	Ceramics Metals
Directed Energy Deposition	Focused thermal energy is used to fuse materials by melting as the material is being deposited	Laser Metal Deposition (LMD)	Metals
Material Extrusion	Material is selectively dispensed through a nozzle or orifice	Fused Deposition Modeling (FMD)	Polymers
Vat-Photopolymerization	Liquid photopolymer in a vat is selectively cured by light-activated polymerization	Stereolithography (SLA)	Photopolymers
Binder Jetting	A liquid bonding agent is selectively deposited to join powder materials	Powder Bed Inkjet Head (PBIH) Plaster Based 3D Printing (PP)	Polymers Foundary sand Metals
Material Jetting	Droplets of build material are selectively deposited	Multi-Jet Modeling (MJM)	Polymers Waxes
Sheet Lamination	Sheets of material are bonded to form an object	Laminated Object Manufacturing (LOM) Ultrasonic Consolidation (UC)	Paper Metals

Potential Industrial Application of Additive Manufacturing

The development of innovative, advanced AM techniques has progressed greatly in recent years, yielding broader and broader industry applications (Guo et al. 2013). Compared with subtractive manufacturing or conventional approach, AM is particularly suitable for producing low volumes of products, especially for parts with complex geometries and shapes. AM processes also offer great potential for customization product with desire dimension

required by customer. An increasing number of industries benefit from the advantages of the technologies such as the freedom of design and AM is progressively pushed from Rapid Prototyping towards small series production of tooling applications. Today, AM is already widely spread within known fields of application for instance within the aerospace and defence (A&D), space exploration, automotive, electronics industry, and the medical sector. This paper provides AM application technology in A&D industry, automotive industry, semiconductor industry and biomedical industry and how the technology forecast section are apply to optimize AM application.

Today, rapid development and research work within the A&D industry pursues the objective of continuously improving the efficiency of air transportations and aerospace exploration. These objectives require parts that are light, strong, flexible and electrically conductive in certain cases (Wohler 2006). In addition, most products are geometrically complex and manufactured in small quantities with high unit costs. Due to these special characteristics and requirement needs, the A&D industry is particularly suitable for an early adoption of AM. For instance, Boeing and Airbus are fully utilizing the AM technology and techniques to reduce production time, and hence, to reduce operational costs to build required tooling. Thanks to major progresses within several ranges, AM has already contributed to reduce or even to eliminate special tooling, welding for parts fabrication, inventory, and entire assembly lines (Bourell, Leu & Rosen 2009). The larger original equipment manufacturers (OEM) are already trying to exploit these benefits for oversized products; small companies are following their steps. Table 2 shows the AM applications in the Aerospace and Defence industry (Delloite 2012).

Table 2: Additive Manufacturing Applications in the Aerospace and Defence Industry

Industry	Current Applications	Future Applications
Commercial Aerospace and Defence	Concept modelling and prototyping	Embedding additively manufactured electronics directly on parts
	Printing low volume complex aerospace parts	Printing aircraft wings
	Printing replacements parts	Printing complex engine parts
		Printing repair parts on battlefield
Space Exploration	Printing specialized parts for space exploration	Printing on demand spares/parts in space
	Printing structures using light weight, high-strength materials	Printing large structures directly in thus circumventing launch vehicles' size limitations
	Printing parts with minimal waste	

The automotive industry is already a major user of AM technologies. These technologies are being applied for manufacturing of functional prototypes and for small and complex parts of vehicles (Gausemeier 2011). It's mainly because new product development and product innovation are critical for the automotive industry, but developing a new product is often a very costly and time-consuming process because a lot of research and development are needed to ensure the ability of product to the market. Guo et al. (2013) state that the automotive industry has been using AM technology as an important tool in the design and

development of automotive components and parts because it can shorten the development cycle, reduce manufacturing lead time and product costs. Especially, the high performance of motorsport sector constitutes an important field for the application of AM technologies, as here high performance, high stability, high speed and low weight play important role. This challenges the automotive industry to secure and to expand the worldwide market share and market segmentation. This industry can derive great benefits from the application of various AM technologies, as this technology enables a rapid production of complex parts and provide wide range of materials. AM is being used for a great variety of applications, such as concept modelling, functional testing, rapid manufacturing, and production planning across the automotive industry. However, AM is currently only used for prototyping and direct manufacturing of small and complex components within small series, as consistency of products and the capability of the AM machineries is still limited [14]. Furthermore, the manufactured size plays a central role, as many parts are oversized for being manufactured by currently available AM machines. Giffi, Gangula & Illinda (2014) summarize the current application and future technology forecast for application of AM in automotive industry in Table 3 and Table 4

Table 3: Current Application of Additive Manufacturing in Automotive Industry

Parts / Components	Applications	AM Technology	Materials
Fluid handling	Pumps Valves	SLM EBM	Aluminium alloys
Exterior/Exterior trim	Bumpers Wind breakers	SLS	Polymers
Manufacturing Process	Prototyping Customized tooling Investment casting	FDM Inkjet SLS SLM	Polymers Wax Hot work steels
Exhausts/Emissions	Cooling vents	SLM	Aluminium alloys

Table 4: Future Application of Additive Manufacturing in Automotive Industry

Parts / Components	Applications	AM Technology	Materials
Powertrain/drivetrain	Engine components	SLM EBM	Aluminium alloys Titanium alloys
Frame, body, doors	Body panels	SLM	Aluminium alloys
OEM components	Body in white	SLM EBM	Aluminium alloys Steel
Electronics	Sensors Control panels	SLS	Polymers
Wheels, suspensions	Hubcaps Tires Suspension springs	SLS SLM	Polymers Aluminium alloys

Interior	Dashboard	SLS	Polymers
	Seat frames	SLA	

Electronics industry covers applications from mobile phones, computers, cars and others semiconductor electrical appliances. Electronics products are often small in size, and therefore, high precision tools are required for the manufacturing process. As technological advance is growth, lifetimes of electronics are often short and become obsolete. Thus, new manufacturing equipment is needed in short intervals. Therefore, by using sophisticated manufacturing technologies such as AM technologies is appropriate to accelerate product development processes and build times process. AM enable manufacturing equipment and machineries that can meet the challenge of the rapid technological advance, and hence turn the advancements into new products. Furthermore, the electronics industry is characterized by product miniaturization. These technologies are suitable to meet these requirements though electronic circuits into all kind of geometry shapes. The production of embedded electronics represents another field of application. Furthermore, AM is already used for products such as embedding Radio Frequency Identification (RFID) devices inside solid metallic objects, Polymer based three dimensional micro-electromechanical systems by MEMS, microwave circuits fabricated on paper substrates and all kind of grippers within automated production systems. The application potential for AM technologies has been increasing significantly within the electronics production, as new polymers and metal based materials have been emerging.

AM is also suitable to contribute in medical application, as the technologies enable production of items that are unique in terms of tailored products and tooling to the patient's requirements. Due to these capabilities of AM, there is great demand potential; especially equipment vendors can significantly benefit there from (Wohlers 2003). Traditionally medical devices are designed according to an average person because customized devices need special tool or need handmade skills from the specialist. This will increase production cost and production time of the tooling. Currently, most of patient specific implants are handmade during surgery and oral appliances are handmade by a skilful dental technician in a medical laboratory or dental laboratory (Tack,Victor, Gemmel & Annemans 2016). The development of medical imaging such as imaging software and digital three dimensional (3D) scanning has made it possible to create various 3D models from medical images (Werner, Lechniak & Skalski 2000). These 3D models can be directly manufactured into physical objects using additive manufacturing (AM) or the 3D models can be used as a design template or investment casting for personalized medical and dental devices (Crawford, Unwin &Walker 1992). This obviates the accuracy of handicraft and may result in more accurate and economical devices. Combining appropriate techniques, design and manufacturing methodology offers medical professionals new means to treat patient. The greatest benefit to using AM lies in being able to create geometric designs that are unable to do with other existing methods. A good example of that are the hip cups that had the welded beads on them. Ability to integrate that feature into the build for in growth of bone makes a phenomenal difference, and really can only be done adequately using this technology (Czajkiewicz, Sirinterlikci, Uslu 2007). Accurate patient specific implants produced using 3D scan data can reduce the removal healthy bone, eliminate the need of bone grafting, promote effective planning of implantation surgery and shorten the time of anaesthesia in addition with increased implant life (Zhou et. al 2010).

Discussion

The main branches of technology management are research, development, planning, engineering, machines, software, production, and communication. Generally, the goal of

technology management is to make all the technology management branches work together in the most efficient way to produce profit for the company or firms in the long term. The goal of profits and returns cannot be pursued without a future. For this reason, all the decisions must lie on a sound base and good business ethics, and ongoing organisational development must be planned. To be as successful as planned in additive manufacturing business, it is important to identify technology strategy, forecasting the capability of the technologies, create appropriate technology roadmap and accessing technology portfolio to create innovative product. When all of the elements in the technology management concepts integrate together, most of the problems can be solved, both from a technology point of view, and from an engineering point of view.

In other words a company needs a technology strategy. The strategy defines the company's future in manufacturing industry. In simple terms, a strategy can be said to consist of a mission and a vision. The mission defines what the company will do, and the vision defines where it is aiming. However, it is not enough to establish a fancy strategy, it has to be executed. A technology strategy has traditionally been expressed in a document that explains how technology should be utilized as part of an organization's overall corporate strategy and each business strategy. As in this AM industry, a strategy cannot be just decided at the board of directors. It needs information to support its guidelines.

For that purpose the business environment must be studied and a forecast made for the industry and its products. Therefore, technology forecasting will ensure the capability of the firms to create innovation product based on pass, current and future application. There a lot of tools to help all the industrial players in order to sustain in this business. TRIZ is the Russian acronyms for theory of inventive problem solving can be used to create future application of AM technologies. TRIZ offer variety of tools such as 40 principles of invention, 9-windows, the separation principles, laws of technical evolution and technology forecasting, locating the zones of conflict and 76 standard solutions. Technology forecasting also can be done by using the Delphi method, forecast by analogy, growth curves and extrapolation. Other method is Normative methods of technology forecasting like the relevance trees, morphological models, and mission flow diagrams are also commonly used to forecasting future technology application. For a company to make the right decisions related to its technology strategy, it needs reliable evaluations and assessment of technology forecasting for the possible direction of the technology that will be used for their company.

This means close interaction between the industry and other relevant parties like universities and independent research units. It is necessary to study how the competitors are acting and how the technology will evolve in the future. Equally with the technology forecasting, it is important to know what the customers need and how to serve them best. It is necessary to know the customers' needs better than they do themselves. That knowledge creates competitive advantage. Moreover, the company must know what is its' most valuable capability, core competency. This is why technology roadmap plays the important role to ensure all the involved parties in this AM technology application will obtain benefits from the technology. A technology roadmap is a plan that matches both short term and long term goals of an organization with specific technology solutions to help meet those goals. It is a plan that applies to a new product or process, or to an emerging technology; once the current technology in use is obsolete. The winning companies in high technology industries have rapid and flexible product innovation together with the management capability to effectively coordinate and redeploy technology roadmap within the time line of the organization to achieve their strategic objectives.

In the end, the technology management's purpose is to support the strategy. Technology portfolio of the organization must parallel with the organization's technology strategy.

However, to sustain in challenge business, adopting technology forecasting in their organization will help them for transitioning current technology portfolio into technology project portfolio for their future, when the current technologies achieving their maturating and ageing stage. They have to ensure that the right steps are taken and things are done right. Success depends on the company's two key ingredients technical resources and the capabilities to manage those. Managers have to create a good target oriented atmosphere, and make sure that all the necessary material is available for developing the individuals and the organisation. The organisation must evolve all the time to remain competitive in a turbulent business environment.

Conclusion

There is a wide range of technologies accommodated under the umbrella of AM, with varying benefits, disadvantages and potential. Any analysis of the sector must differentiate between the kinds of technologies used and the value they can create. AM is not only a disruptive technology that has the potential to replace many conventional manufacturing processes, but also an enabling technology allowing new business models, new products and new supply chains to flourish. In conclusion, the key implication is that the aim of technology management is to understand the real difference between competitive advantage achieved by management competence and competitive advantage achieved by certain technical solutions. When management competence is core or strategic, it gives a sustainable competitive advantage that cannot be copied or imitated by competitors. From an organization's point of view, an essential issue is that only by continuously developing technology itself can it learn about, and achieve this kind of profound competence. The capability of AM technology to create innovative product depend on the several factors. Most significant factors affecting the potential of additive manufacturing to contribute competitiveness in this industry are developing standards, improving the selection and affordability of materials, and increasing the accuracy and reliability of equipment and processes.

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SELF-DRIVE TOURISM ROUTE IN LANGKAWI

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Abstract : *Self-drive tourism represents a type of tourism where tourists travel by drive a car and only involves a tourist destination which can be linked with a roads network. This paper deals with the determination of the best possible self-drive tourism route in Langkawi. The problem of finding the best tourism route was formulated based on the capacitated multiple traveling salesman problem (CMTSP) model. This work was developed to determine the best route that minimizes the total travel distance. The model has been solved using LINGO12.0 software. The results showed the effectiveness of using this model and will be very helpful to the self-drive tourists in organizing their travel plan guidance to choose route that minimizes total travel distance.*

Keywords: *Self-Drive Tourism Route, Tourist Destination, Travel Distance*

Introduction

This paper deals with the real-world self-drive tourism route application in Langkawi Island, Kedah. Tourism denotes the temporary, short-term movement of people to destinations outside the places where they normally live and work, and their activities during the stay at these destinations (Burkart, 1981). According to World Tourism Organization (WTO) (Wikipedia), the terms of tourism refers to, *"Activities of an individual travelling to a place outside their original environment and living there for not more than one consecutive year for leisure, business and other purposes."* Tourism is the study of human from its original habitat in which to respond to the industry and will also have an impact on the social, economic and physical environment (Mason 2003 in Jaffry & NorAzlina 2007). The main purpose of travel is to visit tourist attractions around the location.

In both developed and developing countries, tourism is one of the fastest-growing sectors of the economy and major source of employment and investment (Wearing et al., 2010). To promote a culture of self-drive tourism in Malaysia, Ministry of Tourism Malaysia has organized the second edition of the ASEAN Media Bloggers Tourism Hunt 2017, which commences from 11 until 14 July 2017. The ASEAN Media Bloggers Tourism Hunt is formatted as a treasure hunt, a race and social media contest that aims to introduce and promote Malaysia's unique culture, heritage, cuisine and other tourist offerings to the ASEAN market and publicize Malaysia by utilizing social media and digital media platforms such as Instagram and Facebook. This year's edition of the hunt is themed "Malaysia on Wheels" to highlight the concept of self-drive holidays in Malaysia utilizing Malaysia's network of highways and road systems, particularly the PLUS Highway which connects Malaysia from north to south. In 2012, Ministry of Tourism Malaysia already organized the 'Malaysia Tourism Hunt 2012'

program on 20 to 25 September 2012 with the concept of' 'Fly & Drive '. It can encourage the self-drive tourists to enjoy the interesting sight along the road of Malaysia. Self-drive tourism is linked to the concept of special interest tourism, where the tourists have specific purposes (usually activity based) for visiting destinations (Carson et al., 2002). Hardy (2006) define self-drive tourism as the tourism that is carried out by driving their own vehicle or hire a vehicle to the places of interest. Self-drive tourism is usually a free travel. By using this mode of travel, tourists can plan their own itinerary without being tied to a travel itinerary from a travel agency. Tourists can determine or choose their own preferred route from a destination to the next destination in accordance with the provisions on travel costs and time required. According to Taplin and McGinley (2000), for most holiday makers traveling by car, the pursuit of satisfaction and enjoyment is limited by the length of time available and by travel distance. Meanwhile, Carson et al.(2002), determine that self-drive tourism has advantages to tourists in terms of: greater control over itinerary; often greater comfort and lower cost. Since there are many natural destinations, some tourists who drive their own vehicles can plan their own itinerary without being tied to a travel itinerary from a travel agency. This is one of the important features of self-drive tourism (Hsin, 2006).

There are a variety of tourist destinations to visit in Malaysia and one of them is Langkawi Island in Kedah. Dominating an archipelago of more than one hundred islands and islets, Langkawi Island is synonymous with sandy shores, jungle-cloaked valleys, bargain shopping, world-class infrastructure, mangroves rich in flora and fauna, and fascinating legends. Blonde beaches are the biggest draw, but this 478.5-square-km island has been duty free since 1987, making low-cost kitchenware a close second. Langkawi Island is a popular tourist destination not only among international tourists but also locals. Self-drive tourism is already beginning to be a choice for tourists who want to explore all places at this island. Since this study involved 19 tourist destinations in Langkawi, so it is suitable to choose self-drive tourism in order to explore all the places. In many tourism studies, the relationship between transport and tourism is defined in terms of accessibility; that is transport is seen as a link between tourist generating regions and tourism destination regions. Transport is seen as an enabler of tourism (Faulkner, 1989); a necessary precursor to tourism activity (Leiper, 1995); and as serving as part of the attractions mix in some scenarios (Hall, 1998). For travel to and within destinations, the choice of which mode of transport are used may depend on the tourists' evaluation of speed; carrying capacity; comfort; cost; and safety.

The aim of this paper is to determine the best route of a self-drive tour in Langkawi Island using a capacitated multiple traveling salesman problem (CMTSP) model. The tourists can visit the 19 tourist destinations around Langkawi Island with minimum travel distance and the accommodation cost. Section 2 of this paper discusses about the literature review and section 3 discuss about the problem definition. Meanwhile section 4 discuss about the model formulation and its application with the data involved in this study. Section 5 shows the results and discussion with section 6 giving the conclusion.

Literature Review

Tourism is seen as an industry that contributes to the economic growth of government and the private sector, especially after the Second World War (1939-1945). The tourism sector has become increasingly important industry to many developing countries as a source of revenue as well as a source of employment. To encourage the development of tourism industry, the government provides appropriate policies and strategies to make tourism as a new source of economic growth. Therefore, various studies using various mathematical programming models are carried out from time to time to enhance the effectiveness and improvement in the tourism industry.

The multiple traveling salesman problem (MTSP) is a generalization of the well-known traveling salesman problem (TSP), where more than one salesman is allowed to be used in the solution. This occurs by dividing all the places to be visited to several groups and each group allocated to each salesman (Nallusamy et al. 2009). MTSP widely used in real scenarios such as in a variety of scheduling problems. For example, the problem of school bus travel (Angel et al. 1972), printing machine scheduling problem (Gorenstein, 1970), and Carter and Ragsdale, 2002), problem of scheduling interviews (Gilbert and Hofstra, 1992), crew scheduling (Svestka and Huckfeldt (1973), Lenstra and Rinnooy Kan (1975), Zhang et al. (1999), and Pang and Muyldemans, 2013) and so forth. Other problems are often formulated as an MTSP problem is vehicle routing problem (VRP). VRP means determining routes for several vehicles from a depot to a number of customers and then returning to the depot.. VRP has a similar concept with traveling salesman problem with multiple maximum capacities. The VRP is another name for CMTSP. Vehicle routing problem with capacity is described by a set of similar capacity vehicles stopped at the depot. Each vehicle needs to determine the route to meet the demand of customers in other cities. Capacitated vehicle routing problem (CVRP) is considered the most basic version or type of vehicle routing problem. In the CVRP, instead of considering stations separately we consider stations with deliveries that have deterministic demands. The purpose of solving the CVRP is to find the optimal solution that serves all the stations with the stated demand without exceeding the capacity of the vehicle used. Ingeneral, a CVRP considers equal capacities for all vehicles; although in real life vehicle fleet with different capacities can be used to solve the delivery problem (Vaira, 2014). The solution of vehicle routing problem with capacity was similar to capacitated multiple traveling salesman problem (CMTSP) (Schrage,2006).

A privilege of this method is to make sure every place visited only once and return back to where they started. We cannot apply the shortest-path problem in this study because the model only find the shortest path with the minimum length from one destination to other destination without visiting all destinations in the network and not return back to where they started. Even though in the minimum spanning tree problem, all nodes in the network is connected such that the sum of length of the arcs is minimized, but we still cannot used this model in this study because a group of arcs should contain no loop and not return back to where they started (Winston, 2004).

Problem Definition

This paper presents a study on a real road network that connects tourist destinations around Langkawi Island. Although there are more than 30 tourist destinations in Langkawi (refer Figure 1), but this study only covers 19 of the most attractive tourist destinations around Langkawi.

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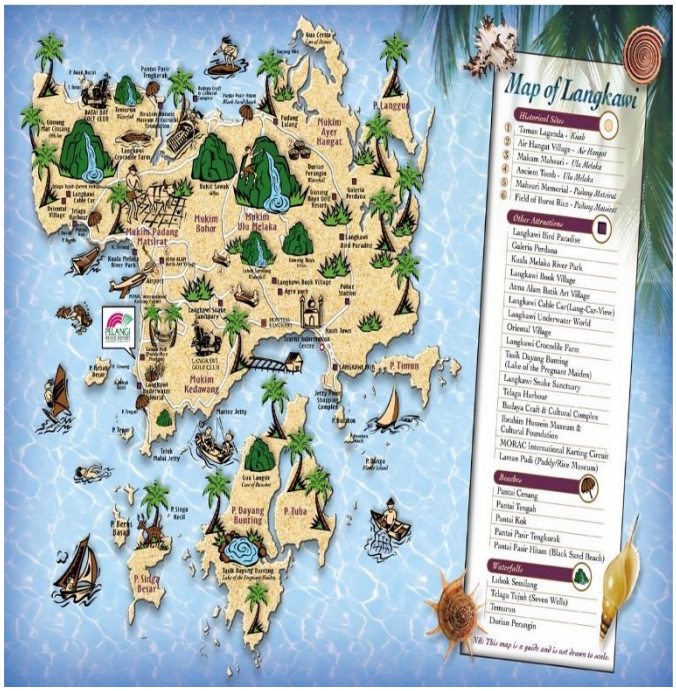

Figure 1: Map of Langkawi Island

The tourist destinations were selected based on recommendations derived from the Ministry of Tourism Malaysia website. In addition, because the scope of our study only focused on self-drive tour, so the tourist attractions in the vicinity of the Langkawi archipelago is not included in this study. Table 1 shows the tourist destinations that have been selected as a tour destination in this study.

Table 1: Tourist destinations

Destination	Abbreviation
Eagle Bay	DL
Taman Lagenda	TL
Langkawi Crystal	KL
Mahsuri Mausoleum	MM
Kampung Buku Malaysia, Langkawi	KBL
Underwater World	UW
Pantai Chenang	PC
Paddy Rice Museum	LP
Field of Burnt Rice	BT
Oriental Village (Langkawi Cable Car)	OV
Seven Walls Waterfalls	TT
Crocodile Farm	TB
Temurun Waterfall	ATT
Langkawi Craft Complex	KKL
Air Hangat Village	TAH
Tanjung Rhu	TR

Galeria Perdana	GP
Mount Raya (Gua Cherita)	GR
Langkawi Wildlife Park	ZM

The focus of this study is to develop the CMTSP for self-drive tourism in Langkawi Island. In developing the CMTSP model for this study, the total time for travel and day visit provided at least 10 hours. The reason for only 10 hours a day allocated to the holiday was because the operation started from 8.00 am until 6.00 pm in many of the tourist destinations in Langkawi. Estimated travel time to visit places of interest that exist between origin and destination is obtained from the estimated time given by the Google Maps application for each selected path. The distance from one destination to another are also found using the Google Maps application. Estimated trip time in minutes which provided to visits 19 tourist destinations is shown in Table 2.

Table 2: Estimated trip time (minutes) which provided to visit tourist destinations

Tourist Attraction	Estimated Trip Time (Minutes)
DL	30
TL	90
KL	60
MM	90
KBL	90
UW	120
PC	120
LP	90
BT	30
OV	150
TT	150
TB	120
ATT	150
KKL	90
TAH	120
TR	90
GP	90
GR	90
ZM	120

Model Formulation

The CMTSP model was constructed to minimize the total traveling distance. In this model, Hotel Grand Continental Langkawi (GC) has been selected as a depot for its strategic location which is located right in the town of Kuah as well as impose a reasonable rental rate of RM113.00 for one night. The CMTSP approach applies because we assume that all the visitors travel to Langkawi typically will stay in one accommodation only because the Langkawi area itself is not too wide and the distance to move from a tourist destination to another destination not too far. Model to minimize the total travel distance is as follow: -

$$Minimize \sum_{i=1}^{20} \sum_{j=1}^{20} d_{ij} x_{ij} \qquad (1)$$

subject to: $$\sum_{i=1}^{20} x_{ij} = 1; \quad j = 1, 2, ..., 20 \tag{2}$$

$$\sum_{j=1}^{20} x_{ij} = 1; \quad i = 1, 2, ..., 20 \tag{3}$$

$$\sum_{i,j \in S} x_{ij} \leq |S| - 1 \tag{4}$$

$$\sum_{i,j \in T} x_{ij} \leq |T| - k \tag{5}$$

with $x_{ij} = \begin{cases} 1; \text{if there is a path from tourist destination } i \text{ to } j \\ 0; \text{otherwise} \end{cases}$

d_{ij} = distance (in km) from tourist destination i to tourist destination j.

$|S|$ = subset of tourist destination $S\{1, 2, \ldots, 20\}$.

T = set of tourist destination.

k = the minimum number of destination should be deducted from set T to reduce it to one capacity.

The objective (1) of this model is to minimize the total travel distance of the journey. Constraint (2) means that tourists arrived in each tourist destination once and constraint (3) means tourist leave each tourist destination once. Constraint (4) is to ensure sub-tour be unreasonable for each subset of S which is not include the depot station. In this model, Hotel Grand Continental Langkawi (GC) has been selected as a depot for its strategic location which is located right in the town of Kuah as well as impose a reasonable rental rate of RM113.00 for one night. Constraint (5) was developed to ensure that all sets in excess of the visit will be limited to a reasonable day. For every T which includes the depot in which make up more than the capacity, let k be the minimum number of destinations should be deducted from set T to reduce it to one capacity.

Result And Discussion

To obtain results for the goal programming model, LINGO software version 12.0 was used. LINGO is a comprehensive computer software and effective way to solve the problem of modeling linear and non-linear with the faster, easier and effectively (Schrage, 2006). In addition, LINGO is also a mathematical modeling language that allows us to express the optimization problem in a similar form to standard mathematical notation.

The total number of days to visit all the 19 selected tourist destinations in this study is 4 days. Hotel Grand Continental Langkawi (GC) has been selected as a depot which is the starting and ending point for all 4 days travel. Figure 2 shows the route selected for this model.

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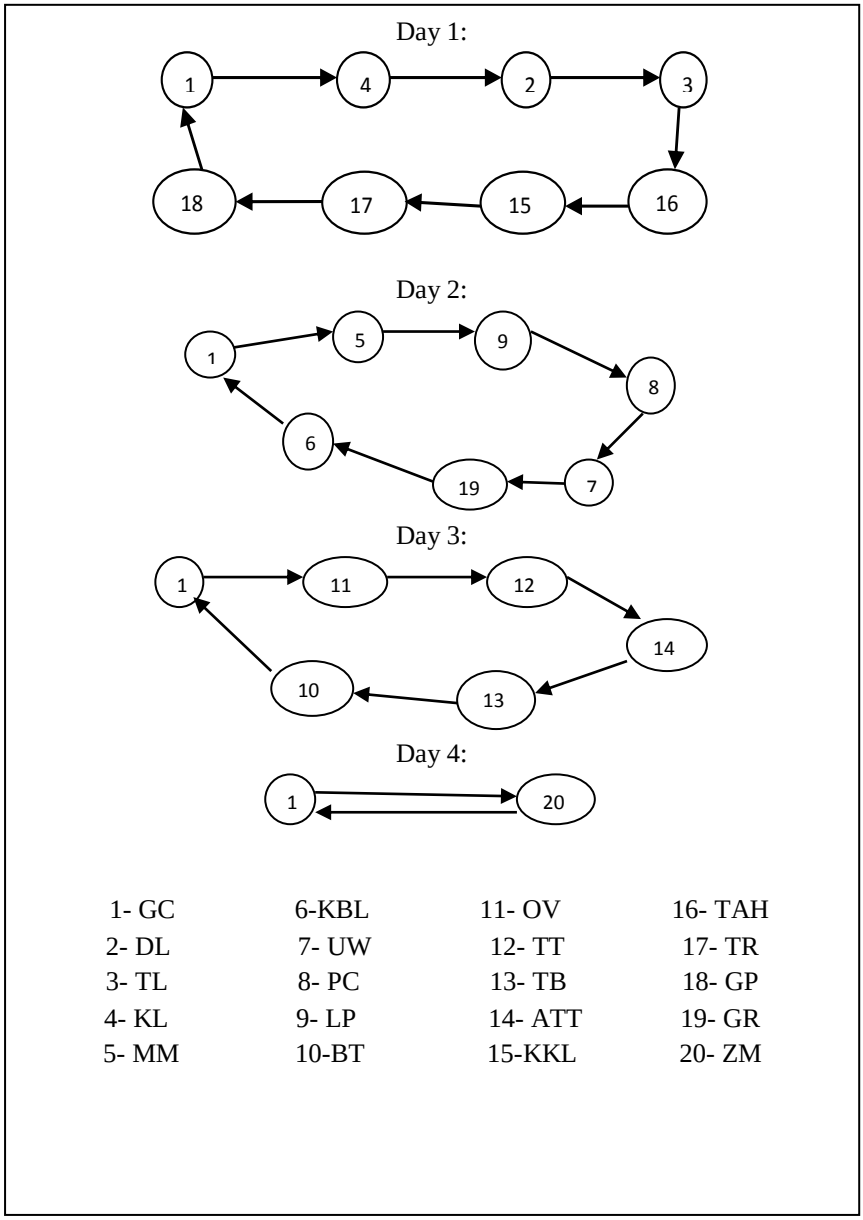

Figure 2: The network topology of CMTSP model

Table 3 shows the route network solutions that minimize the total travel distance for CMTSP model.

Table 3: Route network solutions that minimize total travel distance

Day	Path	Daily Total Travel Distance (KM)
1	GC→KL→DL→TL→TAH→KKL→TR→GP→GC	43.3
2	GC→MM→LP→PC→UW→GR→KBL→GC	85.15
3	GC→OV→TT→ATT→TB→BT→GC	86.1
4	GC→ZM→GC	5.2
	Total travel distance	**219.75**

Conclusion

Based on this study, the used of proposed model is proven to give an idea to the tourists in choosing a suitable route when they want to visit tourist destinations in Langkawi Island by drive their own vehicle without using the tourist guide. It shows that the proposed model was expected to help tourists make their travel plan guidance to choose the route that will minimize the travel distance. When the travel distance minimum, it also minimizes the travel (petrol) cost. Indeed, the solution using a mathematical model such as this would facilitate the tourist in solving the problem more efficiently, rapidly and systematically. However, in practice, should be reminded that not all the planned would be implemented. Sometimes other factors such as traffic and the difficulty of the proposed route will also influence the choice of routes.

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EXECUTIVE AND NON-EXECUTIVE DIRECTORS ROLE ON ENVIRONMENTAL DISCLOSURE AMONG LISTED FIRMS IN NIGERIA

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***Abstract**: The study established that annual reports of environmentally sensitive listed companies in Nigeria provide information on environmental issues which is very important to relevant stakeholders and other users of accounting information. Thus, the main goal of this research is to empirically examine the role of executive and non-executive directors as part of board characteristics on the disclosures of environmental issues of environmentally sensitive listed companies in Nigeria. The data used for the study is derived from annual reports of 37 environmentally sensitive listed companies during 2014. A content examination of the environmental disclosure of the sampled companies was carried out using Global Reporting Initiative checklist for the environmental disclosure. The study employed ordinary least square regression to test the established hypothesis of the study. The finding of the study shows that non-executive directors on board have a significant positive effect on environmental disclosure while executive directors is found to have insignificant impact on environmental disclosure among environmentally sensitive listed companies in Nigeria.*

Keywords: *Executive Directors, Non-executive Directors, environmental disclosures Environmentally Sensitive Companies*

Introduction

Environmental issues are the major factors in Africa in general and Nigeria as a country in particular where the challenge is not only limited to financial disclosure but environmental disclosure. The environmental problems may arise from many perspectives among which could be degradation of soil, pollution of air, water pollution and deforestation. This is in addition to desertification and crude oil spillage among others (Central Intelligence Agency, United Nation, United State of American Government, 2012). This could contribute negatively to the environment as reported by Central Intelligence Agency, United Nation, United State of American Government (2012). The environmental damages is mostly attributed to the daily activities of the firms operations in Nigeria whereby, in the process the firms caused oil spillage and flaring of natural gas, the release of chemical substances in the air, water and land (Central Intelligence Agency et al., 2012). Additionally, the activities of the firms may perhaps cause a lot of harms to the immediate environment where the firms operate. Among the damages that could be caused is global warming as a result of climate change and environmental pollution.

Nigeria is seen as the second major contributing country globally to flaring of gas that is emission of carbon from those oil firms that operate in the Niger Delta region (Hassan & Kouhy, 2013).

Notwithstanding its environmental pollution could be attributed to all companies however, environmentally sensitive industries contribute to the environmental pollution more significant than other firms that are environmentally friendly (Aziz, Manab, & Othman, 2016). Many researchers believe that carbon and wastages are major contributors of Nigerian environmental problems among which the troubling aspect is the bases of environmental degradation in Nigeria mostly generated from environmentally sensitive industries (Eweje, 2006; Jike, 2004).

According to Vanmarrewijk and Werre (2003), the reporting of environmental activities of firms could reduce the communications gap between the firms and its stakeholders. This is seen in many firms financial disclosure where they disclosed environmental issues to overcome the complications and concerns of the society. Many companies established a social agreement between the organisations and the stakeholders regarding their environmental activities hence making environmental disclosure almost a corporate order.

Executive directors and non-executive directors that are a part of board characteristics is considered as an important mechanism to uphold the environmental disclosure of public companies. This is because they play a vital role on disclosure of both financial and non-financial matters (Cormier, Ledoux, Magnan, & Aerts, 2010; Khan, Muttakin, & Siddiqui, 2013; Michelon & Parbonetti, 2012). Nevertheless, numerous research were conducted in the area of environmental disclosure and board characteristics but limited studies were found regarding the executive and non-executive directors (Haniffa & Cooke, 2000). A lot of researchers were on the view that internal factors of corporate governance such as executive and non-executive directors on board could enhance the transparency and credibility of the disclosure of annual report rendered by companies (Cormier et al., 2010; Gul & Leung, 2004).

Adeyemi and Owolabi (2008) added that environmental disclosure is seen as the most important component of accounting, finance and even management accomplishments in the advanced countries. However, there is less attention in other countries among which Africa is considered the least where Nigeria is not in isolation (see Eweje, 2007; Adewuyi & Olowookere, 2010; Amaeshi & Amao, 2009; Amaeshi, Adi, Ogbechie, & Amao, 2006a, 2006b; Idemudia, 2010; Renouard & Lado, 2012). This triggered the need for additional research in the area of environmental disclosure among Nigerian firms that may possibly change Nigerian companies to be more sensitive and concern about environmental disclosure matters.

For the reason mentioned above, thus, this paper presently focused on an empirical examination of the relationship between executive directors and non-executive directors and environmental disclosure among environmentally sensitive industries in Nigeria based on stakeholder's theory to overcome the stakeholders concerned. Other sections of this paper are literature review and hypotheses development, the methodology adopted, the result of the study and finally the conclusion of the research.

Literature Review And Hypotheses Development

Based on stakeholder theory, the environmental reporting permits corporations to intermingle with its stakeholders about the extent of their environmental accomplishments which include products and services to be rendered. To this end, environmental disclosure could be considered a part of resolutions of disputes between companies and its immediate concerned stakeholders (Gray, Kouhy, & Lavers, 1995).

Environmental disclosure is a method employed by corporation to achieve the environmental demands of various stakeholders. For this purpose, Gray et al., (1995) considered environmental disclosure as a means of resolving conflicts between the firms and

its immediate stakeholders who are concerned about environmental activities of the organisation.

The board composition in terms of directors served on the board are composed of executive and non-executive directors play a vital role on environmental disclosure practices of any organisations (Haniffa & Cooke, 2005; Kassinis & Vafeas, 2002). In addition to this role, they act directly for the associated of companies and the environmental awareness of companies (DeVilliers, Naiker & Staden, 2011). Since it is the board of directors that controls the facts disclosed in annual reports of firms, then it could be said that disclosure of environmental information is a function of board members which consist both executive and non-executive directors (Haniffa & Cooke, 2005). As a result, executive and non-executive directors are predicted to influence the environmental disclosure in the annual report of public companies.

Executive Directors

Executive directors play an important role in disclosure of information as they are responsible to protect of the integrity of companies. The more the firm make goodwill the better the profit of the firms thus, the more the share of the dividend for the owners of the firm (Ben-Amar & Zeghal, 2011). The executive directors is also an important aspect of board where is included in internal factors of corporate governance mechanism (Malak, 2014). Since they are concerned for the integrity of the firm, therefore it is expected that the higher number executive members on board, the extra efforts will be taken by highly experienced directors to increase the disclosure of additional information (Leblanc, 2007). Consequently, this could have more possibility of impact on the management opportunism by modifying interests of both stakeholders and environmental concerned (Sun, Salama, Hussainey, & Habbash, 2010). This is said to be in consistent with stakeholder theory. Nevertheless, it is still claimed that the greater the executive members on board the more the rise in the variety of the structure of the board in terms of their experience and qualification. A larger executive on board improves a company's capability to comprehend and address the variety of numerous stakeholder's concerned since they are responsible to protect the firms legitimacy in addition to their own personal interest (Gisbert & Navallas, 2013; Welford, 2007). Higher number of executive directors could promotes the accountability and transparency where it will lead to an increase on disclosure including environmental information (Akhtaruddin & Haron, 2010; Gul & Leung, 2004; Haniffa & Cooke, 2005). Furthermore, it permits a well stabilised system and develops a better decision (Abidin, Kamal, & Jusoff, 2000; Akhtaruddin, Hossain, Hossain, & Yao, 2009; Donnelly & Mulcahy, 2008; Ho & Williams, 2003).

Despite so many studies on executive directors on board and disclosure in general and environmental in particular, empirical proof on the relationship between executive members on board and environmental disclosure is quite limited. Indication suffice that the existence of a positive relationship between board members and corporate environmental disclosure is documented by Cormier et al. (2010).

Considering the stakeholder theory, the larger the executive members on board, the more likely effective on decision making hence, the more the information-processing capabilities (Ho & Williams, 2003) and in turn it will increase the environmental disclosure. Thus, the following hypothesis is proposed:

H1 There is a positive relationship between number of executive directors on board and environmental disclosure.

Non-Executive Directors

The number of non-executive directors on the company's board is seen as an important aspect in promoting the voluntary disclosure of the firms' activities (Ho & Shun Wong, 2001) including environmental information (Haniffa & Cooke, 2005). The non-executive directors more often concentrate and focus more on environmental responsibility issues (Webb, 2004). For the fact that they are considered more for tackling the stakeholders concerned hence, non-executive directors ordinarily are perceived as a mechanism for monitoring, controlling and managing conflicts by many scholars (Higgs, 2003; Zattoni & Cuomo, 2010). This may perhaps fetch almost extra facts on disclosure about financial, non-financial and environmental information. Hill and Jones (1992) discovered that the further the rise of non-executive directors the healthier the board usefulness in watching managerial judgements and as a result the growths of voluntary disclosures which take into account the environmental issues. Additionally, there may possibly be supplementary neutrality by the non-executive directors and could reflect diverse stakeholders while building their deliberation along with the commendations in their final report for considerations (Gao & Kling, 2012).

Contrary to the believe for abundance research on environmental disclosure on the other hand, empirical research on the association between number of non-executive directors on board and environmental disclosure is inadequate (Arena, Bozzolan, & Michelon, 2014; Haniffa & Cooke, 2005; Liao & Lu, 2009; Brammer & Pavelin, 2008). Thus, the following hypothesis is proposed:

H2: There is a positive relationship between the number of non-executive directors on board and environmental disclosure.

Methodology

This study is conducted to examine the relationship between board composition as executive and non-executive directors and environmental disclosure of listed environmentally sensitive industries in Nigeria for the period of 2014. The study uses secondary data from annual report. The data is extracted from the annual reports of the 37 highly environmentally polluted companies in Nigeria.

A technique of analysis called multiple regressions on the cross sectional data is utilised. This is due to the suitable of this method for this study since the issue of linearity is fulfilled. Base on the model of this study therefore, this study comprises the explained variable, the explanatory variables and the control variables. Thus, the dependent variable is environmental disclosure which is measured using checklist derived from Global Reporting Initiative supported by Cormier, Magnan and Velthoven (2005). The environmental index comprises 30 items including recycled input materials, energy consumption, recycled water, biodiversity, emissions, effluents, waste, environmental products and services, compliance with environmental laws, environmental impact on transporting product. The score is applied as 1 if the items are disclosed and 0 otherwise. The total scores derived from each reporting of the industry is now considered the measurement of the environmental disclosure (ED). The scoring system allows for data to a figure and this is to overcome the weakness of the content analysis as word counts (Eng & Mak, 2003). The explanatory variables for this study is composed of executive directors (EXCDIR), defined and measured as total number of executive members on board and non-executive directors (NEXCDIR) which is measured as total number of non-executive members on board. The control variable are the size of company (SIZE) and profitability (PROFIT). Size of company is measured as total asset of the firm and

profitability is measured as profit after tax. Based on these variables, the empirical results are thus based on the following regression model;

$$ED_i = \beta_0 + \beta_1 EXCDITR_i + \beta_2 NEXCDITR_i + \beta_3 SIZE + \beta_4 PROFIT + E_i$$

Where;

ED = Environmental disclosure score
EXCDITR = Number of executive directors
NEXCDITR = Number of non-executive directors
SIZE = Size of the firm
PROFIT = Profitability

Results And Discussion

The result of descriptive statistic from Table 1 shows that the mean of the ED is 9.2 which indicate approximately the environmental issues disclosed in environmentally sensitive industries for the year 2014 in Nigeria is 9.2 while the minimum item disclosed in the same year is 6 and the maximum is 11.

While in the case of the explanatory variable, the minimum number of executive on board is 1 while the maximum number of executives is 11 and the mean of executive director is 3, therefore on average the industries have three executive members. It is almost the same with the non-executive directors on board as it has a minimum of 2 members and maximum of 12 members on board. The average members the industries have in 2014 with regard to non-executive directors is 6 members. Firm size has a minimum value of 0.64 million Naira with maximum value of approximately 15,181 million Naira while profitability has a minimum loss of 184 million Naira since is negative and a maximum value of 3470 million Naira.

Table 1: Descriptive Statistics of Dependent and Independent Variables.

	Minimum	Maximum	Mean
ED	6	11	9.1621
EXCDIR	1	11	3.1351
NEXCDIR	2	12	5.9729
SIZE	0.64	15,181	10.2
PROFIT	-184	3,470	-18.08

The regression results in Table 2 shows the parameters of the model, their significances values, the collective significances, the R-square of the model, the Durbin Watson and F-Statistics of the model. From the result thus, the model of the study is:

$$ED = 5.44 + 0.345\, EXCDITR + 0.897\, NEXCDITR + 5.921\, SIZE - 4.551\, PROFIT$$

The model depicts the constant (β_0) value of 5.4. This means that in the absence of both executive and non-executive directors the value of the environmental disclosure is 5.4. In related development, executive directors on board have positive relationship with environmental disclosure. However, the relationship is not significant at all level of significances. Even though, increase in executive directors on board is seen to increase environmental disclosure by the value of 0.345 as seen in the parameter of the model β_1 therefore, this study cannot conclude that the relationship. Therefore, the hypothesis developed

earlier that the more the executive directors on board, the more environmental disclosure cannot be supported.

From the model, non-executive directors has positive relationship with environmental disclosure and is statistically significant. This is seen from the parameter β_2 with the value of 0.897. This indicates that an increase in non-executive directors on board by one company will improve environmental disclosure by the value of 0.897 with the econometric assumption of other thing remain constant. The findings is in line with Gao and Kling (2012), Akhtaruddin and Haron (2010), Gul and Leung (2004) and Haniffa and Cooke (2005). Hence, the hypothesis that proposed the more the non-executive directors on board, the more the environmental disclosure is supported.

From the OLS estimation, the R-squared of the environmental disclosure model is 21.9% where is indicates that jointly executive directors, non-executive directors on board, size and profitability accounted for 21.9% changes in environmental disclosure variables thereby the remaining percentage unaccounted for by the model. The model is said to be moderate since the value of R-square is greater than 10%.

Even though executive directors is not significant in explaining the dependent variable, this findings is important as the probabilities of F-statistics of the study 0.09 demonstrates a joint significance. Which means that executive directors and non-executive directors on board are jointly significant in explain changes in environmental disclosure. The Durbin Watson value of the model depicts that the model is auto and serial correlation free thus meeting the assumption of OLS. This is because the Durbin-Watson value is 2.23 which fall between 1 and 3 using rule of thumb (Gujarati, 2004).

Table 2: Regression results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.444028	1.488661	3.656997	0.0009
EXCDIR	0.344702	0.421145	0.818487	0.4193
NEXCDIR	0.897223	0.324513	2.764832	0.0095***
SIZE	5.92E-10	9.01E-10	0.657449	0.5157
PROF	-4.55E-12	8.47E-12	-0.537055	0.5951
R-squared	0.219351	Prob(F-statistic)		0.094735
Adjusted R-squared	0.118622	S.D. dependent var		1.444200
F-statistic	2.177640	Durbin-Watson stat		2.235550

*** Significant at 1% level. ** Significant at 5% level. * Significant at 10% level.

Conclusion

The study established a relationship between executive directors and non-executive directors on board and environmental disclosure while controlling for size and profitability as expected base on the evidence from listed environmentally sensitive industries in Nigerian in 2014. The study proves that non-executive directors on board impacted positively on environmental disclosure while executive directors on board shows no influence on environmental disclosure. However, both executive directors and non-executive directors on board improve corporate environmental disclosure in Nigeria judging by the probability of F-Statistics. This is supported by stakeholder's theory which pre-empt the more executive directors and non-executive directors on board the better the disclosure in general. This means that more stockholders satisfaction on the operation of the firms are as a responsive to more

environmental information disclosure. This could be seen as the explanatory variables, executive directors and non-executive directors on board are collectively significant in explaining changes in environmental disclosure listed environmentally sensitive industries in Nigerian. While non-executive directors on board is individually significant, executive directors on board is not significant on the relationships with environmental disclosure.

Therefore, this study concludes that non-executive directors on boards among Nigerian environmentally sensitive industries improve environmental disclosure significantly. The results of this study provide significant input to Nigerian companies to have more non-executive directors on the board as the non-executive directors could play their monitoring roles in promoting more environmental disclosure to satisfy the interest of various company stakeholders in order to sustain the business of companies in future (Huang & Kung, 2010).

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DOKTRIN KENISBIAN NILAI PRAGMATISME:RESPONS KRITIS PEMIKIRAN ISLAM

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Pragmatisme Sebagai Falsafah Amerika

Perkembangan Amerika Syarikat sebagai negara yang bebas merdeka pada abad ke-18 telah mendorong kemunculan idea dan budaya baru yang bercirikan Amerika. Namun, falsafah acuan Amerika tersebut memerlukan dua ratus tahun berikutnya pula untuk ia dikenali dan menarik perhatian dunia.[19] Sebagai pembebasan daripada pengaruh jalur Idealisme British menurut Thomas Moore dan Bertrand Russell, para pemikir Amerika melihat bahawa falsafah tidak berupaya menangani bentuk cabaran yang dihadapi oleh pemikir Zaman Pencerahan. Telahan mereka, kepastian dalam falsafah gagal dicapai dengan hanya menganalisis kejadian wujud ini melalui pemaparan metafizik tanpa bercirikan aktiviti yang bersifat praktikal. Justeru, mereka mengalihkan orientasi falsafah yang berperanan menangani persoalan praktikal. Segala solusi bersifat sementara dan bakal diuji, sekaligus menjadi kunci jawapan baru bagi falsafah.

Pragmatisme dilatari oleh roh dan semangat kehidupan di Amerika. Ia tegas menolak pemisahan mutlak antara teori dan praktik. Tiada tinjauan teoritikal yang benar-benar terpisah dengan kepentingan hidup dan kebahagiaan manusia. Sebagaimana nilai kehidupan itu sendiri, agenda yang bermanfaat bagi manusia juga turut bersifat terbuka dan serba tidak menentu. Alam sejagat ini bersifat pluralistik atau beraneka ragam. Seluruh pengalaman yang dilalui oleh manusia tidak mungkin dapat ditangani dengan suatu set teori atau peraturan tertentu.

Justeru, antara bentuk kesilapan berfikir – menurut John Dewey – adalah mencari jawapan sahih yang tunggal bagi persoalan metafizik. Istilah "realiti" atau "hakikat kenyataan" umpamanya tidak mengandungi makna yang jelas sehinggalah ia dapat dihubungkan dengan aspek amali manusia. Ini kerana apa sahaja jawapan bagi isu metafizik tentang hakikat alam ini – sama ada ia benar-benar wujud atau ilusi semata-mata – tidak memberi sebarang impak atau perbezaan praktikal dalam hidup manusia. Pertanyaan yang perlu ditimbulkan bukan "adakah Tuhan itu wujud?" – lantaran jawapannya yang tidak mempunyai nilai praktikal –, namun apa yang lebih wajar dipersoalkan adalah "patutkah saya percaya bahawa Tuhan itu wujud?", lantaran kerana jawapannya dapat memberikan kesan praktikal yang besar terhadap bentuk kehidupan yang harus dilalui oleh seseorang.[20] Kemungkinan falsafah Dewey mencerminkan "peluang tidak terbatas" – menurut janji demokrasi liberal Amerika – melalui penggunaan metode logik sebagai alat penyelesai masalah, berbanding pembimbing kepada kebenaran abadi.[21]

Lewat abad ke dua puluh, Richard Rorty cuba mengubahsuai falsafah ini menurut ilmu linguistik. Beliau menafikan keupayaan bahasa dalam mewakili sesuatu item. Kajian struktur linguistik beliau mendedahkan bentuk hubungan yang praktikal dalam berinteraksi dengan realiti. Sebagaimana James, beliau turut percaya bahawa falsafah tidak memapar atau menayangkan tabii sesuatu. Baginya, tidak wujud perspektif metafizik yang bersifat mendasar dan komprehensif. Sebaliknya, tafsiran terhadap kehidupan di dunia ini perlu sentiasa terbuka

[19] Bryan Magee, *The Story of Philosophy* (London: Dorling Kindersley, 2016), h. 186.
[20] Eugene Kelly, *The Basics of Western Philosophy* (New York: Humanity Books, 2007), h. 128-130.
[21] Bryan Magee, h. 95.

untuk diuji dan dieksperimenkan agar benar-benar memuaskan. Seiring dengan pengalaman dan pemikiran manusia yang semakin berkembang, maka kepercayaan yang diperlukan dalam berinteraksi dengan perkara dan persoalan baru ini juga perlu lebih meluas dan bertambah inklusif. Meskipun kebenaran muktamad tentang segala perkara gagal ditemukan, namun James menggesa agar manusia terus nekad dan berani menghadapi alam semesta yang dinamik ini.[22]

Tokoh Utama Dalam Perkembangan Pragmatisme

Pragmatisme dipelopori oleh Charles Peirce, William James dan John Dewey. Idea asasnya ialah kesinambungan minda dengan alam semula jadi, pengetahuan sebagai bentuk adaptasi biologi dan sosial manusia serta keunggulan metode saintifik.[23] Prinsip utama Pragmatisme yang disepakati oleh ketiga-tiga tokoh ini ialah bahawa kesahihan sesuatu idea itu diukur menurut kadar faedah yang menyusulinya. Apa yang menjurus kepada solusi masalah dianggap benar.[24]

Charle Sanders Peirce (1839-1914)

Gagasan utama Peirce adalah bahawa pengetahuan merupakan suatu aktiviti. Manusia terdorong untuk mengetahui dan menyiasat lantaran kerana suatu keperluan, kekurangan atau keraguan. Ini menyebabkan manusia menilai situasi untuk menangani permasalahan tersebut. Melalui karya *How to Make Our Ideas Clear* (1878), Peirce berhujah bahawa untuk memahami sesuatu istilah dengan jelas, kita harus bertanya kepada diri kita sendiri berhubung perbezaan yang bakal terhasil melalui penilaian atau solusi kita terhadap masalah dan situasi yang dihadapi. Perbezaan tersebut menjadi makna bagi istilah tersebut. Demikianlah, Peirce mengemukakan pragmatisme sebagai metode untuk menegaskan makna bagi istilah yang pelbagai. Dalam erti kata lain, ianya menjadi teori tentang makna.[25]

Secara asasnya, Peirce menekankan persoalan teori sains dan epistemologi, namun melihatnya dalam konteks kehidupan praktikal. Antara fokus utama beliau adalah teori simbol (semiotik), lantaran proses epistemologi banyak merujuk kepada konsep dan idea yang turut melibatkan tanda linguistik. Beliau melihat konsep sebagai aturan tingkah laku manusia. Setiap konsep mempunyai "kedudukan" yang sedia diinteraksi dan dimanfaatkan demi mencetuskan kesan tertentu. Aturan tingkah laku manusia adalah konsep bagi keseluruhan rangkaian hubung kait dan kesan yang terhasil. Contohnya, konsep "kesukaran" dapat difahami jika kita tahu bagaimana perkara tertentu bereaksi terhadap gangguan tertentu, juga tahu apa tindakan yang harus dilakukan serta apa akibat yang bakal timbul ketika menghadapi kesukaran. Makna bagi pernyataan tertentu dinilai menurut kadar pembuktiannya dengan cara tertentu. Hal ini melibatkan persoalan yang dianggap mengimplikasikan perbezaan persepsi dan tindakan di sebalik kebenaran atau kepalsuan sesuatu pernyataan itu. Justeru, tiada kebenaran yang bersifat mutlak. Sesuatu konsep itu tidak lebih daripada suatu perkaitan dengan konteks yang berstruktur dalam jalinan rangkaian tertentu tanpa berstrukturkan kemutlakan. Melalui tafsiran terhadap teori dan konsep menurut signifikasi praktikal ini, Peirce dianggap pelopor Pragmatisme.[26]

Menurut perspektif saintis, perbincangan falsafah tentang pengetahuan dan kebenaran lebih berupa perdebatan kata-kata berbanding realiti kehidupan di alam nyata. Menurut Peirce, siasatan falsafah sering terperangkap dalam konsepsi yang tidak mempunyai faedah praktikal.

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[22] Eugene Kelly, h. 130 & 131.
[23] T.Z.Lavine, *From Socrates to Sartre: The Philosophic Quest* (New York: Bantam Books, 184), h. 417
[24] Muhammad Marwan Rashwan, *Madkhal ila Dirasah al-Falsafah al-Mu`asarah* (Kaherah: Dar al-Thaqafah, 1984), h. 69.
[25] Bryan Magee, h. 186 & 187.
[26] Christoph Delius, *The Story of Philosophy: From Antiquity to the Present* (Cologne: Konemann, 2000), h. 95.

Sebaliknya, beliau menyarankan agar "dipertimbangkan kesan praktikal dari objek bagi konsepsi anda, lantas konsepsi anda terhadap kesan itu adalah merupakan keseluruhan konsep anda tentang objek itu sendiri". Pragmatisme tidak mengutamakan kebenaran sesuatu pernyatan, lantaran ukuran kebenarannya merujuk kepada aplikasi praktikalnya. Pengetahuan bukan terbentuk daripada kebenaran dan kepastian, tetapi berdasarkan keterangan sah yang dapat diganti atau diperbaiki apabila ianya tidak lagi sah atau berguna.[27]

Menurut Peirce, pengenalan lengkap sesuatu konsep dapat diperolehi jika keabsahan atau kepalsuannya dapat dipastikan melalui analisis tepat terhadap fenomena yang dapat ditaakul dan dieksperimenkan tersebut. Perspektif ini dilihat menekankan kemantapan makna sesuatu konsep atau kepercayaan melalui dominasi linguistik. Fungsi efisiennya adalah menyaring sesuatu proposisi penghujahan agar benar-benar bermakna sebagai "metafizik saintifik". Kebiasaannya, hujah metafizik tidak mewakili idea yang terbukti mempunyai nilai atau signifikasi praktikal. Tegasnya lagi, metafizik saintifik adalah disiplin yang bercirikan pemerhatian dan berasaskan pengalaman. Kepercayaan bukan sekadar kecenderungan bersifat intelek terhadap hujahan proposisi tertentu, namun ia adalah suatu tabiat sikap yang bermanifestasikan aksi atau tindakan.

Secara saintifik dan pragmatik, beliau melihat bahawa ilmu pengetahuan adalah resolusi yang sering terganggu oleh tapisan kepercayaan. Ilmu pengetahuan juga dianggap cara untuk menyeimbangkan sikap kita dalam bertindak balas terhadap keraguan. Apa yang janggal dalam falsafah beliau adalah dakwaan bahawa kebenaran tidak berkait dengan sistem kepercayaan dan tidak juga berkait dengan kejayaan dalam sesuatu tindakan. Beliau tidak menafikan bahawa kebenaran itu harus bersesuaian dengan realiti – dalam bentuk tertentu – sebagaimana terdapatnya aturan kejadian yang bersifat umum dan bebas. Namun, tanggapan dan andaian yang menjadi sumber teori pragmatik itu memerlukan pengalaman yang tersusun rapi, manakala hipotesis saintifik itu hanya dapat ditemukan dalam fenomena yang ditadbir oleh aturan-aturan.[28]

William James (1842-1910)

William James bertanggungjawab mempopularkan Pragmatisme di seluruh dunia. Melalui karyanya seperti *Pragmatisme* (1907) dan *The Meaning of Truth* (1909), gerakan Pragmatisme seolah-olah mendominasi falsafah abad kedua puluh. Walaupun James terhutang budi dengan Peirce dalam mengembangkan Pragmatisme sebagai suatu metode, namun beliau telah mengolahnya sebagai falsafah hidup atau me'manusia'kan Pragmatisme versi Peirce.[29] Jika Peirce mengemukakan pragmatisme sebagai suatu teori tentang makna, maka James pula mengolahnya sebagai suatu teori tentang kebenaran. James juga menerapkan pragmatisme dalam konteks psikologi agama. Menurutnya, jika suatu pernyataan keagamaan dapat diandaikan sebagai benar atau – dalam erti kata lain – ianya tidak terbukti salah, lantas terdapat seseorang yang dapat memperoleh manfaat dengan mempercayai pernyataan tersebut, maka orang itu dapat dijustifikasikan dalam mempercayainya. Contohnya, seorang ibu yang baru kematian anak tentu berasa lega dan selesa dengan mempercayai bahawa anaknya kini sedang berada di syurga.[30]

Menurut James, sesuatu pernyataan itu dapat diterima sebagai benar jika ia dapat mengemukakan keterangan sah atau memberikan pengharapan – dalam erti kata jika ia berguna dan menunaikan apa yang perlu ia tunaikan –. Contohnya, jika seseorang yang sesat dalam

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[27] Marcus Weeks, *Philosophy in Minutes* (London: Quercus, 2014), h. 324.
[28] Philip Stokes, Philosophy: The World's Greatest Thinker, h. 170 & 171.
[29] Ahmad Tafsir, *Filsafat Umum: Akal dan Hati Sejak Thales Sampai James* (Bandung: Penerbit PT Remaja, 1993), h. 167
[30] Bryan Magee, h. 18.

hutan, lantas ia menemui suatu laluan, maka ia boleh memilih sama ada mahu mempercayai bahawa laluan itu dapat menyelamatkannya untuk keluar, atau terus memutuskan bahawa laluan itu tidak dapat menyelamatkannya dari terus sesat. Apa sahaja tindakan daripada sebarang pilihan tersebut menjadikan kepercayaannya dianggap benar. Menurut James kepercayaan benar adalah apa yang berguna bagi orang yang mempercayainya.[31]

Berhubung konsep falsafah agama, James dapat menerima kebenaran agama dan rohani selama mana hal itu berfungsi dalam kehidupan manusia. Kedua-dua agama dan rohani itu berperanan secara dinamis. Agama perlu ditafsirkan sebagai suatu tujuan atau aspirasi yang memperkayakan kehidupan. Dalam hal ini, Pragmatisme meyakini kebebasan kehendak. Ia menolak pembicaraan tentang hakikat dunia tetapi lebih selesa mempelajari dunia sebagai sesuatu yang berada dalam proses – atau ke'menjadi'an yang berterusan –. James menekankan sikap skeptik dengan meragukan apa yang diperolehi tanpa menerimanya secara dogmatik. Bagi James, falsafah sewajarnya dapat menunjukkan bagaimana manusia harus menjalani hidupnya. Pragmatisme bukan falsafah yang lengkap sebagai suatu sistem tetapi tidak lebih sebagai suatu metode yang dapat digunakan untuk mengatasi masalah secara menemukan akibat-akibat praktis yang muncul daripada penerapan sesuatu idea.

Menurutnya lagi, kebenaran harus bersifat dinamis dan humanis dalam erti mempunyai fungsi dalam kehidupan. Kebenaran adalah suatu proses pengesahan terhadap sesuatu idea. Idea hanyalah instrumen dalam proses tersebut. Jika sesuatu idea itu benar, maka ia akan berfungsi membimbing kita menuju kenyataan. Idea yang salah adalah instrumen yang tidak berperanan membimbing kita menuju kenyataan. Jika kebenaran mempunyai nilai pragmatis, maka kebenaran itu adalah nilai yang humanitis. Konsep kebenaran yang rasional semata-mata dianggap hanya bersifat abstrak dan hampa tanpa sebarang makna kehidupan.[32]

John Dewey (1859-1952)

John Dewey dianggap tokoh falsafah Amerika yang paling berpengaruh pada abad kedua puluh, lantaran usahanya membangunkan sudut pandang yang tulen dan berani untuk diaplikasikan di bidang politik dan sosial. Fokus utama kajian beliau adalah proses pembelajaran manusia. Selaku pendukung teori pilihan semula jadi (*natural selection*) Darwin, Dewey juga menjadi pembela sains yang setia. Melalui anutannya terhadap pragmatisme, beliau melihat ilmu pengetahuan adalah solusi bagi masalah praktikal manusia. Epistemologi ini dianggap serasi dengan tabii manusia sebagai makhluk biologi yang sentiasa bergelut untuk terus hidup. Menurut beliau, ilmu pengetahuan adalah sesuatu yang berkembang dan dipelajari melalui pengalaman berbanding sekadar sesuatu yang diulang-ulang dan dipersetujui membuta tuli. Menurut seorang pragmatis, ilmu pengetahuan bermula dengan cabaran untuk menjayakan tindak-tanduk manusia, memanfaatkan lingkungan sekitaran secara giat untuk menguji andaian hipotesis tertentu dan mempermasalahkan alasan demi mewajarkan sesuatu tindakan itu diteruskan lagi.[33] Inilah pengaruh pragmatisme yang berjaya diterapkan oleh Dewey dalam falsafah pendidikan beliau.

Sebagaimana Peirce, Dewey turut berpandangan bahawa ilmu pengetahuan dan tindakan atau teori dan praktis tidak dapat dipisahkan antara satu sama lain. Beliau menolak tafsiran terhadap ilmu pengetahuan sebagai suatu bentuk intuisi sebagaimana yang difahami dalam tradisi falsafah. Baginya, kebenaran tidak boleh dilihat sebagai suatu imej bagi realiti yang terpisah bebas daripada konteks manusia atau perstiwa. Kebenaran sentiasa berupa tindak balas sementara semata-mata yang berkesinambungan dengan keupayaan kita dalam bertindak ketika menghadapi masalah dan situasi tertentu. Dewey membangunkan apa yang dinamakan

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[31] Marcus Weeks, h. 326.
[32] Ahmad Tafsir, h. 173-175.
[33] Sharon Kaye, *Philosophy: A Complete Introduction*, h. 205, 208, 209 & 211.

sebagai "*instrumentalisme*". Pernyataan yang benar perlu difahami sebagai instrumen yang sesuai dalam menyelesaikan masalah. Sesuatu pernyataan itu hanya dilihat benar menurut pengertian ini.[34]

Menurut Dewey, pengetahuan bukan sekadar fakta tetapi ia lebih berupa keterangan yang sah. Sebagaimana sains membekalkan penjelasan memadai yang dapat digantikan dengan penjelasan yang baru atau yang lebih baik, maka kita juga memerlukan pengetahuan yang dapat membekalkan maklumat untuk bertindak. Pemikiran dan pembelajaran bertujuan membantu kita untuk cekal mengharungi kehidupan di dunia, bukan semestinya menjelaskan hakikat dunia kepada kita. Pengetahuan terhasil daripada proses penglibatan bersama dalam realiti hidup, bukan melalui pengamatan kita terhadapnya. Proses ini memiripi metode saintifik yang bermula dengan menghadapi masalah, menganalisis, kemudian memikirkan penyelesaian dan diakhiri dengan ujian melalui eksperimen – sama ada ia berfungsi mengatasi masalah atau perlu difikirkan solusi lain. Sebenarnya, kita hanya berfikir apabila menghadapi masalah, maka cara terbaik untuk memperolehi pengetahuan adalah melalui penglibatan aktif dalam tugas tertentu, bukan melalui teori atau pembelajaran.[35]

Menurut Dewey, terdapat dua keunggulan sains yang amat memukau dirinya iaitu: i) sains lebih memberikan pengharapan berbanding pengetahuan kita di bidang lain, ii) sains lebih bermanfaat kepada kita dengan memberikan kesan berbeza dalam hidup. Beliau berpandangan bahawa proses mengetahui adalah akitiviti manusiawi. Menurutnya, semua penyiasatan harus berorientasikan proses penyiasatan dan penyelidikan sains. Pengetahuan dan daya saing dalam segenap bidang hanya dapat berkembang menerusi prosedur khusus yang digunakan, jenis pembuktian, metode ujian dan sebagainya. Baginya, pendidikan harus berdasarkan pendekatan penyelesaian masalah dan belajar dengan melakukan. Metode ini dianggap berpotensi memupuk anak-anak berdaya imaginasi dan berdaya saing dalam segenap lapangan aktiviti manusiawi.[36]

Perspektif Kritis Menurut Pemikiran Islam

Secara kritis, neraca hakikat kebenaran itu tidak mungkin terbatas dalam ruang sempit yang direlai oleh pragmatis dalam alam nyata dan kkejayaan praktis semata-mata. Telah berlangsung sejak sekian lama, mereka yang beragama mempercayai sesuatu tanpa mengkaji kesan-kesan praktis di sebaliknya. Hal ini membuktikan bahawa tabii beragama itu tetap memperakui nilai kepercayaan terhadap sesuatu itu sekalipun tidak terbukti kesan langsung dan nyata daripada sikap beragama tersebut. Pragmatisme merendahkan nilai agama yang dianggap tertakluk kesahihannya kepada kadar pulangan manfaat yang diperolehi dalam mempercayai sesuatu.[37]

Justeru, Pragmatisme adalah pemberontakan terhadap teori pengetahuan. Sesuatu itu tidak lagi dikenali melalui hakikat dirinya sendiri. Bagi Pragmatisme, idea tentang diri sesuatu itu adalah kabur. Kekaburan itu lenyap apabila aspek penunaian positif atau negatifnya tersingkap. Konsep dan makna sesuatu itu hanya terbatas kepada skop kesan-kesan praktis yang terhasil daripadanya. Hakikat itu adalah apa yang menjurus kepada kejayaan hidup. Kepercayaan yang benar adalah apa yang berakhir dengan tercapainya kehendak dan tujuan praktis kita. Tidak wujud hakikat yang mutlak. Sebaliknya, wajah hakikat itu adalah serba pluralistik menurut manfaat individu. Seolah-olahnya, hakikat itu menerima idea yang asing atau eksternal, bukan suatu yang bersifat dalaman atau internal.[38]

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[34] Christoph Delius, h. 95.
[35] Marcus Weeks, 332.
[36] Bryan Magee, 10 & 1991.
[37] Mahmud Ahmad Khafaji, *Muhadarat fi al-Mantiqiyyah al-Wad`iyyah wa al-Brajmatiyyah* (T.tp.: T.pt., 1999), h. 75 & 76.
[38] Hadi Fadl Allah, *al-Sufusta'iyyah: bayn al-Wujudiyyah wa al-Braghmatiyyah* (Beirut: Dar al-Hadi, 2008), h. 156-158.

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Menurut ukuran pragmatisme, apabila terdapat banyak pendapat yang saling bertentangan, maka pendapat yang paling benar adalah yang paling berguna dan menguntungkan – iaitu manfaatnya dapat dibuktikan oleh pengalaman praktis. Sebaliknya, idea yang tidak memiliki nilai praktis dianggap ungkapan kosong yang tidak bernilai. Dalam konteks ini, kebenaran distatuskan sebagai "penciptaan suatu yang baru", bukan sebagai "penemuan suatu yang sedia ada". Ini membingungkan makna kebenaran itu sendiri. Kebenaran tidak lagi bercirikan ungkapan bagi apa yang ada.

Justeru, hakikat kebenaran itu lebih berupa ciptaan idea, lebih daripada sesuatu yang berciri menetap bagi idea yang perlu disingkap. Seolah-olahnya, sebelum tersingkap nilai praktis sesuatu idea, konsep atau kepercayaan itu, maka tiada nilai sahih atau palsu baginya. Dari sudut yang lain pula, hakikat kebenaran itu sentiasa berubah dan berkembang menurut lingkungan masa, situasi dan lokasi. Ia tunduk kepada latar pelbagai yang dihadapi oleh manusia. Nilai kebenaran dan kepalsuan dianggap nisbi dan relatif, bukan sabit dan statik.

Berhubung implikasi sosial pula, kegunaan praktis yang menjadi ukuran kebenaran menurut pragmatisme adalah kabur. Timbul persoalan, kegunaan praktis tersebut melibatkan manfaat siapa – individu atau kelompok –? Ianya ekslusif milik siapa dan apakah batas lingkungannya? Jika manfaat individu menjadi pra-syarat kebenaran, sudah tentu nilai kebenaran itu saling berbeza antara satu sama lain dengan kepentingan individu-individu. Jika demikian, timbul kekacauan sosial yang mengerikan tatkala setiap individu memilih dan menentukan nilai kebenaran menurut persepsi masing-masing tanpa menghiraukan persepsi orang lain.

Perspektif Islam jelas dan tegas menolak falsafah Pragmatisme yang mengasaskan alasan penerimaan sesuatu kepercayaan itu kepada maslahat dan kepentingan yang menyusulinya semata-mata. Sebaliknya, Islam menggesa manusia menelusuri dan menjejaki laluan yang dapat mengenalkannya kepada hakikat tanpa dicelahi nafsu dan kepentingan diri sehingga menatijahkan kesudahan yang meyakinkan atas nama iman. Hal ini merujuk kepada firman Allah dalam Surah al-Isra', ayat 36 yang bermaksud: "*Dan janganlah kamu mengikuti apa yang kamu tidak mempunyai pengetahuan tentangnya. Sesungguhnya, pendengaranpenglihatan dan hati nurani, semuanya itu akan diminta pertanggungjawabannya*". Iktikad kepercayaan bukanlah 'metode', sebaliknya ianya adalah 'hasil dapatan' daripada 'metode'. Maka, bagaimanakah ianya boleh dikalihkan sebagai 'metode' jika tidak kerana kebebalan hawa nafsu dan kepalsuan hujah sofis para pendukung Pragmatisme tersebut?

Muhammad Baqir al-Sadr, *Falsafatuna* (terj. Smith Alhadar) (Bandung: PT Mizan, 2014), h. 212 & 213.

[1] Muhammad Mahran Rashwan, h. 72 & 73.

[1] Al-Sadr, h. 213.

[1] Muhammad Sa`id Ramadan al-Buti, *al-Din wa al-Falsafah* (Dimashq: Maktabah al-Farabi, 1994), h. 27 & 28.

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PERBANDINGAN PRESTASI SUBJEK BAHASA DI KALANGAN PELAJAR JABATAN MUAMALAT, KOLEJ ISLAM ANTARABANGSA SULTAN ISMAIL PETRA (KIAS)

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Abstrak: *Kebanyakan penduduk dunia adalah bilingual dan ramai yang multilingual. Manusia menguasai banyak bahasa dengan tujuan yang berbeza-beza. Dengan itu keperluan kepakaran berbahasa semakin meningkat. Di samping bahasa ibunda yang dikuasai sejak lahir, manusia belajar bahasa kedua atau bahasa asing sebagai satu nilai tambah bagi kehidupan yang berkualiti. Oleh yang demikian, pengajaran dan pembelajaran bahasa asing dalam sistem pendidikan Malaysia semakin berkembang. Sejajar dengan itu, kajian ini memfokuskan satu jabatan pengajian yang mendedahkan kepada tiga jenis bahasa yang terdiri daripada Bahasa Arab, Bahasa Kebangsaan dan Bahasa Inggeris untuk menilai prestasi para pelajar dalam mempelajari dan memahaminya. Tiga jenis bahasa tersebut merupakan medium pengantar bagi tiga kursus diperingkat diploma iaitu Diploma Perbankan Islam, Diploma Kewangan Islam dan Diploma Pengurusan Logistik dan Rantaian Bekalan di bawah Jabatan Muamalat, KIAS. Bahkan bahasa-bahasa itu merupakan mata pelajaran wajib bagi kursus-kursus berkenaan. Reka bentuk kajian ini merupakan kajian kualitatif yang menglibatkan metode pengumpulan data dan penganalisisan data. Data kajian dikumpul berdasarkan keputusan peperiksaan para pelajar dan dianalisis menggunakan perisian Minitab. Data pencapaian para pelajar diambil dalam tempoh tiga tahun bermula pada 2015 sehingga 2017 untuk melihat perbandingan prestasi yang melibatkan mereka sama ada yang mempunyai latar belakang pengajian bahasa asing sebelum ini ataupun tidak. Oleh yang demikian, keputusan kajian ini diharap dapat membantu jabatan dalam meningkatkan prestasi pelajar-pelajar yang mengikuti kursus-kursus yang ditawarkan.*

Kata kunci:
bahasa arab, kursus, kualitatif, muamalat, pendidikan, kecemerlangan

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Pengenalan

Perkembangan pendidikan di Malaysia ternyata mengalami banyak perubahan, terutama sejak zaman penjajahan hinggalah zaman selepas merdeka. Perkembangan masyarakat seiring dengan perkembangan dasar- dasar negara yang sentiasa ditambah baik bagi memastikan keperluan rakyat terbela (Adnan Yusopp, 2005). Melalui KPM, kerajaan turut memberi perhatian kepada pendidikan Islam dan bahasa Arab dalam usaha mentransformasikan bidang pendidikan di Malaysia. Walaupun bahasa Arab telah mendapat kubu kuat yang besar terutama pada permulaan abad ke-21abad yang sama, tidak dapat

dikatakan tentang pencapaian pelajar dalam hal ini (Chee Pee, 1991). Penemuan dalam penyelidikan yang dijalankan, mendapati bahawa pengajaran dan pembelajaran Bahasa Arab di Malaysia masih belum mampu memenuhi tujuan dan objektif yang dikehendaki (Kamarulzaman et al., 2002). Menurut Mat Taib Pa (2006), penguasaan Bahasa Arab di kalangan pelajar Melayu sangat lemah. Kelemahan mereka juga lebih banyak yang mendalam terhadap pendahulunya, walaupun mereka mempunyai buku teks yang lebih baik, kurikulum pepejal dan banyak lagi guru yang berkelayakan. Nampaknya penurunan itu semakin teruk. Kelemahan pelajar dalam penguasaan Bahasa Arab mereka tetap kekal perbahasan (Kamarul Syukri, 2009). Majoriti pelajar yang mengikuti pengajian Islam dan Bahasa Arab masih lemah dalam penguasaan bahasa mereka (Muhammad Fauzi, 2010). Mohd Helmi (2011) melaporkan bahawa kurang memperkasakan Bahasa Arab dikenal pasti sebagai faktor kegagalan pelajar Malaysia di Al-Azhar universiti. Di kalangan 786 pelajar, 361 pelajar gagal dalam sesi kajian 2010/2011 di Al-Azhar. The Jumlah pelajar yang gagal dapat mengejutkan semua pihak di Malaysia. Hakikat bahawa kebanyakan pelajar adalah yang ditaja oleh kerajaan Malaysia memberikan impak negatif di negara yang menghasilkan kualiti yang baik pelajar siswazah dari segi kecekapan dalam Bahasa Arab. Penemuan ini menunjukkan pelajar Malaysia gagal dalam memperoleh bahasa ini. Mengesahkan masalah ini, Muhammad Faisal Hashim (2011) menyokongnya penyelidikannya bahawa kegagalan pembelajaran Bahasa Arab adalah disebabkan oleh ketidakupayaan pelajar untuk berlatih mendengar, berbicara, membaca dan menulis kemahiran menggunakan Bahasa Arab walaupun mereka belajar negara di mana bahasa Arab digunakan secara meluas.

Ab. Halim (2007) menyatakan bahawa penguasaan Bahasa Arab di kalangan pelajar dalam jawatan Kajian tertiari yang khusus dalam bahasa Arab sebagai bahasa, tidak mencapai tahap yang dikehendaki. Muhamad Pisol et al. (2005) menyatakan kelemahan pelajar institusi pengajian tinggi (IPTA) dalam perolehan ini. Pembelajaran dan pengajaran bahasa arab merupakan subjek wajib dan dikendalikan oelh Jabatan Bahasa Arab serta Pusat Khidmat Akademik KIAS.

Kaedah

Kajian ini menggunakan kaedah qualitative di mana data keputusan pelajar setiap semester bagi mata pelajaran Bahasa Arab, Bahasa Inggris dan Bahasa Kebangsaan dicatat bagi Jabatan Muamalat di KIAS. Pelajar yang terlibat terdiri daripada pelajar Diploma Pengurusan Logistik dan Rantaian Bekalan, Diploma Kewangan Islam dan Diploma Perbankan Islam.

Keputusan

Hasil dapatan daripada keputusan pelajar yang dicatat dan dibandingkan mengikut semester (Rajah 1-4). Pada awal semester pengajian, pelajar lebih skor kepada mata pelajaran Bahasa Kebangsaan berbanding Bahasa Arab dan Bahasa Inggeris (Rajah 1). Walau bagaimanapun, pada semester ini, peratus pelajar yang gagal mencatatkan bacaan 0. Keputusan pencapaian pelajar di rekodkan bagi setiap semester sehingga Semester 17/18. Pada Semester 16/17, pencapaian pelajar dalam Bahasa Arab semakin meningkat. Di KIAS, pelajar perlu mengikuti kursus intensif Bahasa Arab setiap kali cuti semester. Dengan cara ini, pelajar boleh meningkatkan kemahiran dan pemahaman dalam Bahasa Arab.

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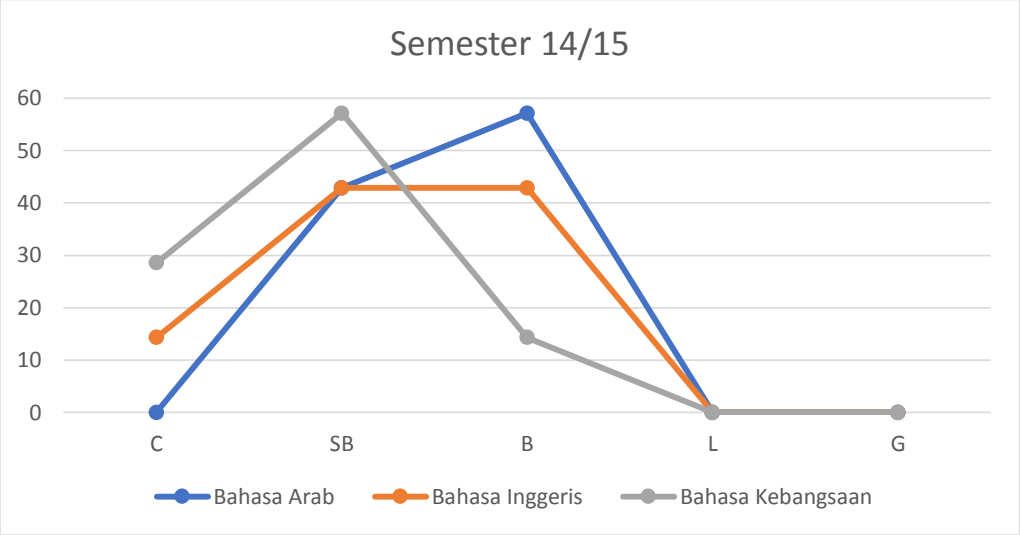
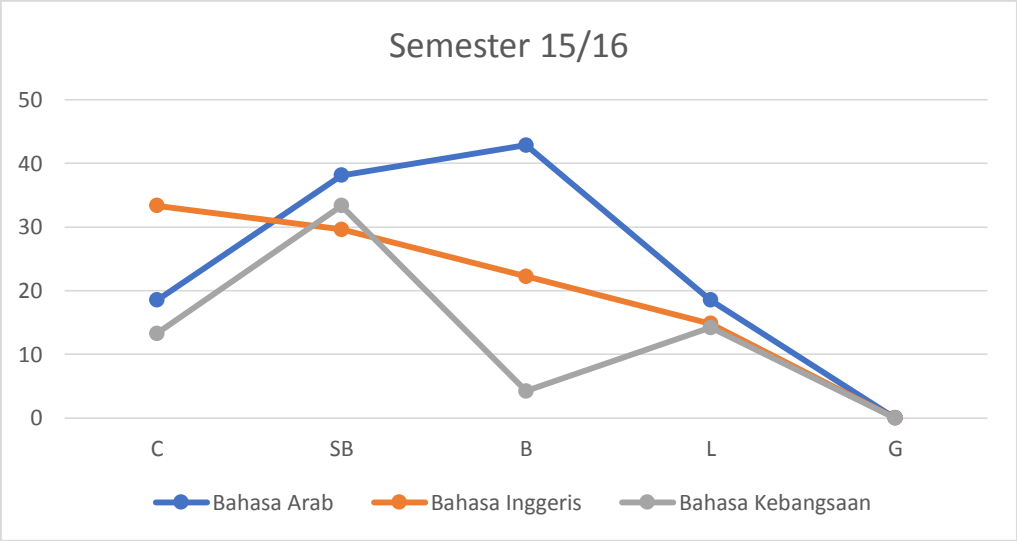
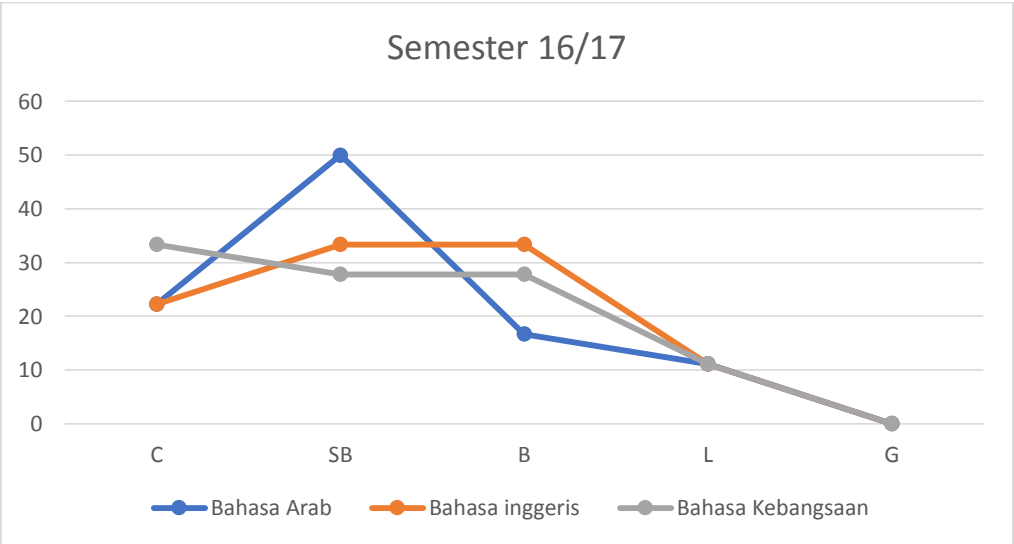


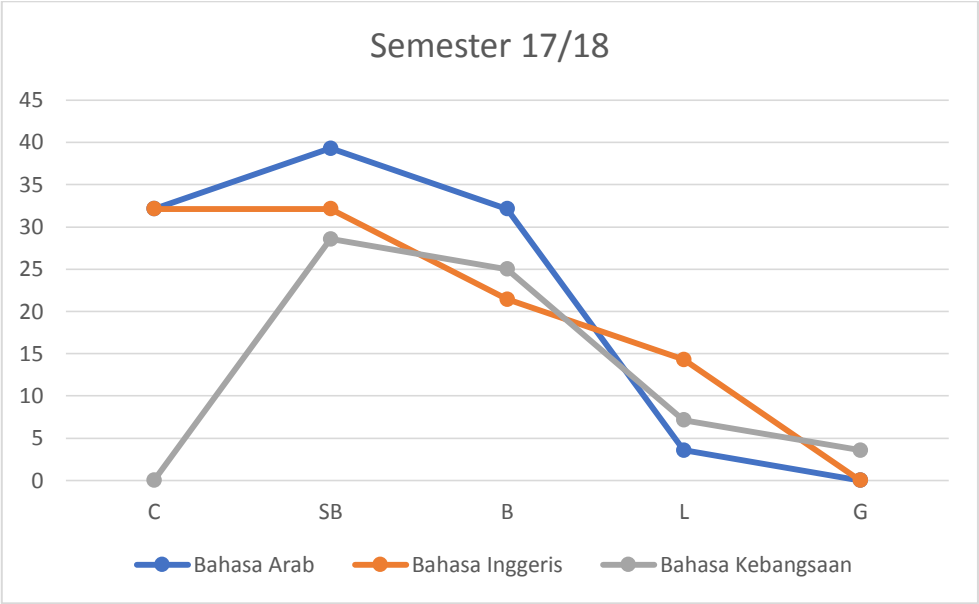
Rajah 1: Penilaian Pelajar Pada Semester 14/15



Rajah 2: Penilaian Pelajar Pada Semester 15/16



Rajah 3: Penilaian Pelajar Pada Semester 16/17



Rajah 4: Penilaian Pelajar Pada Semester 17/18

Kesimpulan

Berdasarkan penemuan kajian adalah jelas bahawa tahap pencapaian pelajar di KIAS dalam mata pelajaran Bahasa Arab adalah baik. Pelajar didapati sangat berminat dan mempunyai sikap positif ke arah subjek. Kajian ini telah mencadangkan beberapa pendekatan dalam pengajaran pembelajaran bahasa Arab. Kajian ini telah menunjukkan betapa pentingnya pembelajaran berpusatkan pelajar kerana keberkesanannya. Tidak seperti pembelajaran Bahasa Inggeris, pelajar mesti berjuang untuk berjaya dalam subjek bahasa Arab diikuti dengan strategi yang baik. Malah, bagi pelajar Jabatan Muamalat, kebanyakan pelajar mula didedahkan dengan Bahasa Arab seawal mengikuti pengajian di KIAS berbanding bahasa-bahasa lain.

Masa pengajaran boleh dibahagikan kepada merangsang menggunakan Bahasa Arab dalam situasi sebenar. Ini akan membolehkan dan menggalakkan pelajar mendalami dalam situasi kehidupan sebenar. Tenaga pengajar perlu membuat perancangan dan menggunakan strategi yang berbeza untuk mengajar pelajar yang tidak diberi motivasi. Untuk membuat proses pengajaran pembelajaran, hubungan yang berjaya antara guru dan pelajar mesti diwujudkan (Mohd Aderi et.al., 2013).

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KNOWLEDGE AND ATTITUDE ON FOOD SAFETY AMONG FOOD HANDLERS IN UNIVERSITI TEKNOLOGI MARA (UITM), MALAYSIA

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Abstract: *Conjunction with Tourism Malaysia slogan, Visit Malaysia, foodservice industries in Malaysia are expanding tremendously over the past years. International and local tourist takes advantage of eating in restaurants and buying local food dishes in popular night market. The demands of readymade food for the quick meal at home also increase due to the impact of technology in the modern lifestyle. Based on this scenario, food handlers play a major role in preventing food outbreaks from foodborne illness. They had to ensure the foods are safe to devour especially during food preparation and food production in any catering operations or food premises. The purpose of this study was to assess food safety knowledge and attitude among food handlers in Universiti Teknologi MARA (UiTM), Selangor. The convenience sample of 112 food handlers was collected from 62 food premises (restaurants, kiosk, cafeteria and food court) in UiTM, Malaysia. Therefore, descriptive statistic was used to analyze the data regarding food handler knowledge and attitude which related to food safety in five areas that includes on personal hygiene, foodborne illness, cross contamination, time and temperature control as well as sanitizing. The results show that the respondents have a good knowledge in three areas of food safety, personal hygiene (M=4.6, SD=0.93), foodborne illness (M=4.6, SD=0.93) and cross contamination (M=4.6, SD=0.93) and a good knowledge in time and temperature control (M=4.03, SD=1.11) compared with moderate knowledge in sanitizing (M=2.39, SD=1.61). Majority of respondents' overall knowledge level on food safety were satisfactory (M=3.96, SD=1.15). This is in line with their education level whereby majority of them have been exposed to the importance of personal hygiene, foodborne illness and cross contamination. Based on the study, the management should emphasize an appropriate training especially on sanitizing to their employees in order to increase the safety in their food premises. The information from this study can also be used as a platform for local authorities and other catering management to improve the level of knowledge on food safety among food handlers.*

Keywords: *Knowledge, attitude, food handlers*

Introduction

In the new era of globalization and innovation technology of food businesses, it has been a glooming widespread in the changing lifestyle and food consumption of people. With the concept of ambience and themes, they offer convenience and easier access to food to busy individuals, who are unable to prepare their own meals at home. In order to cater to customers' demands, they prepare a large amount of cooking; food passes through many vendors, transportation and hands, thereby increasing the chances of food contamination due to improper handling which may occur.

According to World Health Organization (2012), food contamination has led to millions of people from around the world to become ill and thousands to die every year. This contamination can happen because of the lack of awareness of people at any of the stages during preparation until the food is consumed and supported by Tauxe, Doyle, Kuchenmüller, Schlundt, and Stein (2010), food can becomes contaminated by microorganism such as pathogens, and parasites at different stages in the food production and preparation process.

Foodservice industry in Malaysia is expanding tremendously over the years. Due to the fast speed of living, most people take advantage of eating in restaurants and buying readymade food for the quick meal at home (Haryani, Noorzaleha, Fatimah, Noorjahan, Patrick, Shamsinar & Son, 2007).

However, food contamination by food handlers could occur and lead to foodborne diseases if they neglect proper food handling practices in their premises.

As a result, Malaysia had to set a rule that the food handlers or the merchants who need a license or to renew their license, have to attend compulsory courses on food handling. During the courses, the food handlers will be exposed on the causes of foodborne diseases, the agent of transmission, the importance of personal hygiene and the correct practices of food handling. Information from the Ministry of Health Malaysia (2010), there has been an increase in the incidence rate of foodborne diseases from 2005 to 2008. Although the trend of food poisoning declined in 2009, there was a death reported due to foodborne diseases in that year with the same mortality rate as 2008.

Soon, Singh & Baines (2011) reported that half of the foodborne related diseases from the early 1990s were associated with outbreaks in institutions and schools, mostly due to unhygienic food handling procedures.

Outbreak surveillance and monitoring, training and Hazard Analysis Critical Control Point (HACCP) implementation at food service establishments all play a vital role to prevent or reduce foodborne diseases.

Previous reports indicate that besides poor hand and surface hygiene, lack in personal hygiene amongst food handlers was also one of the most commonly reported practices that gave rise to foodborne illness (Collins 2001). This shows that if food handlers take serious note on the cleanliness of their hand, body and clothing, this will help in preventing incidence of cross-contamination from occurring (Sneed et al. 2004).

Furthermore, the ignorance of an employee attitude that might contaminate his or her hands when using the toilet, or bacteria might spread from raw meat to the salad greens by food handler's hands. It has been pointed out that the data on risk factors for foodborne diseases imply that most outbreaks result from improper food handling practices (Ehiri & Morris, 1996). A study in the USA suggested that improper food handler practices contributed to approximately ninety seven percent of foodborne illnesses in foodservice establishments and homes (Howes, McEwen, Griffiths, & Harris, 1996).

Supported by numerous studies conducted in Ghana, concerning various aspect of food hygiene over the past decade, it was revealed that poor food safety among food handlers and with personal hygiene were least observed by the least educated (Annor & Baiden, 2011). There is strong statistical evidence that seventy percent of all bacterial food poisoning is caused by food

handlers. While in Turkey, many issues that impose risk on food safety are due to industrialization and mass production, fast food consumption, street vendors and growing globally trade and tourism were identified (Bas, Ersun & Kvauc, 2006).

Therefore this study will focus on the knowledge among food handlers and their attitude in which have a major role in the prevention of food poisoning during food production and food storage.

Food handlers may cross contaminate raw and processed foodstuffs as well as inadequate cooked and stored foods. They can also be asymptomatic carriers of food poisoning organisms (Cruickshank, 1990). Foodborne illness has been associated with improper storage or reheating (50%), food stored inappropriately (45%) and cross-contamination (39%), (Bean & Griffin, 1990)

Literature review

Food Safety Knowledge

In Malaysia, the main contributing factor was identified as insanitary food handling procedures which accounted for more than 50% of the poisoning episodes (MOH, 2007). For example, in January 2008 alone, thirty incidents of food poisoning and food chemical intoxication were reported. As previously stated most of the implicated food settings occurred in schools' and academic institutions' of food preparation premises. Inappropriate food handling practices, meals prepared too early and kept at ambient temperature until served and unhygienic practices and the negative attitude of food handlers were among the causes of food poisoning cases.

According to Majid (2013), there were four death and 60 others admitted to the hospital in Alor Setar, Kedah from the infection of Salmonella. This was caused by the improper food storage and food handling during the cooking process of chicken in spicy tomato sauce.

Food safety implementation in Malaysia is still considered very slow in term of enforcement as reported that proper hygiene practices and procedures on the food production line are often being ignored by some of the food handlers.

Besides, the supply and the availability of raw materials are always inconsistent and consequently have caused outbreaks of food poisoning (M.I. Zulkifly, M.M. Salleh et al., 2013).

From the aforementioned discussion, it may be understood that risk of food getting contaminated depends largely on the health status of the food handlers' knowledge, attitude and practice of food safety (Soon et al., 2011). Infections can also be acquired through contaminated unwashed fingers, insects, and circulation of bank notes and by wind during dry conditions (Isara, 2009).

Having said that Soon (2011) suggested that some of the key agencies from the Malaysian Ministry of Health, academia, industries and research institutions should continue to strengthen their collaboration and networking in order to coordinate the prevention and control of foodborne diseases and thus improve public health among students.

It is very clear that good knowledge of food safety is important in order to avoid any negative consequences regarding foodborne illness. Therefore, it is important to assess knowledge and attitude of food handlers and examines the influence of knowledge and attitude of food handlers. Nevertheless, it is not only the ignorance of the important knowledge of food hygiene among food handlers that causes food poisoning, but also the lack of applying the acquired knowledge in ensuring the safety of the food that is been served will be uncertainly.

Food Handlers' Attitude

Knowledge on the importance of food safety should be given to all staffs in the food processing businesses so as to bring behavioral changes besides adopting of positive attitudes (Coleman &Roberts, 2005). But in some previous studies no differences were detected between the staffs who attended an educational course with those who did not (Angelillo, Viggiani, Rizzo & Bianco, 2001 and Askarian et al., 2004).

Human handling errors have been responsible for most outbreaks of food poisoning (Jevšnik et al., 2012; Nee and Sani, 2011) for example; Hepatitis A virus can be introduced by unwashed hands of the food handlers who are themselves infected. Education is important for increasing the knowledge of the food handlers; however, increased knowledge of food safety does not always result in positive change in food handling behaviors.

This statement was supported by several studies (Bas et al., 2006; Jevšnik et al., (2012); Nee and Sani, 2011), and it indicates that although training may increase the knowledge of food safety, this does not always produce a positive change in food handling attitudes. Meanwhile, Park, Kwak & Chang (2010) also pointed out that knowledge alone is not sufficient to promote positive attitudes and safe behaviors among the food handlers.

herefore, the food handlers need to have a confident understanding of the basic knowledge of food safety at least, to ensure they can assess relative risks and make informed decisions about food handling practices.

Toh and Birchenough (2006) concurred that there have been many food safety studies on domestic, commercial and retail foods but not much is known as to the extent of hygiene knowledge of food handlers in Malaysian Universities and this information regarding knowledge, attitude and practice needs to be strengthened further among food handlers especially in UiTM where the study will be conducted.
Therefore, this study will assess the knowledge and attitude of food handlers in order to maintain good practices concerning food safety among food handlers in Universiti Teknologi MARA, Shah Alam which involved structured food premises such as at kiosks, restaurant, cafeteria and stall.

Methodology

The primary objective of this study is to assess knowledge, attitude and practice (KAP) among food handlers in UiTM, Shah Alam as mentioned in Chapter One. Based on the nature of the study, quantitative approach was chosen to get the significant data result. This study utilized the descriptive method of research which is known as a fact-finding study that involves adequate and accurate interpretation of findings (Powell, 1997).

Sekaran (2009) also assured that quantitative methods establish very specific research problem and terms. The controlled observations, mass surveys, laboratory experiments and other means of research manipulation in quantitative method makes gathered data more reliable.

In other words, subjectivity of judgment, which is not needed in a thesis discussion, can be avoided through quantitative methods. Thus; conclusions, discussion and experimentation involved in the process are more objective.

Variables which are needed in the study are clearly and precisely specified in a quantitative study. Fryer (1991) noted that quantitative researchers aim to decode, describe, analyze and interpret accurately the meaning of a certain phenomenon happening in their customary social contexts.

Descriptive research describes a certain present condition where the normative survey approach and evaluation, which is commonly used to explore the knowledge according to respondents that represent a whole population of food premises in UiTM.

The purpose of employing the descriptive method is to describe the nature of a condition, as it takes place during the time of the study and to explore the cause or causes of a particular condition. The researcher opted to use this kind of research considering the desire to acquire first hand data from the respondents so as to formulate rational and sound conclusions and recommendations for the study.

A quantitative approach was used for data collection because it is cheaper and quicker as compared to interviews. In this study, data was collected using self administered questionnaires that were distributed to the respondents. According to Sekaran (2009), the uses of questionnaires enable the researcher to obtain the data needed in a short period of time.

Populations and Sample

In general, a questionnaire used convenience sampling in order to obtain respondent's knowledge on food safety and their actual practices in the food premises. The survey to evaluate the food safety knowledge, attitude and practices among food handlers within the campus of Universiti Teknologi MARA,Shah Alam was carried out from March to April 2013 in food premises such as restaurant, cafeteria, kiosk, and food court in UiTM. The respondent in this study were food handlers from all 62 structured food premises in Universiti Teknologi MARA, (UiTM) in Shah Alam which involved 240 food handlers in total (Unit Pembangunan Perniagaan, HEP, 2012).
Selecting an appropriate sample size is a critical aspect in research with particular reference to this study. Since the food handlers population is only 240, a sample of 112 is convincing enough as a true representative and this was considered for the purpose of this study. Sample size of 112 is in conformity with Bailey (1994) who indicates that sample size of 100 is sufficient and Roscoe's (1975) rule of thumb, sample size between 30 and 500 being sufficient.

Instrument

A self-administered structure questionnaire was design and modified by the aid of previous research (Lin and Sneed, 2003). The questionnaires were reconstructed using the OMR software and each respondent was asked to blacken the answer.

It is worth mentioning that the questionnaire was comprised of four distinct parts; demographic characteristics of the participants, knowledge related to food safety, food handlers' attitude towards food safety actual practices.

The questionnaire was divided into four parts:

1. A demographic section
2. Food safety knowledge
3. Food handlers' attitude and
4. Food handlers' actual practices.

The Likert scale was used to interpret items in the questionnaire. These responses were based on the respondents' assessing knowledge in food practices and actual practices process model. Food handlers were asked to indicate their level of agreement to the statements using a five-point rating scale for part two and three (strongly disagree=1, disagree=2, uncertain=3, agree=4 and strongly agree=5) and part four (never=1, rarely=2, sometime=3, often=4 and always=5). Close ended questionnaire using a likert scale was selected for this study because of its reliability and ability to provide a greater volume for this study particularly when measuring people's knowledge and opinions towards different aspects (Babbie, 2007). Besides that, Sekaran (2009) stated the survey instruments should be straight forward so that the respondents can answer the questions in the most consistent manner in order to obtain the useful data and response. In order to get more understanding, the questionnaires were constructed in dual linguistic, English language and Bahasa Malaysia by considering of the demographic of some food handlers (consulted by personnel from Akademi Pusat Bahasa).

Pilot Study

A pilot study was carried out in order to check and clarify the questionnaire in terms of the right used of language, meaning and relevance of each items. Pilot test also enables the researcher to check whether the questionnaire used is suitable in Malaysian context. Pilot study was executed in March 2013 with the total of 30 randomly selected respondents. The respondents consisted of customers who had experience in food industry. It was posited by Malhotra (2004) that extensive pretesting is a must before a particular survey instrument be used in an actual field study. Therefore, pilot study is very important for every survey as according to Pallant (2011), questionnaire adepted from previous researchers also require pilot study so that the instrument blend and work well with the intended population.

According to most rules of thumbs, the Cronbach's alpha coefficient of a particular scale should be above .70. Checking the reliability of each scale with the particular sample is necessary (Pallant, 2011).

Data Collection

A set of 112 questionnaires were distributed and all of them were successfully collected. Each of survey forms were received and marks with identification numbers. Mean responses and percentages of responses in each category were calculated and presented in tabular form. Analysis conducted to investigate demographic differences in concern about food safety knowledge and attitude among food handlers.

Statistical Analysis

This study utilized SPSS (statistical packages for the social science) windows version 20.0 for analyzing the collected data. Descriptive statistics including frequencies, means, and standard deviations were calculated for all variables as appropriate. Analysis of variance (ANOVA) was used to examine differences in food safety knowledge, attitudes, practices among food handlers and correlations assessed the relationship between education levels of food handlers' demographic characteristics and the mean total scores for food safety knowledge, attitudes, and practices. Multiple linear regressions were used to test relationships among employees' food safety knowledge, attitudes, practices, and demographic variables. A probability of equal to or less than 0.05 was considered significant.

Result

Food safety knowledge question were grouped into five categories: personal hygiene, foodborne illness, time and temperature control, cross contamination and sanitizing. Based on Table 4.2 , the mean scores for all 10 items in the food safety knowledge variables ranges from 2.39 to 4.6, thus indicating 3 items with moderate scores and 7 items with the high of mean scored items; which are "The most important rule of foodservice personal hygiene is that employees must wash their hands often." (M = 4.6, SD = 0.93), "Foodborne illnesses are diseases that are carried or transmitted to people by food" (M = 4.6, SD = 0.93).

It might be possible that the reason behind these high mean scores are due to the fact that based on their level of education, majority of the respondent (college, diploma, bachelor and master) have been exposed to the importance of personal hygiene, foodborne illness and cross contamination. This is supported by previous studies by Nee & Sani (2011), Abdul. M. et al. (2012) and Lin & Sneed (2003) that showed a high level of knowledge on personal hygiene and cross contamination scores among food handlers.

However, the lowest mean score is recorded for item 'When iodine solutions (such as Microcline) are used for sanitizing, the item must be immersed in the solution for 30 seconds.' (M=2.39, SD=1.61), and 'The temperature danger zone for potentially hazardous foods is 41° to 140°F.' (M=2.39, SD=1.61). It might be possible due to some of the respondent were only have basic education (form 3, form 5 and high school) and was not be able to indentified the answer regarding sanitizing procedures and the important of time and temperature control in order to attain the safety of the food.

Discussion

There is also an acceptable knowledge among the food handlers about the process of reheating and preparing food. In has been the trend in food service establishments especially in self service restaurants to cook the food earlier. Some of them use water bath to keep the food hot and reduce multiplication of harmful microorganisms but others just let the dishes on the shelves or tables for a long period of time. This action will lead to food contamination and allow the growth of microorganisms. A study by Gomes-Neves et al. (2007) found that food handlers did not take into account the importance of temperature control during cooking and storing of food.

While in this study, the overall mean knowledge on basic understanding of food safety knowledge is 3.96 which shown that the food handlers in UiTM have satisfactory knowledge in three areas of food safety questions; personal hygiene, foodborne illness and cross contamination compare with moderate knowledge in time and temperature control and sanitizing.

Table 4.1: Descriptive Analysis for Knowledge Related to Food Safety

NO	KNOWLEDGE	MEAN	SD
	Personal Hygiene		
1	After washing their hands, employees should avoid touching their hair.	4.41	0.97
2	The most important rule of foodservice personal hygiene is that employees must wash their hands often.	4.60	0.93
3	**Foodborne Illness**		
	Foodborne illnesses are diseases that are carried or transmitted to people by food.	4.60	0.93
	Time and Temperature Control		
4	The most important factors to control the growth of bacteria are temperature and time	3.97	1.29
5	When holding hot foods for service, it is required that internal food temperatures are taken at least every two hours.	4.02	1.22
6	The temperature danger zone for potentially hazardous foods is 41° to 140°F.	2.39	1.61
7	Under running water that is 70°F or less is an acceptable method for thawing frozen food.	4.03	1.11
	Cross Contamination		
8	Cross contamination is the transfer of harmful substances or micro-organisms to food from food or from a non-food contact surface, such as equipment, utensils, or hands.	4.54	0.89
9	Sarah wore disposable gloves while she formed raw ground beef into patties. After she was finished, she wore the same gloves to slice roast beef for sandwich. What mistake did Sarah make? She failed to change her gloves and wash her hands after handling raw meat and before handling a ready-to-eat food item.	4.60	0.93
10	**Sanitizing**		
	When iodine solutions (such as Microcline) are used for sanitizing, the item must be immersed in the solution for 30 seconds.	2.39	1.61

Several limitations noted in the earlier part of this research suggests more improvement and other recommended future explorations. The first possible limitation is related to the sample size. The limited samples involved in this study have made it difficult for the researchers to generalize to all food handlers in UiTM. It would be worthwhile if future research can be undertaken by considering more variety of food handlers' profiles in UiTM, such as their demographic profile with different experience background.

Conclusion

The study attempted to assess the knowledge of food safety and attitude among food handlers in UiTM by utilizing a quantitative approach. A number of issues point out especially the appropriate measurement tools could be better to (2) described and explored by utilizing

exploratory qualitative techniques, (3) observation of food preparation and (4) observation related to food safety actual practices among food handlers' in UiTM, Malaysia.

Other than that the limitation was the inability to achieve the sample size. Due to operational reasons the sample was reduced from the planned 240 to 112. Other than that the respondent that participated in this study can be biased because most of the food handlers were UiTM ex-student. Therefore, it was not presenting more comprehensive picture of food handlers experience and to strengthening the result of this study.

As a result, future research can be done by exploring the relationship of food safety knowledge, attitude and practices and food handler's demographic profiles such as education levels, working experience and others. It also can be more intensive studies over wider geographical areas that involve all Universiti Teknologi MARA in Malaysia (Toh & Birchenough, 2000).
Finally, it is also suggested that these kind of study which is known to have huge impact nationally, should be done as a national initiative and with collaboration from relevant government agencies such as the Ministry of Health or other related agencies. Involvement of the Malaysian Association of Hotels (MAH) can also be encouraged to give exposure to food handlers in UiTM regarding current issues of food safety knowledge, attitude and practices (KAP) .

For the students' aspect, this study can be used as information the important of food safety knowledge in order to prevent from consuming unsafe foods in their community. Indirectly, the students also guaranteed a safe food in UiTM food premises when food handlers were well trained and monitors.

As the food handlers' and food operator, this study measured them to increase their KAP in food safety. The level of of food safety knowledge, attitude and practice in food safety can be measured and whatever training that relevant can be plan earlier.

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THE RELEVANCE OF INTELLECTUAL CAPITAL INFORMATION

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Abstract: *In this knowledge-driven economy, the users would like companies to be more transparent by providing more information on the investment of intellectual capital. Intellectual capital able to bring positive values and superior performance to the firms, thus the stakeholders demand for more information on how the intellectual capital has been invested and managed. As a result, most of the companies are calling for a voluntary disclosure of their intellectual capital which can create a value in the future. This conceptual paper discussed an overview of intellectual capital disclosure which provide relevant information for the user. The paper focuses on first, the level of intellectual capital disclosure and second, the effects of intellectual capital disclosure on firm performance.*

Keywords*: intellectual capital disclosure, level of disclosure*

Introduction

Globally, there is an increasing demand of greater transparency in disclosing the intellectual capital information in the market place. This is because the intellectual capital information is crucially important to investors and stakeholders in which they can effectively and properly assess the value of a company's intellectual capital (Muttakin, Khan & Belal 2015). Intellectual capital refers to intellectual resources such as human resources, competence, research and development, customer-based creation, organizational development and relationship which are more significant in creating a corporate value (Kamaluddin & Abdul Rahman, 2009; Vargas-Hernandez & Noruzi, 2010). As a set of knowledge-bearing intellectual resources, intellectual capital requires effective management to enhance the value creation of the firms as well as attaining superior performance (Cohen & Kaimenakis 2007). Overall, intellectual capital are the intangible assets that are not explicitly reported on a firm's financial statement but able to bring positive effects towards firm performance (Wang, Sharma, & Darvey 2016).

The increase in intellectual capital disclosure is due to the fact that global trade has gradually changed to an increase demand for greater transparency for non-financial information in the market place. In a knowledge-based economy, the source of companies' economic value are no longer depends on the production of material goods but on the creation and manipulation of intellectual capital (Guthrie, Petty, Yongvanich, & Ricceri, 2004; Mouritsen, Bukh, & Marr, 2005; Ozkan, Cakan & Kayacan 2017). Therefore, this information represents an approach that can be used by related parties to measure intangible assets and to describe the results of a company's knowledge-based activities.

Previous studies have investigated the determinants of intellectual capital disclosure. Goh and Lim (2004) conducted a study on the annual report of the top 20 profit-making public listed companies in Malaysia. They found that an increasing awareness of the significance of intellectual capital disclosure has increased the competitive advantage of companies. This is because the Third Outline Perspective Plan (OPP3) which incorporates the National Knowledge Economy Master Plan was released by the Malaysian government in 2001. The plan emphasizes on the needs to increase the knowledge resources in all the activities in order to strengthen the country's competitive position. Therefore, companies have begun to realize the importance of intellectual capital in improving their business.

Abeysekera and Guthrie (2005) who studied the top 30 listed companies in Sri Lanka argue that the increased in intellectual capital disclosure is due to the recent amendments made to the Code of Intellectual Capital Property Act 1979. This act identifies technology as a major trusted area and it provides an incentive to the technologically-based industries. Such environment may encourage firms to report more of their intellectual capital. On the other hand, Petty et al. (2008) made a questionnaire survey on the professional accounting in Hong Kong in 2004. Their study reveals that the companies are more transparent in respect to their intellectual capital as compared to 10 years ago. Besides, the respondents believed that a greater intellectual capital disclosure would be rewarded with an increase in the companies' share.

Function of IC disclosure

Detailed information on the intellectual asset provided by an organization could give relevant internal information to the company's management (Mouritsen, Bukh, & Marr, 2004; Van der Meer-Kooistra & M.Zijlstra, 2001). This intellectual capital information might be used by management in monitoring the implementation (indicator), and also to further develop the company's knowledge-based strategy (Mouritsen et al., 2004). An example of a knowledge-based strategy includes planned action that will result in giving a crucial competitive edge to an organization such as low costs, nice products or services and regional presence. Through the indicator, it enables the management to take wise actions to change the current strategy to a new one (Mourtisen et al., 2004) as well as looking at other aspects that need more attention (Van der Meer-Kooistra & M.Zijlstra, 2001). A study done by Mohd Saleh, Hassan, Jaafar, and Abdul Shukor (2010) found that the intellectual capital information is a tool that can be used by management to look in depth and to be used as a follow up method for stage evaluation of its intellectual capital.

Besides functioning as a management tool in developing a specific strategy, the intellectual capital disclosure is also constructive as external information for stakeholders such as investors, partners and clients (Mourtisen et al., 2004). By putting extra focus on its employees, relationship with clients and partners, this intellectual capital could effectively gauge the work efficiency by the respective parties within the company. Besides making a company more attractive for investors, future partners, clients as well as to the employees, this information helps them to assess a company's potential for future earnings.

Failure to provide relevant information on intellectual capital externally may lead to the deterioration of the company's financial position and loss of competitiveness in the long run (Brűggen et al., 2009). It might happen when the potential investor fails in valuing the company's worth due to restriction of these knowledge resources. Lack of reporting on intellectual capital externally will result in lack of information to investors on the development

of a company's intangible resources. As a consequence, it makes the investors' perception of risk higher. Companies with large intellectual capital resources may have problems in finding funds on attractive conditions, as lack of information about investment in intellectual capital could lead to an underestimation of future earnings (Van der Meer-Kooistra & Zijlstra, 2001). Unfortunately, some companies are reluctant to disclose their intellectual capital to external stakeholders. This is because they are afraid of disclosing too much intellectual capital information to the outsiders because this would give an insight into their competitive advantages and can possibility signal the weak aspects of the organization (Vergauwen & van Alem, 2005; Yi & Davey, 2010). Van der Meer-Kooistra and Zijlstra, (2001) found that a company reluctant to disclose externally because by offering more information on the intellectual capital it can be interpreted by a financial analyst as a sign of strength as compared to the competitors, and also it is a sign of commitment of a company's management to realise its goals.

The level of intellectual capital disclosure

Prior research has proved that intellectual capital disclosure has gained importance in recent years. The studies done by Kamath (2017) in India, Oliveras, Gowthorpe, Kasperskaya, and Perramon (2008) in Spain, Cordazzo (2007) in Italy, Vandemaele, Vergauwen, and Smits (2005) in The Netherland, Sweden and the UK, and Campbell and Abdul Rahman (2010) in Marks & Spencer Company have shown that the level of intellectual capital disclosure has significantly increased.

The recent study of Kamath (2017) on intellectual capital disclosure on 200 firms in India found that disclosure level increase with market capitalization in two period, 2010-2011 and 2013-2014. The publicly listed companies in 12 industries were categorized into well-diversified, mid-cap and small-cap. For the well-diversified firms, external capital disclosure increase significantly as compared to human capital and organizational capital. Meanwhile, human capital and external capital disclosure in mid-cap firm increase significantly and lastly, small-cap firms witness the fastest increasing disclosure level among all the categories.

Oliveras et al. (2008), which looked at content analysis on the annual reports of 12 large listed companies in Spain, shows that the volume of intellectual capital disclosure over a 3 years period (2000 -2002) has significantly increased. They found that, the total number of intellectual capital disclosure had increased from 3,406 observations in 2000 to 6,095 observations in 2002. This increase in disclosure is due to the change of Spain as a knowledge-based economy.

Furthermore, Cordazzo (2007) also discovered that intellectual capital disclosure in the Italian IPO prospectus has increased over the years from 1999 to 2002. This finding seems to suggest that managers believe that this information is important in the valuation of their firms by the capital market. This is similar to Vandemaele et al. (2005) who investigated the intellectual capital disclosure in the years 1998, 2000 and 2002 on the 20 greatest market capitalizations for three different countries (The Netherland, Sweden and UK). By using sentences as the recording unit (0 for no intellectual capital information, 1 for providing qualitative information, and 2 for providing quantitative), they found that there were an increasing trend of the intellectual capital disclosure for the respective year. It has proven that intellectual capital has become an important tool to share the companies' knowledge resources with the outsiders.

In addition, Campbell and Abdul Rahman (2010) examined the intellectual capital disclosure of Marks & Spencer's annual report over a 31 year period from 1978 to 2008. It shows that the company had disclosed about 33 numbers of text themes intellectual capital in 1978. Then, the total number of text was increased to 131 in 1988, 163 in 1998 and 256 in 2008. They found that there is a significant increase in the number of textual clauses devoted to intellectual capital disclosure over time and a marked increase over the previous level since the late 1990s. They argued that as the structure of economies change it is reflected in the intellectual capital reporting and this annual reporting will change according to the users' needs in future.

In contrast, previous studies have also shown that the level of intellectual capital disclosure in the annual report is relatively low. Such disclosures are found in the studies done by Bontis (2003) in Canada, Brennan (2001) in Ireland, Yau, Chun, and Balaraman (2009) in Malaysia, and Yi and Davey (2010) in China.

Yi and Davey (2010) who studied on Chinese companies' annual report for the year 2006 found that the level of intellectual capital disclosure is not too high. It shows that the average number of intellectual capital attributes per company was at 9.08 from the total score of 16. Also, Yau et al. (2009) found that the extent and nature of voluntary intellectual capital disclosure of public listed companies in Malaysia was low in 2003. Both studies argue that this low level of intellectual capital disclosure is due to the low level of awareness of the important intellectual capital information and there is no established and generally accepted framework to the quantity of the intellectual capital information.

Brennan (2001) also found that the level of disclosure of intellectual capital attributes by 11 Ireland listed companies in 1999 was low. This is because the Irish companies make only a little progress in measuring intellectual capital and hence, seems to be little interest and demand for improvement in the measuring and accounting of the intellectual capital assets. Bontis (2003) who made a study on content analysis of 10,000 Canadian corporations' annual report found that a list of intellectual capital related terms yielded a significantly small number of disclosures. He argues that the corporations are generally concerned about their relationship with the capital market and because of this have develop a strategic and tactical initiative for a voluntary disclosure of the intellectual capital. However, these initiatives may initially be used for internal management purposes only and intellectual capital report to stakeholders- focus is not likely as their main goal.

Some prior researches were conducted to investigate the level of intellectual capital disclosure among the Government–Linked Companies (GLCs). Firer and Williams (2005) found that the Singapore's GLCs are likely to disclose more of their voluntary intellectual capital information than the Non-GLCs. They argue that this finding is support the senior government official and the board may directly or indirectly influence the disclosure policies in support of the initiatives by government policies. Besides, Yau et al. (2009) also found that the Malaysian GLCs are more extensive in their overall intellectual capital disclosure so as to meet the investors and stakeholders' expectations. These expectations are in terms of greater transparency and compliance to the expected role of good corporate management that develops the nature of intellectual capital for future success with argument that the politically sensitive companies would use more extensive voluntary disclosure policy to improve investors' relationship and reduce political cost.

The effects of intellectual capital disclosure on firm performance

According to Chen, Cheng, and Hwang (2005) and Ramezan (2011) intellectual capital has a positive impact on market value and financial performance. This finding shows that the investors place a higher value for a firm that has better intellectual capital efficiency, because firms with better intellectual capital efficiency yield greater profitability and revenue growth.

Orens, Aerts, and Lybaert (2009) found that a greater intellectual capital disclosure in continental Europe is associated with lower information asymmetry, lower cost of equity and lower rate of interest paid. They argue that this finding proves that the financial analysts and investors use intellectual capital information to support their investment decision. They use intellectual capital information to add value to the financial statement information in order to assess the firm's value and its future profitability. A similar study done by Petty, Ricceri, & Guthrie (2008) found that 91% out of the total respondents of financial professionals in Hong Kong use intellectual capital reports in making decision externalities. The respondents want the companies to be more transparent and to provide more information on their intellectual capital so that they can make a wise decision.

According to Brűggen,Vergauwen, and Dao (2009), the company can publicly provide evidence about their true values and their wealth creation capabilities by disclosing intellectual capital information, which in turn may enhance the company's reputation. Arvidsson (2011) who used questionnaire survey on investors-relation managers among the largest companies listed on the Stockholm Stock Exchange found that there was a significant increase of the non-financial information which is related to the intellectual assets in a corporate disclosure. The reason for disclosing these knowledge resources to outsiders is to explain the role of intangible assets in the value-creation process and their links with corporate strategy. Besides, Abeysekera and Guthrie (2005) studied 30 top listed firms in the Colombo Stock Exchange and they found that the firm disclosed their corporate image as promoting their firm's value. They also appear to promote their image indirectly as a responsible corporate citizen by taking care of the community and the environment.

In addition, Williams (2001) and Sonnier, Carson and Carson (2009) found that the amount of intellectual capital disclosure is reduced when the intellectual capital performance is too high. This negative association may support the suggestion that a firm reduces its intellectual capital disclosure when its performance reaches a threshold level for fear of losing the competitive advantage. For example, the high level of intellectual capital performance achieved by a firm may have resulted from creativity and innovations introduced by key employees. If a firm discloses its intellectual capital success, a competitor would take this as a signal to entice the employees of the firm into changing their employer. Similarly Bozzolan, Favotto, and Ricceri (2003) also found that although managers would like to offer additional relevant or useful information to the public, they are concerned about the risk of such information being used by their competitors. Either by having a poor intellectual capital base or a good one, managers will encounter risks. If a company has a poor intellectual capital base, the disclosure may have a negative effect on its reputation in the capital market, as it may be perceived as an unsuccessful actor in the knowledge-based economy.

Conclusion

Many firms and even countries have now changed their basic principles of strategy by focusing more on the investment in intellectual capital in order to reposition them in the knowledge-based economy. As a result, most of the companies are calling for a voluntary disclosure of these knowledge-based resources. This is because organizations believe that they have provide the relevant information for managers, investors and stakeholders in understanding how their resources, many of which is intellectual capital which can create a value in the future. Previous studies have found that the level of intellectual capital disclosure is increase. Thus, the scenario indicates the awareness of the firms on the importance of disclosing their intangible assets that can offer advantages not only to the firms but to the stakeholders as well.

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GREEN MAINTENANCE FOR HERITAGE BUILDINGS: AN EMERGING CONCEPT OF EMBODIED CARBON APPRAISAL

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Abstract: *It is well accepted that maintenance is essential for long-term performance of any building. Importantly, it enables the simultaneous retention of cultural value in historic fabric of heritage buildings. Progressively, the efficiency of maintenance interventions for heritage buildings can be assessed in terms of cost, building conservation philosophy and, increasingly, conformity to environmental sustainability. Commonly, low carbon consideration in heritage buildings is considered difficult to achieve due to their limited retrofitting capability. On the other hand, maintenance is one mechanism by which enables carbon savings, initiated through necessary strategies. This paper proposed Green Maintenance model for evaluating the efficacy of maintenance interventions for heritage buildings, based on embodied carbon appraisal. It utilised repair material life cycle data within cradle-to-site boundary of life cycle assessment (LCA), in the form of generated Environmental Maintenance Impact (EMI). Moreover, formulaic expressions of the model used to calculate the relative merits of any selected maintenance intervention over a given time frame. Emergently, the model represents a framework for selection of maintenance interventions in relation to cost, philosophy and embodied carbon expenditure i.e. CO_2 emissions. Significantly, this integrated multi-criteria approach of maintenance decision-making enables carbon emissions to be accounted for an adoption of sustainable repair approach for heritage buildings.*

Keywords: Green maintenance, heritage buildings, embodied carbon appraisal, life cycle assessment (LCA), Environmental Maintenance Impact (EMI), sustainable repair

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Introduction

Heritage was defined as something which passed down from one generation to another (Fielden, 1979; 1994 and 2003; Prentice, 1993), which may comprise of buildings (UNESCO, 1972), either individual or group which are commonly associated with heritage event (Burra Charter, 2013) and inherited with cultural heritage significances and of outstanding universal values (The Commissioner of Law Revision, Malaysia, 2005). Conservation of heritage buildings is significant; protecting cultural resources by retaining financial, economic and societal capital invested in their historic fabric. Conservation also prolongs their life and function; involving maintenance, repair and restoration (see example of restored heritage laterite stones structures in Figure 1 and Figure 2). Heritage buildings were also commonly preserved to safeguard their architectural values (Feilden, 1994 and 2003).

Figure 1: Restored gate of the A Famosa, Malacca, Malaysia
(Adopted from Hasbollah, 2014)

Figure 2: The Phanom Rung temple, Buriram province, Thailand
(Adopted from Ruangsup, 2013)

Commonly, the definition of heritage buildings is vary and very contextual in nature within the context of regional and construction era. The definition is commonly parallel with the significance of their structure, as this universally invokes statutory protection either through a listing system, associative or intrinsic value (Historic Scotland, SHEP document, 2009; 2011). Additionally, English Heritage in Historic England 1990 Planning (Listed Buildings and Conservation Areas) Act 1990 defined heritage buildings as structures of special architectural and historical importance, which may inherited national importance that containing evidential values. On the other hand, Historic Scotland defined heritage buildings as their local greatest assets, buildings with special architectural or historic interest which are recognised by Listed Buildings and Conservation Areas (Scotland) Act 1997 (Historic Scotland, 2011). Meanwhile, The National Trust for Scotland (NTS) defined heritage buildings as structures with special character and locality, comprises of any size and type and frequently originates within important historic and natural settings (NTS, 2005; 2012).

Heritage buildings not only reflect importance of previous functions as well as past activities, but also explaining the records of their historic fabric. It is well understood that historic fabric of heritage buildings are also commonly rooted in particular forms and means of tangibles and

intangible expression. In 2013, ICOMOS Australia through Burra Charter (revised version) in Article 1, historic fabric of heritage buildings may include components, contents, spaces and views. These also mean aesthetic, historic, scientific, social or spiritual values for the past, present or future generations (Burra Charter, 2013). Additionally, these can be laid on the perspective of cultural significance values, which are embodied in the building itself. Therefore, in order to safeguard these values of heritage buildings, it is crucial to optimise their long term performance.

In general, the long-term performance of any building is essentially underpinned by maintenance. Maintenance and repair are crucial to the survival and in-service use of any building (Dann and Cantell, 2007); in the form of simultaneous retention of cultural values in the historic fabric, to "stave off decay by daily care" (SPAB, 2008) and prolonging the life of building's components (Bell, 1997; Maintain our Heritage, 2004). Moreover, maintenance reduces the need for many, often unnecessary costly repairs in the longer term (UWE, 2003). Unfortunately however, the importance of maintenance in terms of reducing embodied carbon expenditure expended during repair of heritage buildings has been ignored by academia and industry alike. Generally, the approach to maintenance evaluation is not always straightforward. Historic Scotland (2008) indicated that *"there can be difficulties in identifying a generic hierarchy of maintenance interventions within historic buildings"* (Historic Scotland, 2008). Commonly, in regards to an evaluation of such repair, difficult decisions need to be taken into account to manage the relevant parameters. These include decisions on budgetary and cost restraints as well as philosophical frameworks of building conservation: reduced intervention; like for like material replacement; and, respect for traditional craft skills (Bell, 1997). However, consideration and evaluation of building maintenance in the context of environmental sustainability conformity, through repair efficiency and embodied carbon expenditure remains unclear.

Maintenance of heritage buildings is crucial in ensuring that the financial, environmental and social capital invested in the protection of their historic fabric is not wasted. Traditionally, maintenance has been recognised as a cost commitment associated with a building (Wise, 1984). But, any maintenance intervention also has a carbon commitment and there is an increasing international focus on reducing carbon in the built environment (Stern, 2006). However, this largely centres on new build works. Conversely, upgrading and maintenance of heritage buildings receives little attention in the context of low carbon consideration. Moreover, low carbon consideration in heritage buildings is considered difficult to achieve due to their limited retrofitting capability. It is well accepted that maintenance is essentially a way of prolonging the lifespan of heritage buildings. Also, maintenance is also one mechanism by which enables carbon savings, initiated through necessary strategies. Therefore, contribution of maintenance to the lifetime carbon emissions, expended from heritage buildings repair, in a way that cumulatively is significant. Associating maintenance with a life cycle carbon approach of heritage buildings repair will leads to the concept of 'green' maintenance, which can be seen as maintenance with minimal environmental impact. This can be demonstrated with maintenance regimes (example of over a period of 100 years), showing on how this concept can model the associated carbon commitment and facilitate options appraisal for heritage buildings. Significantly, this paper proposed Green Maintenance model for evaluating the efficacy of maintenance interventions for heritage buildings, based on embodied carbon appraisal that signify integration of cost, philosophy and environmental impact. The model utilised repair material life cycle data within cradle-to-site boundary of life cycle assessment (LCA), in the form of generated Environmental Maintenance Impact (EMI).

Maintenance of heritage buildings: an integration of cost, philosophy and environmental impact

It is well recognised that protection of historic fabric through maintenance is not only undertaken from a cultural perspective but also from an economic point of view. Remarkably, the scale of the importance of maintenance is reflected in the fact that 50% of Europe's national wealth is enclosed within its existing built environment (Balaras et al., 2005). Moreover, a combination of premature deterioration and lack of regular maintenance can extensively devalue these existing assets. In the context of United Kingdom's Gross Domestic Product (GDP), maintenance accounts for nearly half of the total expenditure on construction nationally (Balaras et al, 2005). Additionally, the UK's built environment contains 450,000 listed and 10.6 million pre-1944 buildings (Maintain Our Heritage, 2004). In 1995, the financial value of repair works to the existing built environment of UK was calculated at £30 billion (in 1995 prices). Comparatively, this figure increased to £36 billion in 2002 (at 2002 prices) [DTI, 2002; Arup, 2003]. For example, in Glasgow alone, the Scottish Stone Liaison Group (UK) have estimated that the cost of masonry repairs required over a 20 year period as approximately £600 million (at 2010 prices) (SSLG, 2006). Moreover, other major cities with a tradition of masonry construction in Scotland (such as Edinburgh) may also need similar levels of investment, investment which benefits both local and international businesses. Progressively, there is an expanding market for heritage buildings repair, i.e. economic cost is incurred for maintenance, both in the national and international context. Looking ahead, however, recognition of the contribution of maintenance should be expanded, not only to cover the protection of the historic fabric of heritage buildings and economic costs of existing built environment, but also to address the perspective embodied carbon appraisal of environmental impact. In addition to the cost perspective, this kind of investment not only provides significant advantage to the maintenance of historic fabric of heritage buildings, but also can reduce the embodied carbon expenditure expended in their repair.

Maintenance interventions association with embodied carbon expenditure

Hammond and Jones (2008a) stated that the "*UK construction industry consumes over 420 Mt of materials, 8Mt of oil and releases over 29 Mt of carbon dioxide annually, including a significant quantity of new materials disposed of as waste*" (Hammond & Jones, 2008a). It is inevitable that the resources in existing building construction are already becoming depleted. Kayan et al., (2017) suggest that 10% of CO_2 emissions from usage traditional material sector. The National Trust for Scotland (NTS) also echoed that, *'the greenest building is the one that is already built'* (NTS, 2005; 2012). Significantly, this statement is substantiated by the premise that an existing structure of heritage buildings negates the necessity for the expenditure of further resources in their maintenance and repair. Reducing embodied carbon expenditure for these existing structures of heritage buildings is therefore essential for their sustained utility efficiency, in the form of low carbon materials. It is well recognised that existing buildings (including heritage buildings) bear *"a cost associated with their environmental impact"* (Historic Scotland, 2008). Commonly, overall focus of efforts to reduce carbon emissions from existing buildings rests mainly on their improvement to reduce heat loss, conserve energy and utilise more renewable sources of energy via retrofitting capability (EU, 2010). On the other hand, SBSA (2007) articulates that '*For existing buildings, it is clear that we cannot make them completely net zero carbon, but the target is to reduce their carbon emissions steadily and*

consistently…' (SBSA, 2007). Importantly, the realisation of this is vital for achieving the overall reduction in carbon emissions, through heritage building life span. For instance, in order to meet global targets, the Scottish Government has outlined their commitment to reduce greenhouse gas emissions in Scotland by 80% (relative to 1990 levels) in 2050 (Scottish Government, 2009). It must be emphasised that, a substantial proportion of these embodied carbon expenditure (CO_2 emissions) have been attributed to the operations as well as the maintenance and repair of existing buildings i.e. including heritage buildings.

Embodied carbon expenditure in heritage buildings repair

Maintenance has been traditionally accepted as a cost commitment that is associated with a building (Wise, 1984). But, any maintenance intervention also entails a carbon obligation, and there is an increasing international focus on reducing carbon in the built environment (Stern, 2006). Theoretically, maintenance contributes to the lifetime carbon emissions in a way that may be cumulatively significant. In practice however, this focus largely centres only on new build and upgrading works on existing buildings, and not on maintenance and repair. Nowadays, an evaluation of carbon emissions from repair to structures and historic fabric of heritage buildings has attracted considerably less attention. It is quite interesting to note that legislation to control carbon emissions, particularly in buildings has been established in many countries. Regrettably, there is no specific guideline that targets reduced carbon emissions as a consequence of heritage buildings repair. Moreover, earlier studies that have attempted to evaluate embodied carbon expenditure for heritage building maintenance through embodied carbon appraisal for repairs have been limited in scope.

Basically, carbon emissions can be related to building maintenance in two distinct ways; firstly, the maintenance operation itself and the carbon emitted as a result; and secondly, the embodied carbon expended in the improvement or repair works, and its influence upon the reduced rate of degradation. It is very often that repair is undertaken to attain a simple objective i.e. to retain existing buildings in a serviceable condition. Theoretically, it is well understood that maintenance can be undertaken with primary aims being to retain the functional or operational state of a building. In reality however, maintenance aims to reduce the rapidity of degradation and does not necessarily set out to improve the operational performance of the building, particularly its efficiency in the context of environmental impact. It is well accepted that maintenance has a complex relationship with carbon emissions as these are linked to subtle changes to the historic building fabric of heritage buildings that can occur as a result of repair. But, very little previous work has focused on the embodied carbon expenditure as a consequence of repair processes, and more specifically the repair of historic fabric of heritage buildings. Undeniably, the ability of maintenance to reduce embodied carbon expenditure following the repairs is largely disregarded by relevant organisations and industry alike.

On the other hand, maintenance also has an environmental impact, with some interventions leading to higher embodied carbon expenditure (through CO_2 emissions) than others and vice versa (Historic Scotland, 2008). Nowadays, the measurement of embodied carbon expenditure (CO_2 emissions) by Life Cycle Assessment (LCA) has mainly attempted to evaluate the environmental impacts of products, buildings or other services throughout their life span (ISO, 2006a and 2006b). Commonly, measurement includes an evaluation of processes encompassing the extraction and processing of raw materials and the life cycle (usage stage) of buildings; manufacturing; transportation and distribution; use; reuse; maintenance; recycling

and final disposal (Consoli et al., 1993). Likewise, Sustainable Building Alliance (2009) has developed a model, upon which to base building life cycle assessment, indicating 3 distinct life cycle stages; the 'Maintenance, repair and refurbishment' category of the 'Use' stage encapsulates all aspects of the 'Product'; and 'Construction' stages (SBSA, 2009). There has been no prevalent development of a unifying model using LCA to date however, specifically evaluating the efficacy of repair during the maintenance phase in terms of the embodied carbon expenditure.

Preferably, measurement of carbon expended on maintenance would extend from the extraction of raw materials up to the end of the product's lifetime, also known as a 'Cradle-to-Grave' analysis. But, this measurement has been consistently shown to have a high degree of inaccuracy and variability. This is mainly due to the large number of influencing variables in data collection of sources, the year of the original measurement, historical period of origin, geographical area and the representativeness of the technological level. It has therefore, become common practice in LCA to specify the embodied carbon of individual materials using 'cradle-to-site' analysis (Hammond and Jones, 2008b). It must be noted that the specification includes all of the embodied carbon expended prior to the product or materials reaching the point of use (i.e. building site). In addition, certain aspects of the degradation of heritage buildings may relate to higher embodied carbon expenditure (such as the results of aging and the decay processes that occur with building structures, elements and components. This include gaps in the historic fabric lead to higher air volume changes and associated heat loss; dampness that may require dehumidification; saturated building materials as a function of defective detailing and rainwater also leads to reduced thermal performance through the altered conductivity of the repair materials. All of these degradation processes are associated with heritage buildings structures, elements and components relate to potentially higher embodied carbon expenditure. In this paper, an evaluation of the selected repair techniques for repairs in heritage buildings were undertaken using repair material life cycle data within cradle-to-site boundary of LCA, in the form of EMI. Based on formulaic expression of Green Maintenance model, relative merits of any selected maintenance over a given time frame were determine to identify the most efficient repair, twinned with embodied carbon appraisal i.e. measuring and controlling the embodied carbon expenditure.

Embodied carbon appraisal of repair for heritage buildings

Unlike the case with new construction materials, the guidelines and regulations for usage of traditional repair materials of heritage buildings to achieve embodied carbon reduction are unclear. Also, their relative roles in helping to attain this aim remain unclear. Nowadays, there has been a broad range of embodied carbon coefficient values for repair materials for heritage buildings, as generated by previous LCA guidelines. But, the most common estimated values are for new builds and materials for upgrading works, and not specifically for traditional materials used in repair of structures, elements and components of heritage buildings. Presently, there is also no well-established data describing the environmental impact of traditional materials of these buildings as compared to modern materials. For example, in regard to stone masonry wall repair for historic masonry buildings, the evaluation of embodied carbon expenditure as a result of the usage of tradition materials, such as stone has been highly influenced by their production. In addition, in the case of stone, the production industry is in decline. In the Scottish context, there were 700 operational stone quarries in the 1850s and there are now approximately only 50 remaining (SISTech, 2010 and Scottish Government, 2012). Significantly, this decline is due to a combination of the loss of relevant craft skills, a

greater demand for alternative materials such as brick and concrete and the rise in imported building stone. Remarkably, these changes have had a significant impact, particularly on carbon emissions, as existing buildings, such as historic masonry buildings need to be regularly maintained. Also, such buildings are to be repaired in accordance with best conservation practice (Forster 2010a and 2010b). Generally, the origin of the building fabric influences the procurement strategies with replacement materials needing to be ideally selected on a like for like basis. Therefore, the total carbon expenditure within the maintenance and repair process is dependent on procurement and availability. Fundamentally, the applicability of traditional philosophical tenets for these works underpins the suitability and defensibility of the repair. These philosophical parameters could be extended to more specifically encapsulate sustainability.

Each repair technique of heritage buildings has a different longevity and associated embodied carbon expenditure. Significantly, a comparison can be made between carbon expended from the use of repair materials, by starting from the point of their procurement (such as in the quarrying and manufacturing process) through to the transportation and the building site construction phase stage. Then, the selection process for maintenance and repairs is clearly a function of characteristics of philosophical defensibility, cost, durability and environmental impact. In addition, repair techniques applied to any structures, elements or components of heritage buildings can be selected to cater for preferences in one or more of the aforementioned requirements. In this paper, the efficiency of techniques of heritage buildings has focused on the environmental impact. It must be noted that however, maintenance that attempts to achieve embodied carbon reduction in heritage buildings, cannot be made solely, or rely upon, a single repair technique. Therefore, a unified concept and methodology that has the ability to evaluate the efficiency of a single, or a combination repair techniques in different repair scenarios has been developed in this paper, through and emerging Green Maintenance model.

Green Maintenance Model: Concept and Methodology

In general, the main tenets associated with building conservation philosophy include: least intervention; like for like material replacement; honesty and distinguishability; integrity; reversibility; respect for historic patina; and respect for traditional craft skills (Bell, 1997). Emphasise on this philosophies is commonly laid on the success of maintenance intervention. Therefore, the success of maintenance intervention for heritage buildings is not only evaluated on the quality of the repair, but also conformity to aforementioned principles. In addition, interventions that fit within the philosophical context are generally high quality, have better compatibility with the fabric, highly defensible and have greater longevity than insensitive, often inappropriate repairs. On the other hand, costs associated with maintaining a building can be contributed to retaining or increasing its value in economic context. Meanwhile, adding to the complexity of prioritisation within the philosophical and economic context, a third and emerging factor in the evaluation of maintenance is environmental sustainability. Figure 3 represents the traditionally accepted conceptual model of sustainability with environmental, societal and economic factors, overlaid with the three factors that influence maintenance for buildings, namely; environment, cost and philosophy. Ideally, those interventions that intersect with all three contexts would potentially be considered as being the most sustainable concept and methodology for maintenance i.e. Green Maintenance.

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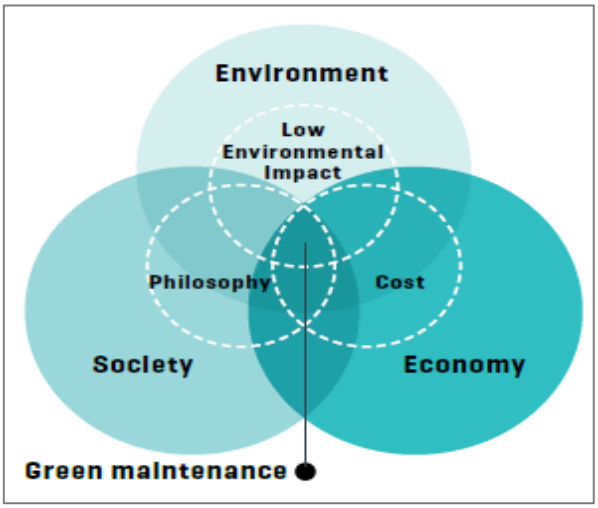

Figure 3: Green Maintenance conceptual model
Source: Forster, et al., 2011 and 2013; Kayan, 2013.

As previously discussed, there is clearly a relationship between the number, type as well as longevity of repair, with embodied energy and CO_2 expenditure expended in repairs. Most likely, a durable repair requiring fewer repeat interventions and this will incur less CO_2 expenditure over the lifespan of the building than a less durable alternative. For example, although replacing natural stone is a significantly more durable than plastic repair, the energy associated is a great deal higher. Figure 4 demonstrates implications for undertaking maintenance interventions on the service condition of buildings over time. On the other hand, over the longevity of repair, the downward sloping lines signify the steady decline in building condition. In practice, each maintenance intervention is undertaken largely to bring the building's existing structure back to its optimal service condition. But, the deterioration rate depends mainly on the repair techniques undertaken. It must be noted however that maintenance intervention is assumed to be taking place when the minimum acceptable condition for the building is reached; the saw tooth profile results from successive interventions, each extending the life of the existing structure. For example, in the case of historic masonry buildings, a steep gradient denotes a repair technique with a short life expectancy (lower longevity of repair, such for pinning and consolidation techniques in stone masonry wall), which can lengthen the service condition by 20 years. In contrast, a shallow gradient equates to a durable long lasting intervention (higher longevity of repair), such as the natural stone replacement repair technique, which lasts for at least 100 years.

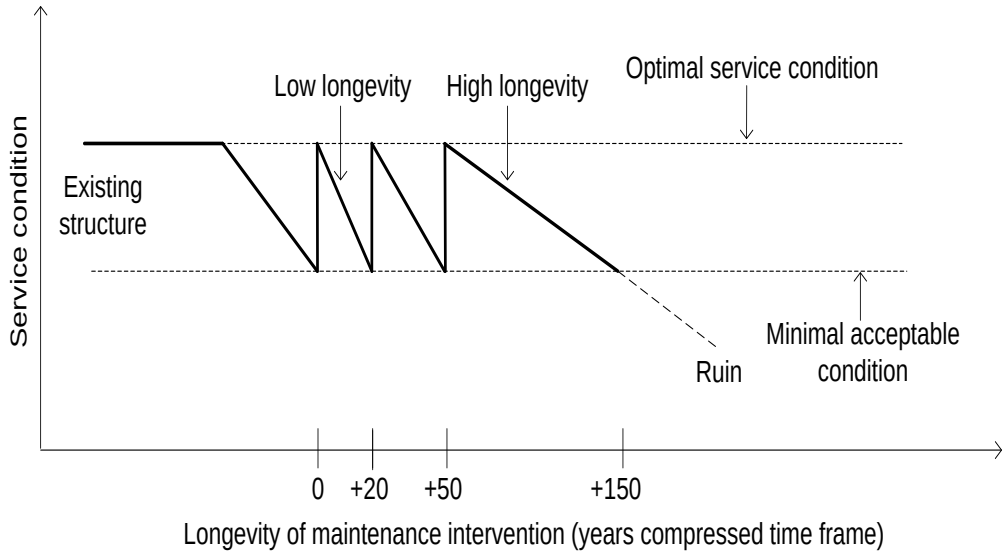

Figure 4: Impact of maintenance interventions on the service condition over the whole life of buildings
Source: Adopted from Forster, et al., 2011.

It is clear that, for the Green Maintenance concept and methodology to be of rationale use, the embodied carbon expenditure of the repairs must be evaluated using comparable, reproducible methods. For instance, process analysis assessment methods of Life Cycle Assessment (process analysis (P-LCA) can be adopted for the Green Maintenance model in order to evaluate carbon expenditure for stone masonry walls of historic masonry buildings within the 'cradle-to-site' boundary (Kayan, 2013). Based on this concept and methodology, the influences of maintenance intervention (n), total wall repaired area (m^2) and longevity of repair on embodied carbon expenditure can be quantified based on Environmental Maintenance Impact (EMI). In the case of heritage buildings, the frequency of their maintenance interventions obviously affects their embodied carbon expenditure. However, the time between interventions is influenced by many variables; longevity of repair, resourcing and geographical location, technological development, mode of transportation, degree of exposure, building detailing, quality of initial work and specification. Consideration upon these variables is essential in establishing association of Green Maintenance and sustainable repair approach for heritage buildings.

Green Maintenance and sustainable repair approach

The Burra Charter of International Council on Monuments and Sites (ICOMOS) suggests that maintenance should be the first priority and must "be distinguished from repair because repair involves restoration or reconstruction" (ICOMOS, 1999). This important difference has been discussed by Worthing et al. (2002), who suggest that repair work is effective at "prolonging the life of the element and the building the fabric (Worthing et al., 2002). Meanwhile, Figure 5 intersects the embodied carbon expenditure (CO_2 emission) for each maintenance intervention on the service condition graph. Each maintenance intervention (repairs) is characterised by its longevity and embodied carbon expenditure. In the context of sustainable repair approach, the Green Maintenance concept and methodology distinguishes between 'brown' and 'green' maintenance: namely, those repairs of high and low carbon impact respectively. Figure 5 also demonstrates that the cumulative effect of 'brown' maintenance increases the total embodied carbon expended far more quickly than 'green' maintenance. In

contrast, the former is synonymous with less efficient repairs, which have lower longevity and higher embodied carbon (more CO_2 emission).

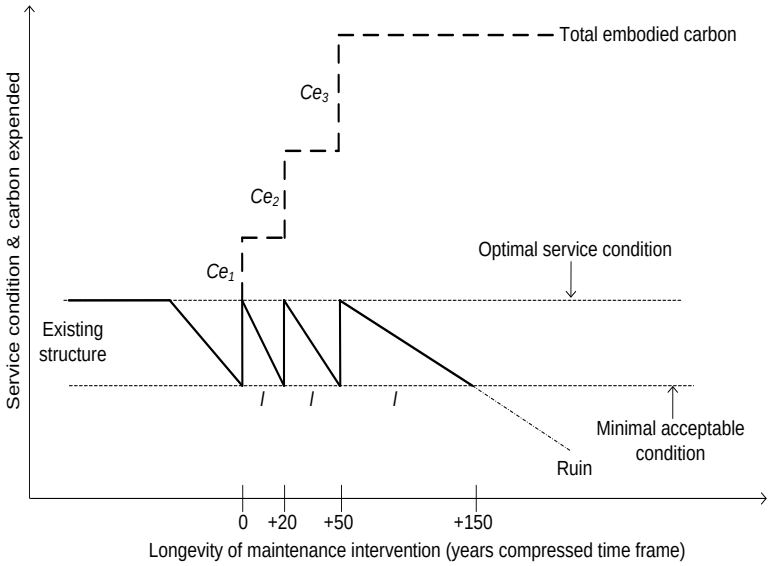

Figure 5: Relationship between longevity of repair and embodied carbon expenditure
Source: Forster, et al., 2011 and 2013; Kayan, 2013.

In practice, the higher the embodied carbon expenditure (more CO_2 emissions) is due to more frequent maintenance intervention. In the case of historic buildings repair, however, various mechanisms may exist to attain total CO_2 emissions reduction. These include of locally sourced repair materials usage, engagement of regional companies to undertake repair work and selection low embodied carbon materials. Normally, in order to attain low embodied carbon expenditure for repair materials, preference is given to repair techniques with higher longevity. Theoretically, the higher the longevity of repair, the less number of maintenance intervention to be undertaken (lower embodied carbon expenditure and less CO_2 emissions). In the case of historic masonry buildings, natural stone replacement is more 'greener' in terms of embodied carbon expenditure as opposed to plastic repair (lower longevity, high embodied carbon expenditure and more CO_2 emissions). It must be emphasised however that the complexity of repair longevity, using either single or combined repair techniques in different repair scenarios within the selected boundary of LCA and the maintenance period, requires an appropriate approach for determining 'brown' and 'green' maintenance in historic buildings.

Previously, Energy Modelling in Traditional Scottish Houses (EMITSH) in 2008 and LCA report of Technology Assessment for Radically Improving the Built Asset Base (TARBASE) in 2009 show that historic buildings have capability to attained optimum performance (EMITSH, 2008; Historic Scotland, 2008; TARBASE, 2009). For example, EMITSH successfully identified a generic hierarchy of interventions for all traditional dwellings in Scotland by developing general rules-of-thumb for an informed selection of technologies and measures to reduce the carbon dioxide emissions. Additionally, EMITSH has adopted the measures with high probability of user-acceptance, such as improving of lighting and appliance which carried out first, followed by basic insulation such as roof insulation. Consequently, technology-replacing measures, such as more advanced appliance options (e.g. improving refrigeration) and boiler upgrades were the other adopted measures. On the other hand, TARBASE had effectively delivered technological solutions which will allow a radical, visible,

step change input to policies and programmes designed to reduce the carbon footprint of the UK building stock (Carbon Vision target of a 50% reduction in carbon emissions by 2030 on the UK's existing built assets), since at least 75% of the building stock that will be present in 2030 is already in existence. Within UK's existing buildings, TARBASE primary aims is to assess the potential of present and future technologies available for carbon intensity reduction under three headings namely- (i) building fabric and installed heating, ventilating, and air conditioning (HVAC), (ii) energy production and storage, and (iii) end-use equipment. However, both of the works are conversely attempted to make historic buildings more energy efficient using retrofitting approach and not by means of adopting sustainable repair approach in reducing CO_2 emissions.

Relatively, if we can evaluate the efficacy of repair in terms of its embodied carbon expenditure (CO_2 emissions) based on Green Maintenance concept and methodology, it could then be tailored to suit the EMI aspects rather than the longevity of repair alone. It must be emphasise that, to fully appreciate the EMI of the repair, the boundary of LCA and maintenance profile period must be set appropriately. Figure 6 shows how EMI of repair builds up. For example, in the context of historic masonry buildings, this is the cumulative effect of maintenance interventions over the stone masonry walls' life, denoted by n1, n2 and n3. Noted that each intervention (repair) has embodied carbon expenditure (ce) and a longevity of repair (*l*).

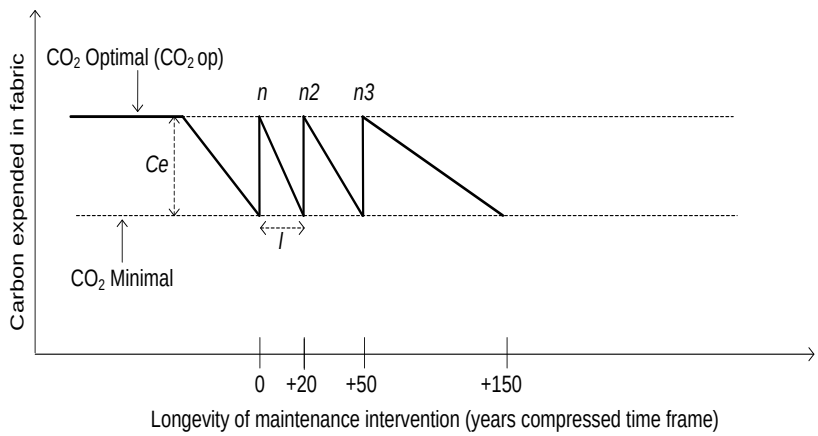

Figure 6: Determination of theoretical 'Environmental Maintenance Impact' (EMI) of maintenance interventions

Source: Adopted from Forster, et al., 2011.

The total embodied carbon expended by maintenance interventions through repair is illustrated by the following Equation 1:

$$\text{Carbon expenditure on maintenance} = \sum_{i=1}^{n} ce_i$$

Equation No. (1)

where;
n = number of interventions

ce_i = embodied carbon expenditure for the *i*th maintenance intervention [evaluated by within 'cradle-to-site' tools of LCA] [$tCO_2e/t/m^2$]

Based on the 'Green Maintenance' concept and methodology and respective functional units, the efficiency of single or combined repair techniques undertaken in different repair scenarios can be tested based on their EMI.

Functional units and cumulative embodied carbon expenditure for repair

Initially, embodied carbon expenditure to repair heritage building's structures, elements or components (based on unit) for respective repair technique (functional units of $tCO_2e/t/units$) were determined based on maintenance intervention (n) and total repaired area/quantities or unit, within the 'cradle-to-site' of LCA on yearly basis, for the selected maintenance period. Cumulatively, the embodied carbon expended for each repair technique was then calculated by multiplying the total area/quantities or unit of structures, elements or components repaired with their respective generated functional units. Overall total of embodied carbon expenditure for all undertaken repair techniques for structures, elements or components within 'cradle-to-site' could be calculated using Equation No. (2):

$$Total\ approximate\ of\ embodied\ carbon\ expenditure\ (per\ units\ repaired) = \sum ECEcradle - to - site\ (unit)_{n=}\ ECEcradle - to - gate\ (unit)_n + ECEgate - to - site\ (unit)_n$$

Equation No. (2)

where;

ECEcradle-to-gate (unit)$_n$ = embodied carbon expenditure value on every units repaired structures/elements/components using relevant repair techniques within 'cradle-to-gate' boundary

ECEgate-to-site (unit)$_n$ = embodied carbon expenditure value for transporting repair materials used in repairing one unit of structures, elements or components using relevant repair techniques within 'gate-to-site' boundary

The Green Maintenance results were then tested on its total EMI, by evaluating the influences of longevity of repair within the selected maintenance period. The testing is to ascertain Green Maintenance practicality and compatibility, either for single or a combination of repair techniques in different repair scenarios.

Total Environmental Maintenance Impact (EMI)

Green Maintenance model results were generated by evaluating the influences of longevity of repair within the selected maintenance period (in this case is within a hundred years period). This could be expressed as in Equation No. (3):

$$Total\ of\ Environmental\ Maintenance\ Impact\ (EMI)\ (100\ years) = \sum_{ti=1}^{n} EMI(100yrs)cradle-to-site_{tn} = EMIcradle-to-site_{t1} + EMIcradle-to-site_{t2} \ldots EMIcradle-to-site_{tn}$$

Equation No. (3)

where;

$_{tn}$ = either single or a combination of repair techniques in different repair scenarios or techniques (t_n) for one hundred years of maintenance profile periods

$EMI_{(100yrs)}cradle\text{-}to\text{-}site_{tn}$ = total embodied carbon expenditure for quarrying/mining, processing and manufacturing and transporting of repair materials used in repair, using either single or a combination of repair techniques in different repair scenarios within one hundred years of maintenance profile periods within the 'cradle-to-site' boundary [generated from Equation No. (2).

Testing of Green Maintenance model based on embodied carbon appraisal for repair

In this paper, four common repair techniques for laterite stones were used for testing of Green Maintenance such as stone replacement, plastic repair, pinning and consolidation and repointing. These repair techniques could be viewed in terms of relative levels of intrusion to the original fabric. It must be noted that the number of repair options (scenarios) may beneficial relating to technical and philosophical aspect of masonry conservation. Normally, repeated repointing on deteriorated mortar joints would have limited effect on adjacent laterite structure. However, the removal of deteriorated laterite stone and replacement with a new stone block unit logically requires removal of greater quantities of original fabric. It must be emphasised that certain combinations of laterite stones repair are more common than others. In practice, stone replacement would be practically done only once, while plastic repair is commonly followed by natural stone replacement within selected arbitrary maintenance period. In contrast, it would be highly unusual to replace the stone and then undertake plastic repair within the same period. In this paper, it is identified that 4 repair techniques in 4 scenarios in 100 years of arbitrary maintenance period (Figure 7).

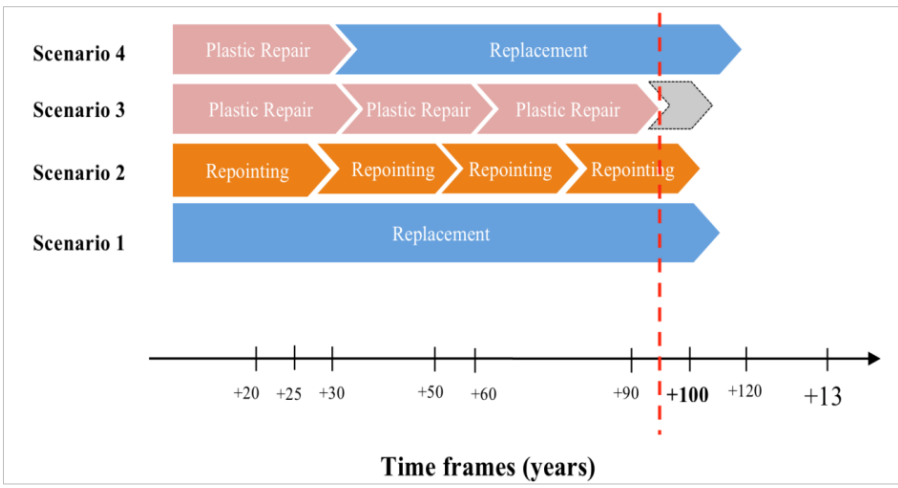

Figure 7: Repair techniques and scenarios for stone masonry wall

Source: Adopted from Forster, et al., 2011, Kayan, 2013, Kayan 2017, Kayan et al 2017a; 2017b, Mahmud et al., 2017a; Mahmud et al., 2017b.

Testing of Green Maintenance model can be undertaken by comparing embodied carbon expended with either a single or combination of repair techniques for laterite stones, based on EMI, within selected maintenance arbitrary period. For this purpose, several inputs are required in calculation; material data derived from Crishna et al., (2011), Hammond and Jones (2011) for Embodied Carbon Coefficient (ECC). It must be noted that different values from foreign data were always influenced by national difference in fuel mixes and electricity generation. On the other hand, open access of ICE database would increase the quality of this paper. Ideally, selection of ECC values in ICE is made meticulously based on average number of CO_2 emissions. The suggested ECC value for salvaged material is 0. Relatively, for bigger scale of project, the material needs another secondary process (e.g. manufacturing of brick dust). Transportation data (gate-to-site) derived from DEFRA (2008) in Kayan et al., (2017) based on 1.32 x 10^{-4} $kgCO_2$ emission factor based on Heavy Good Vehicle (HGV) in UK for 2005. CO_2 emission factor will be multiplied by weight of good the distance (shortest and most direct distance travelled from resourcing location) to building site. Figure 8 establishes embodied carbon expenditure undertaken on 1 m^2 of laterite stone structures ($tco_2e/t/m^2$).

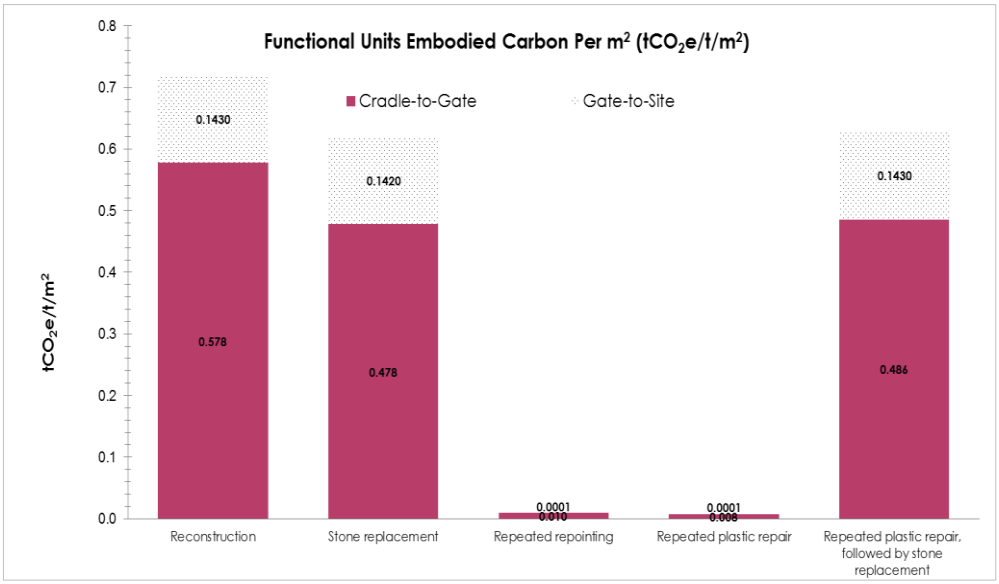

Figure 8: Embodied Carbon Per m^2 ($tCO_2e/t/m^2$) for Bastion Middelburg repair
Source: Kayan, 2017.

Figure 9 represents the total EMI expended in five different repair techniques and scenarios for laterite stones of Bastion Middelburg. Total EMI generated is based on total wall surface area of the bastion (2,666.67m^2), multiply with value of Functional Units of Embodied Carbon Per m^2 ($tCO_2e/t/m^2$). Within 100 years period, the results show that reconstruction has the highest value of EMI of 1,926.32 tCO_2e/t. Comparatively, EMI for stone replacement was slightly lower, 1,655.7 tCO_2e/t. On the other hand, EMI for repeated repointing, repeated plastic repairs and repeated plastic repair, followed by stone replacement is 425. 9 tCO_2e/t, 256.2 tCO_2e/t and 1,239.0 tCO_2e/t respectively. In this paper, it must be noted that generated EMI is mainly influenced by longevity o repair and life expectancy of materials used in laterite stones repair (BCIS, 2006 and BRE, 2016). It must be also emphasised that, average life expectancy of 100 years of laterite stones repair does not take account of a well-maintained laterite stones structures and buildings. In some cases, there are many examples of laterite stones still functioning satisfactorily in heritage buildings that are several hundred years old (Kayan, 2017).

Figure 9 also summarises the EMI [generated from Equation No. (3)], evaluated in terms of embodied carbon expenditure, over the 100-year maintenance period for different repair techniques and scenarios at the same sample properties (in this case Bastion Middleburg, Melaka Malaysia). The results also suited as an evident that stone replacement has the highest embodied carbon expenditure of all the interventions. The results show that there are high functional units (tCO2e/t/m^2) in making repairs using the natural stone replacement technique. When this is placed in context of a 100-year maintenance period however, it has the lowest EMI due to the short life expectancy of the other interventions. Within a 100-year maintenance profile period, only one intervention is undertaken with this technique, compared to three, four and five interventions for plastic repairs, repointing and pinning and consolidation, respectively. This is due to the natural stone replacement technique having the longest longevity of repairs within the same period.

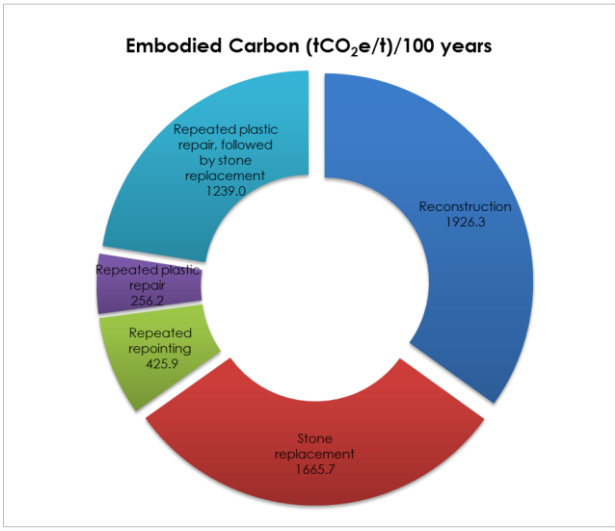

Figure 9: Total EMI for laterite stones repair of Bastion Middelburg within 100 years period
Source: Kayan, 2017.

It can be established that the higher the longevity of repair (the fewer interventions undertaken) using the selected repair techniques and scenarios, the less carbon expended on repairs (less CO2 emissions). This is parallel with sustainable repair approach of Green Maintenance concept and methodology. Significantly, the results also revealed that repeated repointing contributed to nearly 86% and 75% lower total EMI than reconstruction and stone replacement respectively. Despite the lower EMI for repeated repointing techniques, the whole surface of the bastion is essentially required overall surface repointing works within the same period. Therefore, EMI for repointing could be higher than reconstruction and stone replacement within the same time frame. Notably, the stone replacement is commonly undertaken on small surface areas (based on quantity block of stone), implicates consistently low EMI as compared to the reconstruction and repeated repointing. The results also show that transportation accounts to maximum of 50% of total EMI.

Discussion

The results from this paper demonstrate that there is a relationship between the number of maintenance intervention that takes place within heritage buildings and the embodied carbon expenditure expended from their repair. Generally, a durable repair undertaken upon a building requires a lower number of repeat interventions. Thus, it is important therefore to recognise

that a durable repair with better longevity may incur less embodied carbon expenditure over the life span of the heritage buildings. In the context of repair materials however, it must be emphasised that problems can arise because the evaluation of the longevity of a repair is often ill-defined and inconclusive (Ashworth, 1996 and Douglas, 1994). Additionally, databases of information associated with the longevity of building components are prone to inaccuracy and inconsistency. This is mainly due to discrepancies in Estimated Service Life (ESL). Despite this problem, a comparison of the efficiency of repair techniques for heritage buildings repair in terms of embodied carbon expenditure can be attained using approximate relative values.

Significantly, the Green Maintenance model in this paper is parallel with the generally accepted model of sustainable development (Brundtland, 1987) and offers a potentially useful framework for the evaluation of 'sustainable' or 'green' maintenance interventions. Also, this paper associates embodied carbon appraisal for repair to heritage buildings with LCA that leads to Green Maintenance concept and methodology. Importantly, unifying concept of Green Maintenance model can be seen as a tool for promoting good maintenance interventions in terms of embodied carbon expenditure with minimal environmental impact. In this paper, emphasis of the model is lays on any current carbon assessment. In broader context, it is hoped that this model will be adopted by those entrusted with the repair and maintenance of traditional materials of heritage buildings, and that the embodied carbon appraisal will become a key performance indicator in the intervention strategies.

Such an evaluation of embodied carbon appraisal based on Green Maintenance model can be undertaken in reference to repair efficacy, longevity, ability to conform to building conservation philosophy and, finally, sustainability. Moreover, the model shows that the frequency of maintenance interventions, such as repair to structures, elements and components of heritage buildings clearly affects the level of CO_2 emissions. Significantly, the complexity of prioritisation within the context of philosophical, economic and sustainability has led to the establishment of the model. In practice, the best techniques are associated with low CO_2 emissions, high longevity and philosophical adherence. In effect, the model determines "how green" the repairs are in terms of embodied carbon expenditure. This is mainly to understand the potential for reducing embodied carbon expenditure (reduction of CO_2 emissions repair) based on 'cradle-to-site' of LCA.

Conclusion

Progressively, Green Maintenance concept and methodology will be positively welcomed as our society moves towards a low carbon economy and materials and 'green' procurement. Moreover, the level of awareness in our society upon the importance of selection and prioritises low embodied carbon materials is increasing steadily. While low carbon trading in building industry becomes more prevalent, Green Maintenance model is also important as it can be converted into a supplementary financial cost in maintenance decision making process. This paper shows that EMI of the model has ability to provide guidance for the flexible selection of maintenance options that minimise embodied carbon expenditure. Encouragingly, this promotes sustainable solutions for the repair of existing buildings, including heritage buildings. On the other hand, the model also complements the growth in 'green procurement' that is now being accepted as an important niche in maintenance and repair market. It must be emphasised that emerging concept of embodied carbon appraisal for repair based on Green Maintenance

would benefit from agreed cross party definitions for all organisations responsible for the maintenance of, particularly in achieving sustainable repair for heritage buildings.

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GREEN MAINTENANCE FOR HERITAGE BUILDINGS: LATERITE STONE REPAIR APPRAISAL

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Abstract: *Maintenance is widely accepted as important mechanism for survival of heritage buildings, particularly for future generation inheritance. Progressively, the maintenance of heritage buildings had shift towards the sustainability, encompassing economic, societal and environmental domain. Meanwhile, low carbon consideration became increasingly important in achieving a sustainable repair and this was supported by the emergent 'Green Maintenance' concept and methodology. Primarily, this paper gives insight on how 'Green Maintenance' has capability to evaluate low carbon repair for laterite stone structure, based on selected case studies of Bastion Middleburg and St Paul's Church of the Historical City of Melaka, Malaysia. Laterite stone repair appraisal results based on the model shows that cumulative embodied carbon expenditure expended from repair can be represented by generated Environmental Maintenance Impact (EMI) of 'Green Maintenance' model. Significantly, the EMI of the model relay the 'true' CO_2 emissions for laterite stone repair, within selected maintenance time frame. Additionally, calculation procedures through formulaic expression of the model enable evaluation of EMI within 'cradle-to-site' boundary of Life Cycle Assessment (LCA). Most importantly, Green Maintenance model shows its ability as a tool for maintenance decision-making, which enables determination of sustainable repair approach for heritage buildings.*

Keywords: Green maintenance, heritage buildings, laterite stone, Environmental Maintenance Impact (EMI), life cycle assessment (LCA), sustainable repair

Introduction

Maintenance of heritage buildings is crucial in ensuring that the financial, environmental and social capital invested in the protection of their historic fabric is not wasted. Traditionally, maintenance has been recognised as a cost commitment associated with a building (Wise, 1984). But, any maintenance intervention also has a carbon commitment and there is an increasing international focus on reducing carbon in the built environment (Stern, 2006). However, this largely centres on new build works. Conversely, upgrading and maintenance of heritage buildings receives little attention in the context of low carbon consideration. Moreover, low carbon consideration in heritage buildings is considered difficult to achieve due to their limited retrofitting capability. It is well accepted that maintenance is essentially a way of prolonging the lifespan of heritage buildings. Also, maintenance is one mechanism by which enables carbon savings, initiated through necessary strategies. Therefore, contribution of maintenance to the lifetime carbon emissions, expended from heritage buildings repair, in a way that cumulatively is significant. Associating maintenance with a life cycle carbon approach of heritage buildings repair will leads to the concept of 'green' maintenance, which can be seen as maintenance with minimal environmental impact. This can be demonstrated with maintenance regimes over a period of 100 years, showing on how this concept can model

the associated carbon commitment and facilitate options appraisal for heritage buildings. Significantly, this paper proposed Green Maintenance model for evaluating the efficacy of maintenance interventions for heritage buildings, based on embodied carbon appraisal that signify integration of cost, philosophy and environment. The model utilised repair material life cycle data within cradle-to-site boundary of life cycle assessment (LCA), in the form of generated Environmental Maintenance Impact (EMI).

What are heritage buildings?

Heritage buildings were defined as something which passed down from one generation to another (Fielden, 1979; 1994 and 2003; Prentice, 1993). Also, they inherited (UNESCO, 1972) outstanding universal value (The Commissioner of Law Revision, Malaysia, 2005). Therefore, their conservation is significant; protecting cultural resources by retaining financial, economic and societal capital invested in their historic fabric. It is well known that these also prolong their life and function; involving maintenance, repair and restoration. Commonly, heritage buildings were conserved to safeguard its inherited cultural significance and architectural values (Feilden, 1994 and 2003). Burra Charter (2013) had classified heritage buildings as either individual or group of monuments or structures. Notably, they are commonly associated with important historic event, as well as inherited important significances and values.

'Green Maintenance' for Heritage Buildings

Nowadays, heritage buildings maintenance and repair approach had shifted towards sustainability. It laid on main tenets of cost analysis that beneficial for maintenance investment. On the other hand, this is widely debated over philosophy of undertaking maintenance which promotes least intervention, like for like material, honesty, integrity etc. (Bell, 1997). This led to the question on how maintenance's philosophical vs. cost-guided may beneficial to reduce the environmental impact to ensure the survival of heritage buildings. Emergently, 'Green Maintenance' concept and methodology support sustainability agenda that call for protection of the cultural significance which embodied in historic fabric of heritage building, while impartially sustaining the other capital such as economy and environmental inclusively. Under the umbrella of Green Maintenance, philosophical factor, cost and low environmental impact factor were interlaid into evaluation. Intervention (repair technique) that comply and integrate with all the three factors in will be considered as being greenest. It is well accepted that maintenance of heritage buildings have significant contribution of environmental impact in terms of energy and embodied carbon. In this case, embodied carbon is emitted in the form of CO_2 emissions, released through the process of materials extraction, manufacturing, transportation. Notably, 10% of CO_2 emissions are contributed from material sector (Mahmud et al, 2017a; 2017b). Relatively, traditional material sector is commonly the biggest contributor to maintenance and repair market of heritage buildings. Meanwhile, longevity of repair and their respective impact upon Total Environmental Maintenance Impact (EMI) became an important factor in selecting the sustainable repair techniques. In this paper, quantification of EMI in the forms of CO_2 emission using Life Cycle Assessment (LCA) will be tested and analytically compared using case studies of laterite stone buildings located in UNESCO World Heritage Sites of Historical city of Melaka, Malaysia. Progressively, as carbon abatement became a priority for each country in the world, therefore, Green Maintenance concept and methodology in quantification of CO_2 emissions, particularly for heritage buildings repair will be positively welcomed.

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Figure 1 denotes the traditionally accepted conceptual model of sustainability with environmental, societal and economic factors. When this conceptual model is overlaid with three factors that influence maintenance for historic buildings, namely; environment, cost and philosophy, it will resulting to the most sustainable intervention. Preferably, those maintenance interventions that integrated with all three factors would potentially be considered as being the most sustainable i.e. 'Green Maintenance'.

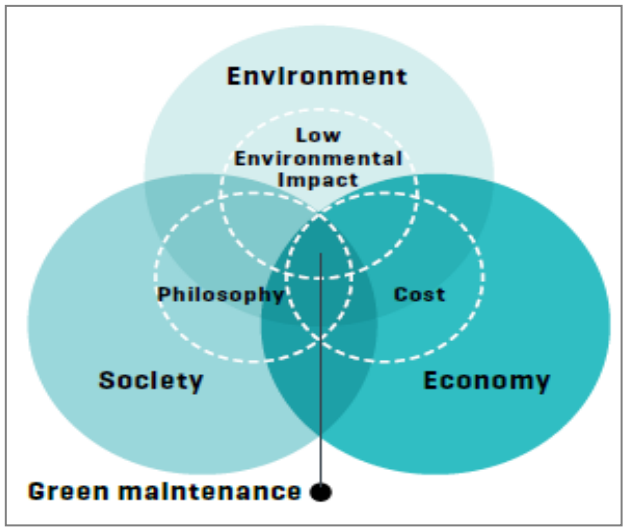

Figure 1: 'Green Maintenance' conceptual model.
Source: Forster, et al., 2011 and 2013; Kayan, 2013.

Conceptually, Green Maintenance set the priorities of low carbon material usage, using either single or a combination of repair techniques, over different repair scenarios. These were evaluated within selected time frame of maintenance period to identify of the best repair options to select. At the same time this also attains to determine on how to reduce CO_2 emissions, based on Life Cycle Inventory data compilation as well as LCA calculations. Based on the LCA, the measurement of CO_2 would include the extraction of raw materials to the end of the product's lifetime (cradle-to-grave) of LCA boundaries. However, it must be noted that, in acquiring accurate result of LCA, the measurement of the work of this paper is limited to cradle-to-site analysis (raw material extraction and processing, transportation, manufacturing, transportation to the building site). In this paper, Green Maintenance sets out an insight on the association of maintenance and repair with CO_2 emissions, particularly in selecting the low carbon repair for heritage buildings.

On the other hand, proposition of relationship between each intervention and CO2 emissions, characterised by its longevity *(l)* and embodied carbon expenditure (*Ce*) on the service graph condition (Figure 2). In this representation, the downward sloping signifies the decline condition of the buildings over the life cycle of repair. During repair, each intervention is important to keep the buildings at the optimal service condition. Along the repair process however, CO2 were emitted via embodied carbon expenditure. Theoretically, the more frequent the maintenance intervention, the greater embodied carbon expended for repair (Forster et al., 2011). In the context of sustainable repair approach perspectives, the Green Maintenance concept and methodology distinguishes between 'brown' and 'green' maintenance: namely, those repairs of high and low carbon impact respectively. Cumulatively,

effect of 'brown' maintenance increases the total embodied carbon expended far more quickly than 'green' maintenance. Conversely, the former is synonymous with less efficient repairs, which have lower longevity and higher embodied carbon (more CO_2 emission).

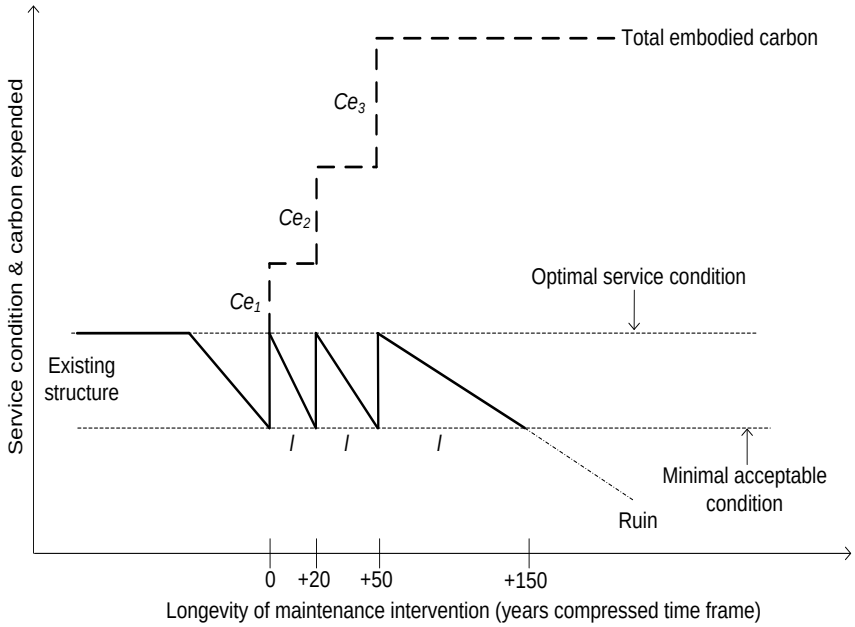

Figure 2: Relationship between longevity of repair and embodied carbon expenditure.
Source: Forster, et al., 2011 and 2013; Kayan, 2013.

Importantly, Green Maintenance gives the preference to the repair technique that has high longevity. Those repair techniques with high longevity are subsequently require lesser number of repeating interventions and may *incur* lower embodied carbon expenditure over the life span of the building. In practice however, there will be a single or combination of repair techniques are needed for repair within certain maintenance arbitrary period. Thus, consideration on numbers of intervention, embodied carbon expenditure (in the form of CO_2 emission) expended from repair is paramount important. It must be emphasised that, every intervention is also influenced by other variables including material durability, degree of exposure, building detailing, quality of repair and specification. Comparatively, non-durable materials may not consume much energy during production. But, they may require frequent replacement and resulting in higher EMI.

In Green Maintenance model, generated Total EMI (Equation 1) is the multiplication of area repaired (in this case is wall surface) with material used in tonnage (t) with their respective Embodied Carbon Coefficient (ECC), plus with multiplication of material used (t) with CO_2 emission factor and resourcing location (km) for respective frequency of repair (n) within hundred-year arbitrary period (Mahmud et al., 2017b).

$$\sum EMI\ \boldsymbol{cradle-to-site} = Area\ repaired\ \times \{[Material\ used\ (t)\ \times\ ECC\ ] + [Material\ (t)\ \times\ Emission\ factor\ \times\ Resourcing\ location\ (km)]\} \times\ Frequency\ of\ repair\ (n)/100year$$

Equation No. (1)

If we can evaluate the efficacy of laterite stone repair in terms of its embodied carbon expenditure (CO_2 emissions), apparently, Green Maintenance model could then be tailored to suit the EMI (Kayan, 2013 and 2015). It must be noted that the scope of LCA in this paper was defined by taking into account the EMI as the parameter in comparing embodied carbon expenditure (CO_2 emissions) from laterite stones selected case studies.

Case Studies: Bastion Middelburg and St Paul's Church

Embodied carbon expenditure of laterite stone of selected heritage buildings in this paper can be evaluated and comparatively tested using EMI. Laterite stone repair appraisal was undertaken by adopts multiple case studies research approach. Additionally, the epistemological underpinning for this research is grounded in case studies typically associated with the use of multiple sources of evidence and a strong context (Knight and Ruddock, 2008). In this case, document of historical maintenance data and records of laterite stone repair is clearly a pivotal consideration in determining case studies approach. It must be emphasised that identification of the suitable a case studies for this research was primarily assessed on the intactness of data relating to the longevity of repairs and measurement of quantities of laterite stones repair materials used during maintenance phase.

Bastion Middelburg

Bastion Middelburg (Figure 3) was originally constructed in 1641 by the Portuguese as part of defence system (as Melaka Fort), together with other eight (8) bastions (SEAARCH, 2008). Located at UNESCO World Heritage Site, Bastion Middleburgh is considered heritage buildings in Malaysian architecture.

Figure 3: Bastion Middleburgh, Melaka, Malaysia
Source: Authors, 2017.

The bastion constructed mainly using rich of iron and alumina materials of laterite stones (JWN, 2008) (Figure 4). Archaeological evidences also show that, the Portuguese had built the bastion using locally sourced laterite stones from nearby quarries of St. Paul Hill, St. John Hill, Pulau Jawa, Pulau Upeh (Figure 5) and other several islands around Straits of Melaka (JWN, 2010). To date however, not only due to shortage of supply of laterite stones there is also no active stones quarries in this area, mainly because of their closure (Ibrahim, 2007).

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Therefore, over the years, Bastion Middelburg repair is constantly facing difficulties in finding the locally available of original laterite stones; make them rare in terms of materials used. Based on current records, reconstruction works of the Bastion Middelburg, using laterite stones, cemented with concrete and mortars (Figure 6) only has been officially started in November 2007, and has taken about one year to complete (JWN, 2008).

Figure 4: Bastion Middleburgh, Melaka, Malaysia-laterite stones
Source: Authors, 2017.

Figure 5: Pulau Upeh, Melaka, Malaysia
Source: Authors, 2017.

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Figure 6: Bastion Middleburg, Melaka-laterite blocks, cemented with concrete and mortars
Source: Authors, 2017.

St Paul' Church

Originally, St. Paul's Church was built as a chapel on the hill by prominent Portuguese navigator Duarte Coelhoe in 1521. Over the years, it was continuously enlarged by the Jesuits. Historically, it endured adaptive change from college, hospital and partially military function through the era of Portuguese, Dutch and British. Now, the ruined structure of the buildings was famously known as Our Lady of the Annunciation. Culturally, the chapel was erected as mark of thanksgiving as a part of culture of Christian community. Then, it was later was christened as Nossa Senhora da Graca, meaning 'Our Lady of Grace' after Coelhoe's battle with the Chinese, during Portuguese return to Melaka on 21st of October 1521. Subsequently, this led to the hill of Melaka, being always referred as 'The Hill of Our Lady'. Then, in 1545, larger church was built at the base of the hill-Nossa Senhira da Annonciada or "Our Lady of the Annunciation' to mark the arrival of St. Francis Xavier, as we know St. Paul's Church building today.

A glimpse on the plan of the ruined church as it exists today, it evidently illuminates the different time-line of construction, particularly using laterite stones as its main materials. For instance, the thicker laterite stone walls of the chancel and scarcity are revealing of the additional strength needed to support an upper floor and high tower of the church. This wall was hundred feet tall to its pyramidal roof. It was reinforced at ground level central pillar. Uniquely, the Portuguese used originally local laterite blocks. It is common that laterite stones were cemented by concrete and mortar, which was suitable for building solid, massive laterites walls (Figure 7) which could withstand attacks from enemies. i.e. as a fortress as well as its distinctive nave and interior of laterite stones (Figure 8).

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Figure 7: St. Paul's Church, Melaka-solid and massive side laterite walls
Source: Authors, 2017.

Figure 8: St Paul Church, Melaka-distinctive nave and interior of laterite stones
Source: Authors, 2017.

On the other hand, the basic construction tools available at the time in fact led the Portuguese to denote to laterites as 'iron stone'; such was their difficulty in cutting and dressing it. Due to necessity, couple with Melaka's seaside location (see seaward wall of laterite stone materials in Figure 9 and Figure 10), had caused the Portuguese to repair the church with easier to shape coral rock as a filler between the laterite, over the years. Based on historic and previous records, the laterite was carried from Pulau Upeh as well as from Cape Rachado. Remarkably, the traces of abandoned laterite stones quarry at Pulau Upeh remain to this day (Figure 11). Significantly, after the Dutch 1606 siege, the church's tower is long painted white. Remarkably, the function of the tower (Figure 12) is not only to aid navigation of ships, but also function as a much military turret as a civilian belfry. Astonishingly, according to one of the earliest post-war Dutch maps, produced in 1656, the building at one time has been converted into a hospital. However, over the centuries, this building has also been adapted re-

use as partially military function, which signifies usage of strong materials such as laterite stones as the main materials for its construction.

Figure 9: St. Paul's Church, Melaka-seaward wall of laterite stone materials
Source: Authors, 2017.

Figure 10: St. Paul's Church, Melaka-detail of side door frame on seaward side wall using laterite stones
Source: Authors, 2017.

Figure 11: The traces of abandoned laterite stone quarry at Pulau Upeh
Source: Authors, 2017.

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Figure 12: St. Paul's Church, Melaka-view of church towards side of former tower using laterite stones
Source: Authors, 2017.

During British occupation in Melaka, they continued to use the building as military base. After that, the church was then left as a more neglected ruin until a series of renovation led by the Malacca Historical Society in 1930s. Additionally, the Society also had reported the story of the church in the English language and responsible for much of what is left of St. Paul's today. Notably, the Society also responsible in removing a wall that physically connected the Dutch lighthouse to the church's front façade. This will involve physical excavations of its sacristy and chancel to reveal the original building in 1930s. Also, the society was also plays their roles in photographing and moving all the extant tombstones and their respective ornate (Figure 13) from the floor of the church to its laterite stone walls, where in-situ damaged occur at a much slower rate.

Figure 13: St. Paul's Church, Melaka-ornate of Dutch tombstone relocated beside laterite stone walls
Source: Authors, 2017.

Significantly, laterite stone of both case studies show its capability to stand as strong building material. Notably, these laterite stones able to stand nobly through conflicts (noted that both building survived from different colonial era), as well with the test of time under tropical hot climate which influenced its longevity of the repair. Theoretically, faster rate of deterioration of repair materials contribute to more frequent. It also denotes larger deteriorated area and higher total area repaired. Table 1 summarised the profile of laterite stones used for Bastion Middelburg and exposed external wall of St Paul's Church. Historic data and records show that, originally, laterite stones of both case studies are locally sourced from Ilha das Pedros (Pulau Upeh, Melaka, Malaysia) and Cape Ricado (Port Dickson, Negeri Sembilan, Malaysia near Linggi Fort). Evidently, evidences of these can be seen on laterite cutting over the island, surrounding area and salvaged material from other buildings surrounding the location of both building which are built either by Portuguese and Dutch (Khoo, 1998). Nowadays however, there are no active stone quarries within the area due to their closure. Physically, laterite stones of both case studies are ferruginous deposits of vesicular structure. Naturally, it is soft until it can be cut using a spade, to be made into regular block when in freshly state. Then, after it has been cut, it rapidly harden and highly resistant to weathering. Once it is exposed to the air and sun, crystallisation processes were following due to its high iron content of sesquoxides. Despite requirement of sustainable repair as specified in the Conservation Management Plan for Melaka (CMP) UNESCO World Heritage Site, which signify appropriate treatment that closely related to their repair materials, methodologies, techniques and workmanship, little research has been done for laterite stone of both case studies material particularly on laterite stone appraisal in terms of environmental impact.

Table 1: Construction material of Bastion Middelburg and St Paul's Church

	(A) Bastion Middelburg	**(B) St Paul's Church**
Type of Stone	Laterite Stone	Laterite Stone (L) and Dutch Brick (D)
Total Wall Surface (m^2)	2,666.67 m^2	603.52m^2 (L) and 12m^2 (D)
No of Stone Blocks used	16,000 unit	2,736 unit
Size of Stone (mm/block)	558mm x 355mm x 228mm	600mm x 300mm x 250mm (L) and 215mm x 125mm x 40mm (D)
Mass of Stone (t/block)	±0.1 t/block	±0.1 t/block (L) ±0.002 t/block (D)
Mortar Profile (Proportion)	1:1:3 of limestones, sand and white cement	1:3 of limestones, sand for early mortar 1:1:2 of limestones, brick dust and sand for later mortar 1:1:3 of limestones, sand and white cement.

Source: Mahmud et al., 2017b.

It must be emphasised that, a great deal of lime required in construction of both case studies. It is found that only 1 type of mortar was specified and used for Bastion Middelburg repair. In contrast, there is no exact proportion recorded in maintenance document for St Paul's Church. It is identified that 3 different mixtures of proportion for mortars seen to cross cutting each other, used for laterite stone repair of both case studies based on Table 1. In practice, the appointed contractor for repair should undertake analysis on lime mortar profiles prior to the repair works on both case studies. This requirement is mainly to determine the mixtures of proportion for lime mortar material. At first, several samples of the existing pointing from different spot of wall surface were selected. Then, these samples were taken to lab to be analysed; to determine compositions, mixture, proportion and respective resourcing location.

It is must emphasised that the nature and issues of maintenance and repair of two different buildings are different. For example, the latest reconstruction works of the Bastion Middelburg only has been officially started in November 2007 and completed in 2008 (JWN, 2008). In addition, Bastion Middelburg repair was also consistently facing difficulties in finding the locally available of original laterite stones in large scale with proper guidelines. Comparatively**,** for St Paul's Church, several interventions (works) had been undertaken between the years of 2003 to 2012 (Mahmud 2017a; 2017b). These interventions had been undertaken as partially to fulfil the requirements set out by guideline and documentation process established by Jabatan Warisan Negara Malaysia. Moreover, previous works undertaken on both case studies remain ignoring sustainable repair approach as demonstrated by Green Maintenance model. Considering this chronological series of maintenance and repair of both case studies, Green Maintenance model might provide a practical way for decision maker (e.g. conservationist and authorities) to select the most sustainable repair technique. Laterite stone appraisal based on the model might assist maintenance decision making process. The appraisal might useful in helping the decision maker to attain informed maintenance decision by utilising CO_2 emissions expended from repair. This can be justified and further explained in testing of the Green Maintenance based on laterite stone repair appraisal.

Testing of the Green Maintenance based on laterite stone repair appraisal

In this paper, four common repair techniques and scenarios for laterite stone were used for testing of Green Maintenance, identified in 100 years of arbitrary maintenance period (Figure 14). They are stone replacement, plastic repair, pinning and consolidation and repointing. These repair techniques could be viewed in terms of relative levels of intrusion to the original fabric of heritage buildings, longevity of repair and embodied carbon expenditure. It must be noted that the number of repair options (scenarios) may beneficial relating to technical and philosophical aspect of conservation for heritage buildings. Normally, repeated repointing on loose and deteriorated mortar joints would have limited effect on adjacent laterite structure. Comparatively, the removal of deteriorated or damaged laterite stone and replacement with a new stone block unit is logically requires however, removal of greater quantities of original fabric. It must be emphasised that certain combinations of laterite stones repair are more common than others. In practice, stone replacement would be practically done only once, while plastic repair is commonly followed by natural stone replacement within the same time frame. Conversely, it would be highly uncommon to replace the stone and then undertake plastic repair within the same maintenance period.

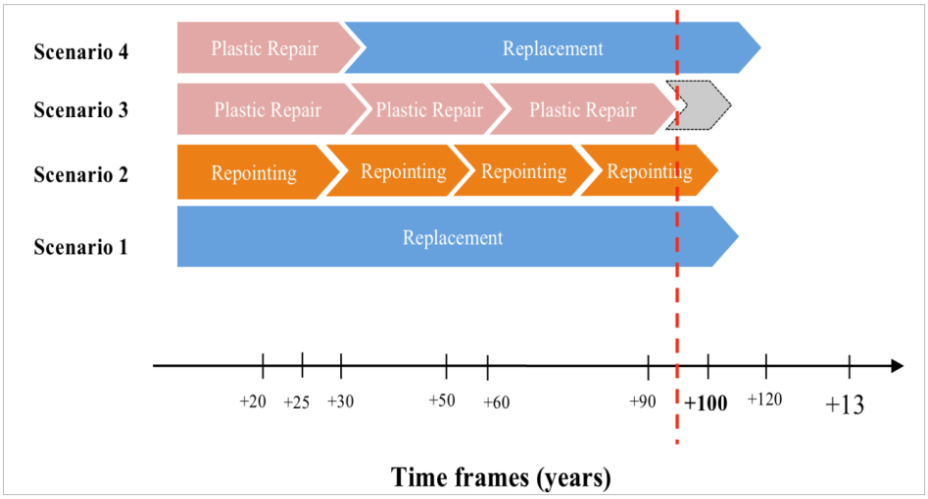

Figure 14: Repair techniques and scenarios for stone masonry wall

Source: Adopted from Forster, et al., 2011, Kayan, 2013, Kayan et al 2017a; 2017b, Mahmud et al., 2017a; Mahmud et al., 2017b.

Testing of Green Maintenance concept and methodology in this paper is done on the basis of comparing embodied carbon expended for repair. Embodied carbon expenditure either a single or combination of repair techniques for laterite stones within selected maintenance arbitrary period, were generated based on EMI. For this purpose, several inputs are required in calculation; material data was derived from Crishna et al., (2011), while for Embodied Carbon Coefficient (ECC) were derived from Hammond and Jones (2011). It must be noted that different values from foreign inputs for both material and CEC data were always influenced by national difference in fuel mixes and electricity generation. On the other hand, open access of ICE database would increase the quality of this paper. Ideally, selection of ECC values in ICE is meticulously made based on average number of CO_2 emissions. For the purpose of this paper, the recommended ECC value for salvaged material is zero as there is no embodied energy involved for their production. Relatively, for bigger scale of conservation project for heritage buildings, some of the repair materials need another secondary process of manufacturing (e.g. brick dust). Transportation data (gate-to-site) derived from DEFRA (2008) in Kayan et al., (2017a; 2017b) were based on 1.32 x 10^{-4} $kgCO_2$ emission factor based on Heavy Good Vehicle (HGV) in UK for 2005. CO_2 emission factor will be multiplied by mass

kg of materials transported to building site and weight of distance for delivery (shortest and most direct distance travelled from resourcing location in km) to building site (Table 2).

Table 2: Inputs for calculation for laterite stone appraisal

Material	ECC	Bastion Middelburg (A)			St Paul's Church (B)		
		Resourcing Location	*Distance (km)*	*Remarks*	*Resourcing Location*	*Distance (km)*	*Remarks*
Laterite Stone	0.781	Prachinburi, Thailand	1,797 km	Imported	Salvaged Material (surrounding building site)	*Considered as 0. km	Locally sourced
Brick	0.060	Not used	Not used	Locally sourced	Tajia Industries, Melaka, Malaysia	15.5 km	Locally sourced
Sand	0.005	Bukit Senggeh, Melaka, Malaysia	37.7 km	Locally sourced	Bukit Senggeh, Melaka, Malaysia	37.7 km	Locally sourced
Brick Dust	0.22	Not used	Not used	Locally sourced	Alai Kandang, Melaka, Malaysia	8.7 km	Locally sourced
Limestone	0.017	Kuari ISB, Alor Gajah,Melaka,Malaysia	46.1 km	Locally sourced	Kuari ISB, Alor Gajah,Melaka,Malaysia	46.1 km	Locally sourced
White Cement	0.469	Klebang Besar, Melaka, Malaysia	7.6 km	Locally sourced	Klebang Besar, Melaka, Malaysia	7.6 km	Locally sourced

Source: Adopted from Mahmud et al., (2017a; 2017b)

Result and discussion

Table 3 shows embodied carbon expenditure associated with alternative repair techniques and scenarios undertaken on normalized 1m^2 and overall surface Bastion Middelburg (2,666.67m^2) and St Paul's Church (616.52m^2). Functional unit of kgCO_2e/t/m^2 is used with respective EMI for each repair techniques and scenarios, attributed within 100 years of arbitrary period. Notably, stone replacement possibly lasts about 100 years before requires next replacement (1 time of intervention (n) of its EMI attributed in 100 years period). Comparatively, repeated repointing and repeated plastic repair only lasts up to 25 years and 30 years respectively (4.0 and 3.33 times within the same period) (Kayan, 2013). In scenario 4, plastic repair and the decayed natural stone is assumed to be removed afters 30y (1 time intervention of single plastic repair) and new stone to be built in. As with scenario 1 of the stone replacement will last beyond the 100 years period, therefore only 0.7 of its EMI is attributed. It must be noted that, comparative generated EMI in Table 3 were also calculated for each repairs techniques and scenarios within 'cradle-to-site' boundary of LCA as formulated Equation 1.

Also, it is evidently showed that stone replacement has highest embodied carbon either in per 1m^2 (0.621 and 0.421 kgCO_2e/t/m^2) and overall surface (1665.7 and 245.22 kgCO_2e/t/m^2) for both Bastion Middelburg (A) and St Paul's Church (B) respectively. The results also discovered that repeated repointing contributes to the second highest amount of CO_2 emissions, but it has low initial embodied carbon expenditure. It is mainly due to its low longevity of repair denotes in Scenario 2. Considering the nature of this type of repair and the quality of workmanship, it is essential to repoint all overall surface of the wall within the same period. In addition, in every repointing works, it will subsequently contribute to greater amount of CO_2

emissions as this technique requires more maintenance interventions. Conversely, repeated plastic repair had low embodied carbon emissions for both case studies. In practice however, the usage of plastic repair technique needs further intervention. This is mainly due to its low longevity, which resulting further of CO_2 emissions within the same period (see Scenario 4). In addition, the usage of cement based in mortar is technically incompatible and will also limit the longevity. Subsequently, this will lead to frequent intervention and high CO_2 emissions. Thus, stone replacement is an ideal technique to be utilised due to its high longevity as well as

	Functional unit/Frequency of Intervention	Scenario 1: Stone Replacement		Scenario 2: Repeated Repointing		Scenario 3: Repeated Plastic Repair		Scenario 4: Plastic Repair, then Stone Replacement	
		A	**B**	**A**	**B**	**A**	**B**	**A**	**B**
Stone Replacement	$CO_2e.m^2$	0.621	L=0.406 B-0.015	-	-			0.621	L=0.405 B=0.015
	Intervention (n)	-	1	-	-			0.7	0.7
	Average EMI	-	L=0.406 B=0.015	-	-			0.435	L=0.284 B=0.010
Repointing	$CO_2e.m^2$	-	-	0.010	L=0.064 B=0.006				
	Intervention (n)	-	-	4	4				
	Average EMI	-	-	0.040	L=0.252 B=0.024				
Plastic Repair	$CO_2e.m^2$	-	-			0.008	L=0.009 B=0.001	0.008	L=0.009 B=0.001
	Intervention (n)					3.33	3.33	1	1
	Average EMI					0.026	L=0.029 B=0.003	0.008	L=0.009 B=0.001
TOTAL EMI ($1m^2$)		0.621	0.421			0.026	0.032	0.443	0.304
TOTAL EMI (OVERALL)		1665.7	245.22	425.9	152.402	256.2	17.53	1239.0	177

having ability to deal with large area of deterioration. However, there are significant differences found in the amounts of CO_2 emissions for both structures.

Table 3: EMI ($1m^2$ and overall surface) over scenarios within 100y arbitrary maintenance period

Source: Adopted from Mahmud et al., (2017a; 2017b)

In the context of total EMI of $1m^2$, it is recognised that the differences of the results value is mainly due the different resourcing locations between imported stone and salvaged material (as previously shown in Table 2). In the case of Bastion Middelburg, imported laterite stones are procured from Prachinburi, Thailand, which become the main impetus of high CO_2 emissions. Comparatively, due to material scarcity for St Paul's Church, brick has been used to replace the deteriorate laterite, lead to the philosophical debate e.g. material is relatively not adopted. It is widely known that the usage of salvaged material is emphasis to reduce the CO_2 emissions from transportation phase. In contrast, sound salvaged materials should be carefully cleaned down, sorted to suitable dimension and arranged in stacks corresponding to the various lengths. More importantly, perhaps they can be obtained from various sources such as abandoned old buildings, salvage contractors and use-material dealers. This subsequently demands meticulous view from experts on the 'trade-off' situation between the cost of loss in historic fabric and CO_2 emissions. Heritage buildings are known for its uniqueness and

therefore, their uniqueness should be retained through its fabric. Usage of incompatible material is unacceptable, even though it can be defensibly good in terms of CO_2 emissions. Historically, laterite stones of both case studies are found to be locally sourced and abundant throughout the South region in West Malaysia. Considering this, significant efforts can be done in re-opening the old quarry to reduce CO_2 emissions through usage of locally sourced laterite stones rather than using incompatible material with unknown durability.

Conclusions

It has been shown that the usage of LCA is proven as environmental management tool to assist the reduction of CO_2 emissions. Green Maintenance model adoption for laterite stone appraisal in terms of environmental impact is proven to be a good approach in selecting the most sustainable repair for heritage buildings. In addition, the model provides a sustainable solution, by giving priority towards repair options that have low CO_2 emissions. The results show that EMI of the model relay the 'true' CO_2 emissions for laterite stone repair, within selected maintenance time frame. This paper shows that this can be achieved through the quantification 'true' CO_2 emissions from heritage buildings repair. Additionally, calculation procedures through formulaic expression of the model enable evaluation of EMI within 'cradle-to-site' boundary of Life Cycle Assessment (LCA) based on case studies of heritage buildings. The model also gives preference to repair options that has high longevity, which consequently contributed to lower maintenance interventions and less intrusion to historic fabric. Most importantly, Green Maintenance model shows its capability as a tool for achieving informed maintenance decision, which enables adoption of sustainable repair approach for heritage buildings.

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PERFORMANCE OF INITIAL PUBLIC OFFERINGS: DOES SHARIAH COMPLIANCE EXTENSIVENESS MAKE A DIFFERENCE?

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Abstract: *Despite the popularity and the claim that Shariah companies fare better than their conventional counterparts, both previous studies and market reports show that the Shariah-compliant status does not seem to contribute positively to the Shariah IPO initial performance. This study hypothesizes that this could be due to (i) the characteristic differences between the Shariah IPOs and theirconventional counterparts and (ii) the inadequacy of pre-revision Shariah screening methodology since establishment in 1995 to 2013, in which neglects two crucial financial ratios, debt and ARTA (account receivable to total asset), which are emphasised by the Fiqhi Council. Thus, this study is conducted with the objectives: (i) to ascertain the impact of Shariah extensiveness on the IPO initial performance; and if this is so, (ii) to what extent the Shariah status and level of compliance influence initial performance. This study employs a sample of 153Shariah IPOs issued by Malaysian companies from January 2005 until December 2014. Consistent with past studies, the results show that there are no significant difference between the initial performance of Shariah and non-Shariah IPOs, even after controlling for the IPO characteristics. However, when the level of extensiveness is taken into consideration, the difference in the initial returns prevails.Overall, this study contributes by providing evidence that the existing Shariah screening criteria should incorporates the two financial ratios (debt and ARTA) in order to distinguish the Shariah IPOs from their non-Shariah counterpart.*

Key words: *Initial Public Offerings (IPOs) ·Shariah IPOs ·Shariah compliance extensiveness ·Malaysia*

Introduction

The current global trend exhibits that there is a shift in the demand for ethical investment particularly those with *Shariah*-compliant status. In fact companies that undergo the *Shariah*-compliant screening process and hold the *Shariah*–compliant status are basically recognized as the investment with the core market activities

that are free from unethical elements. In essence, the elements of certainty, integrity, justice and accountability in the screening process of *Shariah* status, differentiate the quality of the IPOs of the Shariah-compliant with the shares traded without the status. The investment with *Shariah*-compliant status is designed not only for the benefits of Muslims investors particularly those who are concerned about *Shariah* compliancy of their investment but it are meant for all investors.

However, it is documented in the literature that the *Shariah*-compliant status does not seem to contribute to IPO initial return performance differential between *Shariah*-compliant companies and their non-Shariah counterparts (for example, [1]). It is predicted that relying on the *Sharia*h screening process by *Shariah* Advisory Council (SAC) may not be sufficient as there are two important ratios which are debt ratio and account receivable over total asset ratio (ARTA ratio) highlighted by *Fiqhi* council that are not being used. Among the recent indicators on the insufficient financial risk control elements in Shariah-compliant listed companies which highlight the MyETF Dow Jones Islamic Market Malaysian Titan 25 financial performance in 2008. Although the portfolios consist of public listed companies with *Shariah*-compliant status, the performance tumbled down during the year it was launched which triggered the investors and researchers to question the *Shariah* screening process that had already been undergone by the listed companies.

It can be argued that the degree of *Shariah*-compliant extensiveness in IPOs will be beneficial to evaluate the firm's risk. This is because the majority of Malaysian listed companies possess *Shariah*-compliant status. This paper focuses on the *Shariah* screening methods, particularly the general rule for financial ratio screening which imposes certain limits on the debt ratio and ARTA ratio. The Council of the Islamic *Fiqh* Association or CIFA 1993 resolution [2] and some Accounting and Auditing Organization for Islamic Financial Institution (AAOIFI) standards are used in classifying the *Shariah*-compliant extensiveness even though the Securities Commission Malaysia applies the Islamic Financial Services Board (IFSB) standard. The Executive Director of International *Shariah* Research Academy for Islamic Finance or ISRA [3] also has highlighted the need to examine not only the company's income but also the total debt of the company, its cash and interest bearing securities and the account receivables.

The main purpose of this paper are two folds; first, to ascertain the impact of *Shariah* extensiveness on the IPO initial performance; and second, if it is so, to what extent the *Shariah* status and level of compliance influence initial performance. The rest of the paper is structured as follows. Section 2 provides a review of the related literature and hypotheses. Section 3 presents the variables and methodology. Section 4 discusses the empirical results. Section 5 concludes.

Brief Literature Review and Hypotheses

The Council of the Islamic Fiqh (CIFA). Two basic filters approved by CIFA in 1993 are used to identify the equity instruments as *Shariah* permissible investment or to be classified as Shariah-compliant:

(a) The primary business activities of the company must be legally free (*halal*) from activities that involve alcohol, tobacco, pork-related products, conventional financial services, weapons and non-permissible entertainment.

(b) The financial management of the company should be free from *riba* (interest) and impurities. The following ratios are the rules used by CIFA to screen out companies that have any of the below criteria:
   (i) having a debt to total asset ratio of thirty-three percent or more,
   (ii) impure plus non-operating interest income to revenue ratio of five percent or more, and
   (iii) Accounts receivable to total asset ratio of forty-five percent or more.

The benchmark of one-third is basically referred as the maximum proportion of asset that each leader in the family can give out. This proportion is based on hadith narrated by Bukhari and Muslim. It basically supports the question of the legacy of Sa'ad Ibn Abi Waqas who wants to leave his property as alms. The Prophet s.a.w.'s condition of 1/3 (33.33%) can also be considered as the benchmark for debt usage. This is because the two-third of property for the family members can only be achieve if the borrowing level does not exceed 1/3 of the total asset. The debt issues are among the main concern that will be raised upon and should be settled before the deceased property is divided among the beneficiary. Below are the hadith narrated by Bukhari and Muslim:

"One day, the Prophet s.a.w. visited Sa'ad bin Abi Waqas who was ill. Sa'ad expressed to the Prophet s.a.w. his feelings that his illness was coming to an end and that death was near. He asked for the Prophet s.a.w.'sopinion on giving his property away as alms for he had only one daughter to inherit his wealth. Therefore, he wished to give as alms 2/3 of his property. However, the Prophet s.a.w. stated his objection. Then Sa'ad asked whether he could give away 1/2 of his property. The Prophet s.a.w. still said no and recommended that 1/3 is enough. The Prophet s.a.w. then said: that too is still too much. Verily, to leave your heir wealthy is far better than to leave you heir impoverished and dependant on other people's charity."

The above *hadith* has been used to set the basis for maximum level of borrowing for the entities i.e., thirty three percent or one third of the total asset value. The proportion of debt that exceeds the benchmark of one third of the total asset value will expose the companies with the bankruptcy risk and business risk which may lead to uncertainty on future prospect of the business. In the context of the stability of the contract that the individual wants to enrol into, the issue of *gharar* is among the main concern in *Fiqh Muamalat*. *Gharar* means uncertainty and cheating (see the discussion on *gharar* definition-Resolution of the Securities Commission Shariah Advisory Council Shariah Advisory Council, p. 155). It is a negative element that can damage a contract. However, should it arise in a small magnitude, Islamic jurisprudence considers it as common consequence in business transaction and will not harmfully affect the contract's goodwill. Therefore, the features of such a company should be within the tolerable bounds of the Islamic jurisprudence and is allowable if the uncertainty level is low. The basis of the prohibition on *gharar* is based on a hadith of the Prophet s.a.w narrated by Muslim (see, the *gharar* prohibition issues-Resolution of the Securities Commission *Shariah* Advisory Council p.149).

Meaning: *"Verily, the Prophet s.a.w. prohibits gharar transactions."*

Therefore, as suggested by the Council of Islamic *Fiqh*, the investors should consider the account receivables proportion from the total asset amount in order to identify the amount of assets that are certainly owned by any entity. The element of transparency helps reduce the element of uncertainty. In dealing with business transactions, the Islamic rules really take the issues of *gharar* seriously. According to Syafi'e Mazhab, *gharar* is defined as something with high risk. This is also supported by another jurist from Mazhab Syafi'e which is Al-Syirazi who defined *gharar* as something that have unknown condition and consequences. The discussion on the *gharar* issues by SAC highlighted the interpretations by Al-Sharqawi, Al-Qalyubi and Al-Ramli that defined *gharar* as something with positive and negative elements whereby, the negative element exceeds the positive element.

Based on the above discussion on the definition of *gharar*, this study supports the CIFA decision to screen out the companies' accounts receivable to total asset ratio of forty-five percent or more. As far as this study is concerned, there are no specific verses from Al-Quran or hadith that specify the benchmark for account receivables proportion over total asset. It is believed that the need of such benchmark is initiated through the discussion by Islamic scholars or *ijmak ulamak* as it is among the secondary sourcesfor making decision. *Ijmak* means unanimous agreement among the qualified scholars of the Muslim community on Shariah rulings imposed during a particular period after the death of the Prophet s.a.w (refer Resolutions of the Securities Commission Shariah Advisory Council, p. 9). The secondary sources that can be used as a basis for decision making in Islamic jurisdiction are *ijmak, qiyas, maslahah, istishsan* and others. It only can be used after the matter in question is not found in primary sources–Refer Resolutions of the Securities Commission Shariah Advisory Council, p. 8-12).

In order to avoid uncertainty for the share market's investors, the realistic percentage of assets that are definitely owned by the companies should be positive or more than the value of assets that are still in doubtful conditions. Therefore, the proportion of assets that should be the least certainly held by any entity is fifty five percent which is exceeding the proportion of assets under uncertain condition which is only forty five percent. With this benchmark included in the screening process for *Shariah*-compliance status, the investors would at least invest in companies with stable and convincing financial condition.

Listing structure of Malaysian IPOs. Initial Public Offerings (IPOs) are defined as new issues that are sold to investors for the first time. The new shares are traded in a primary market. Due to the new issues perceived to be sold based on the offer price below the true values of the IPO, the activity of flipping on the first day of trading in order to realize quick return is a common situation in most share markets. In order to examine the post listing performance, the structure of Malaysian share market trading should be clarified first, as every country's shares market has its own unique characteristics. The institutional aspects of Malaysian IPOs differ from other markets in many different ways. There are two important features that lead to uniqueness of Malaysian IPOs during the period of study from 1999-2008 such as the Shariah-compliant status and thirty percent of Bumiputra mandatory requirement.

In IPO trading systems, there are three parties involved in IPO issuance which are the issuing firms, the underwriters and the investors. Basically, the players in the stock market are divided into two categories: individual investors (retail investors) and institutional investors. Institutional investors are regarded as informed investors while retail investors are considered uninformed investors. Investment banking plays an important role in IPO issuance. The bank acts as underwriter and helps to distribute a new securities issue in the primary market. Normally, their clients are the companies that will seek the investment banker's advice on how to get capital or on how to raise funds through equities.

In order to sell the IPOs, there are three types of selling mechanisms being used in share trading. These are auctions, book building concepts and fixed-priced offers. Basically, IPOs in Malaysia are sold using the fixed-price offer mechanism while other country like U.S.A uses book-building mechanism. In Malaysia, the application for IPO is submitted for approval to the Foreign Investment Committee (FIC), and Ministry of International Trade and Industry (MITI). It then is submitted to the SC for approval where it examines the company forecast profits and dividends. The SC limits the market's role in the determination of the subscription price. Most Malaysian IPOs fall within the category of three types of new issues: public issue, offers for sale or a hybrid of public issue and offer for sale. Public issues refer to the IPOs offered to the public for the first time. They are usually allocated to individual investors better known as retail investors. The implication of the issuance of these new shares will result in an increase in the paid up capital of the company. The public issues are known as primary shares. Currently, companies going for IPO must have 25% of shares in public hands and have Bumiputras holding 30% shares under FIC rules.

Offer for sale are basically shares allocated to the original shareholders (owners), but then offered to the public to buy. The owner is discouraged from selling shares before the expiration of the lock-up period. In Malaysia, the original shareholders cannot immediately sell and transfer the IPOs. The Securities Commission has already imposed the regulation on the original shareholder or the owner, pertaining to the sale of the shares that they own. This is somehow not imposed on the retail and institutional investors. In Malaysia, the owner-managers need to face the lock-up period of three years before they can proceed to sell their shares in the secondary market. The lock-up period basically is an agreement between the underwriter and the issuing firm prohibiting the sale of shares by insiders for a certain period of time. The lock-up period averages around six months in other countries such as the U.S.A. Lastly, private placement refers to the IPOs offered to institutional investors.

Methodology

The data set consists of all *Shariah*-compliant IPOs' issued from January 2005 until December 2014 which is listed on the Main Market of Bursa Malaysia (previously known as the Kuala Lumpur Stock Exchange or KLSE). As in April 1999 the Bourse introduced its first *Shariah* index, well-known as the Kuala Lumpur *Shariah* Index (KLSI). This Islamic index outlines the performance of *Shariah*-compliant shares on Bursa Malaysia. At the end of 2008, as in 2009 the Bursa Malaysia combined the main board and the second board together. The listing board was then called as the Main market while the MESDAQ was then introduced as the ACE market.

This study is fully aware on the effort by Bursa Malaysia and SC to upgrade the Malaysian equities market in 2004. Previously, the allocations of new issues for institutional investor were group together under the public issue category. However, the "private placement" category has been separated from public issue category in 2004. Since then, Malaysian IPOs are classified into *offer for sale*, *public issue* and *private placement*. This study also finds that in 2004 SC has introduced the pre-IPO *Shariah* status.

There are two data set which employed in this study; pre-listing and post-listing. Pre-listing data includes consolidated amount of total debt (TD), account receivables and total asset (TA). Moreover, it also includes three-year earnings before interest tax, depreciation and amortization (EBITDA), profit after tax (PAT), subscription/offer price, sector, board of listing, IPO proceeds utilization, offer size, age of the company, and underwriter reputation. Meanwhile post-listing data set includes opening and closing prices, subscription ratio, ownership structure, and total number of IPOs. These data are obtained from the Bursa Malaysia's website and customer service unit, Securities Commission website and it's Islamic Capital Market Unit, company's prospectus and annual report, Investors Digest, Star on-line and OSIRIS database. The *Shariah* status of the company is determined based on the list published by the *Shariah* Advisory Council (SAC) of Securities Commission.

The population and sample used in this study is as reported in Table 1. During the 10-year period, covered in this study, there are a total of 426 new issues. Similar to Abdul Rahim and Yong [1] and Yong [4], this study selects sample of IPOs that are offered as public issue, offer for sale, private placement, hybrid of these forms, and/or hybrid of any of these forms and other type of issues. The study however excludes the rarely type of IPOs, for example restricted offer for sale, restricted public issue, restricted offer for sale to eligible employees, restricted offer for sale to *Bumiputra* investors, special and restricted issue to *Bumiputra* investors, tender offer and special issue. The study also excludes IPOs issued under REITS category due to different format of presentation for its financial statement. The reason to exclude the companies with the uncommonly types of offer is due to only small numbers of companies with this issues that lead toless meaningful outcomeas suggested in Abdul Rahim and Yong [1] and Yong [4].

Table 5: The statistics of IPOs samples by year of listing, 2005 to 2015

Drop case	7	5	2	-	-	-	-	-	-	-	-	14
Non-Shariah Compliant IPOs	24	12	11	9	6	20	16	9	10	5	3	125
Shariah-Compliant IPOs	**48**	**23**	**15**	**14**	**8**	**8**	**12**	**8**	**7**	**10**	**10**	**163**
Sample IPOs	72	35	26	23	14	28	28	17	17	15	13	288
IPO population	79	40	28	23	14	28	28	17	17	15	13	302
Listing Year	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**TOTAL IPOs**

Note: The Shariah classification is based on the list published by the *Shariah* Advisory Councils of Securities Commission as of October/November, 1999-2008, and list provided by Knowledge Centre Bursa Malaysia, 2005-2015.

The *Shariah* Compliance Extensiveness Framework

The *Shariah*-compliant extensiveness is defined as the public listed companies that undergo the *Shariah* screening process which includes all the three types of financial ratios suggested by CIFA such as interest income ratio, debt ratio and account receivable over total asset ratio. Previously, the SAC practice in identifying listed companies as *Shariah* compliance is based on the quantitative method and qualitative method mentioned in section 2. In classifying the securities as *Shariah*-compliant, the SAC received the information from the SC. The SC gathered information on the listed companies from various range of sources, such as company annual financial reports, company responses to survey forms and through inquiries made to the respective company's management. Based on the outcomes of these methods, the listed firms are further classified according to certain benchmarks (5 percent, 10 percent, 20 percent and 25 percent) of the primary activities of the companies that involve non-permissible elements. However, this information is not published by the Securities Commission (SC) but only reveals the final status of the *Shariah* application. Because of the unavailability of the SAC benchmark screening data for public users, this study has no choice but to rely on the basic screening criteria or the general rules used by the Council of the Islamic Fiqh (CIFA) as well as by the Accounting and Auditing Organization for Islamic Financial Institution (AAOIFI).

Since the rest of the study concentrates on the impact of the extensiveness of *Shariah* compliance on the IPOs' performance, this study segregates the Shariah IPOs into four groups according to ratios used in the CIFA second tier of *Shariah* screening test. Basically, CIFA suggested that the first criterion requires that the listed companies must be free from *riba* (interest). Due to the difficulty in monitoring the use of interest-free debts among the listed companies, *Shariah* council impose several ratios in their second criteria to help to identify the companies' financial management status. The screening out process by CIFA on the financial management of the companies through three types of ratios: (i) debt to total assets ratio of 33 percent or more. (ii) Impure plus non-operating interest income to revenue ratio of 5 percent or more. (iii) Accounts receivable to total assets ratio of 45 percent or

more.For the purpose of this study, the extensiveness of *Shariah* compliance are measured based on two of the ratios:

(i) Debt to total assets ratio.
The sample will be partitioned into two sub-samples according to the median of the sample's debt ratio. The high Shariah compliance sub-sample consists of firms with less than median debt ratios, while the low Shariah compliance sub-sample consists of firms with debt ratios more than the median value. The median value for debt to total assets ratio is 28.65 percent.

(ii) Accounts receivable to total assets ratio (ARTA ratio).
The sample will again be partitioned into two sub-samples according to the median of the sample's ARTA ratio. The high *Shariah* compliance sub-sample consists of firms with less than median ARTA ratios, while the low *Shariah* compliance sub-sample consists of firms with ARTA ratios more than the median value. The median value for ARTA ratios is 17.10 percent.

These descriptions show that this study deviates slightly from the benchmarks outlined by CIFA (refer to footnote 5) with respect to the operationalization of the levels of debt ratio and ARTA ratio. The justifications for using median values instead are as follows. Following the CIFA original benchmark level will create uneven sample size for each quadrant basically because it puts a large number of companies with debt ratio approaching closely 33 percent in the low debt ratio category. More importantly, our approach in using the median (28.65%) is not against the CIFA guidelines because the 33 percent debt ratio is actually the maximum level of debt that a company seeking *Shariah* status should use. The same justification is true for using the median value of ARTA ratio.

This study does not use the impure plus non-operating interest income to revenue ratio of 5 percent or more due to inaccessibility of the data. The main reason is because the changes in financial statement format in Malaysia. Starting from the year 2005, as Malaysia Accounting Standard Board (MASB) follows the International Reporting Standard Board (IRSB), there are few changes in financial statement presentation (FRS 1). These changes among others combine the non-operating income information together with the operating income. As this study extracts the financial data of IPO issued from 1999 to 2008, the ratio on impure plus non-operating interest income to revenue ratio need to be excluded due to unavailability of the data for the year 2005 onwards. However, by using the SAC list of approved securities, the samples that are used in this study already screened for interest income to revenue ratio. Therefore, *Shariah* extensiveness screening process suggested by this study indirectly used the three types of financial ratio as suggested by *Fiqhi* Council. Figure 1 illustrates the construction of these sub-samples. This method helps the study to form four types of *Shariah* extensiveness quadrants known as quadrant A, B, C, and D. The level of debt over total asset and the level of the account receivable over total asset are the basis that are used to form the four types of *Shariah* extensiveness quadrants.

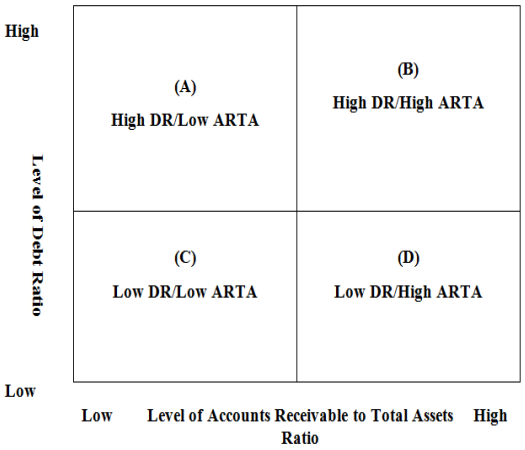

Figure 1: *Shariah*Extensiveness Quadrants

Based on the above quadrant, the *Shariah*-compliant extensiveness level are ranked from one with the most extensiveness to the least extensiveness, whereby the highest ranking are represent by the IPOs' in C quadrant, followed by the IPOs' in D quadrant, then IPOs' in A quadrant. The IPOs' in B quadrant represents the new issues that have the lowest level of *Shariah*-compliant. Through Figure 2 below, the study arrange the quadrant with the highest level of *Shariah*-compliant extensiveness on the top of pyramid diagram followed by the lesser *Shariah*-compliant extensive quadrant.

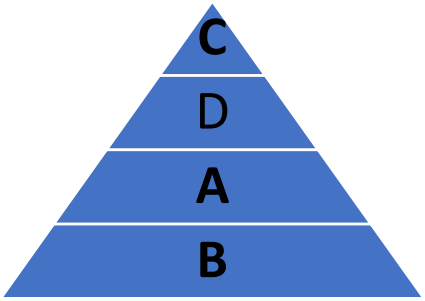

Figure 2: Pyramid Diagram of *Shariah*-compliant Extensiveness

Basically lower debt ratio portrays that the IPO have a higher level of extensiveness. This means that the lower the use of debt by the company's prior to listing, the lower the uncertainty element (*gharar*) and the lower the company's involvement with the non-permissible financial sources (*riba*). For ARTA ratio, a company is classified as a company with a high level of extensiveness if it has a low level of ARTA ratio. This is because the small proportion of account receivable over total asset amount represents a large amount of asset that the company surely own. This again reduces the risk of liquidity and uncertainty (*gharar*) for the investor as the ARTA ratio express the asset that definitely in the company's hand.

Therefore the IPOs in quadrant C are chosen as the most *Shariah*-compliant IPOs as they have lower debt ratio and lower ARTA ratio. The opposite of this is the IPOs under quadrant B which have higher level of debt ratio and ARTA ratio. Between the IPOs in quadrants D and A, the study classifies the IPOs in quadrant D as the companies that have a better rank of *Shariah*-compliant extensiveness compared to IPOs in quadrant A. This is because in Islam, debt issue is considered as a serious topic in *fiqh* whereby the *riba* element is impermissible (haram) in any activity. Therefore, the IPOs with low level of debt ratio and high level of ARTA ratio in quadrant D is rank as IPOs with a better position compared to the IPOs in quadrant A that have a high level of debt ratio but a low level of ARTA ratio.

To evaluate the association between underpricing and the extensiveness of *Shariah*-compliance, the study introduces three dummy variables (*DEXT*) as follows;

*DEXT*A = a dummy variable that takes a value of 1 if the Shariah IPO is in quadrant A and 0 otherwise = $DEXTA = \begin{vmatrix} 1 \text{ Quadrant A} \\ 0 \text{ Otherwise} \end{vmatrix}$

*DEXT*B = a dummy variable that takes a value of 1 if the Shariah IPO is in quadrant B and 0 otherwise $= DEXTB = \begin{vmatrix} 1 \text{ Quadrant B} \\ 0 \text{ Otherwise} \end{vmatrix}$

*DEXT*C = a dummy variable that takes a value of 1 if the Shariah IPO is in quadrant C and 0 otherwise $= DEXTC = \begin{vmatrix} 1 \text{ Quadrant C} \\ 0 \text{ Otherwise} \end{vmatrix}$

Summary of Findings

Profiles of IPOs by Quadrants of Shariah Extensiveness. Table 2 focuses on the profiles of IPOs for each quadrants of Shariah extensiveness that is represented by quadrant A, B, C and D. Based on the average results, the study finds that the offer prices of quadrants C and D are set lower than the other Shariah extensiveness quadrants. This table also indicates that the average opening and closing prices for quadrant C and D are also lower ascompared to quadrants A and B. In term of demand, quadrant C is oversubscribed by 40.42 times and this shows that the demand for theIPOs under these quadrants is higher compared to the remaining quadrants. The IPOs under quadrant C also indicates that it has higher percentageof reputable underwriters (55.56%). This means that its listing processes are conducted bymore reputable underwriters compared to the other quadrants. In terms of offer size, quadrant A records the greatest amount of offer size (RM89,966,094.29), while quadrant D indicates the smallest average of offer size (RM20,258,413.78).

Table 2 also reports the financial strengths of each quadrant based on the average values of financial data such as account receivables, total asset, total debt, and earnings. In general, quadrant C reports the lowest average value of accounts receivable which is opposite to quadrant B which reports six times larger than quadrant C. The other average values correctly reflect the specific criteria that are used to rank the IPOs based on their Shariah extensiveness quadrants. For instance, quadrant C, which is supposed to represent the highest level of Shariah extensiveness, has a very low ARTA ratio (4.48%) and debt ratio (15.43%). It is then followed by quadrant D that consists of IPOs with high ARTA ratio (24.82%) but with lower debt ratio (20.60%). Then, the third rank is quadrant A with high debt ratio (64.02%) but lower ARTA (7.59%). Lastly, quadrant B as the least Shariah extensiveness quadrant posseses the characteristics of high debt ratio with high ARTA ratio. The IPOs under this quadrant, on average reports a debt ratio of 47.34 percent and an ARTA ratio of 32.88 percent.

Based on the average value of total assets, the study finds that IPOs in quadrant A on average consists of larger companies as compared to quadrant B,C and D. In terms of earnings prior to listings, IPOs in quadrant A also indicate the highest earnings. In general, the IPOs under quadrant C tend to be relatively younger companies than those IPOs under quadrant A, which are slightly more experienced companies.

Table 2: Profiles of IPOs by Quadrants of Shariah Extensiveness from 2005-2014

Items	**Quadrants[c]**			
	A (n=76)	**B (n=97)**	**C (n=99)**	**D (n=75)**
Offer Price(RM)[a]	1.38	1.24	0.85	0.88
Opening Price (RM)	1.74	1.67	1.17	1.06
Closing Price (RM)	1.74	1.66	1.17	1.03
Over-Subscription (times)	22.60	30.38	40.42	34.80
IPOs with Reputable Underwriter	51.32%	48.45%	55.56%	52%
Offer Size (RM'000)	89966.09	34868.00	53476.66	20258.41
Accounts Receivable (RM'000)	30886.97	50060.46	7824.79	14880.95
ARTA (%)	7.59	32.88	4.48	24.82
Total Asset (RM'000)	407172.44	152265.64	174812.48	59956.30
Debt (RM'000)	260686.79	72078.56	26974.71	12348.57
Debt ratio (%)	64.02	47.34	15.43	20.60
Average EBITDA[b] (RM'000)	29711.72	19054.74	15759.18	9087.01
Average PAT (RM'000)	12645.84	9793.89	1629.19	4995.69
Firm's Age (Year)	6.17	4.97	3.47	3.89
Top 5 Ownership (%)	59.3	59.20	59.60	58.57
Proceeds for Growth (RM'000)	20206.32	15087.79	30745.53	12925.79
Total Proceeds (RM'000)	43602.30	27357.38	39997.45	18547.14
Growth to Proceeds (%)	46.34	55.15	76.87	69.69

Notes:

[a] The weighted average offer price basically the total proceeds divide with total units issued.

[b] The average values are calculated over three years period prior to listing.

[c] A, B, C and D represent *Shariah* extensiveness quadrants. The top rank is quadrant C with low ARTA and debt ratio, second rank is quadrant D with high ARTA but low debt ratio, third rank is quadrant A with low ARTA but high debt ratio, and the lowest rank is quadrant B, with high ARTA and debt ratio.

This is based on average age of quadrant C which is 3.47 years as compared to quadrant A which is 6.17 years. The ownership structure for all quadrants is more or less similar. The highest average amount of proceeds used for growth purposes is recorded by quadrant C. Therefore, as expected, the ratio of growth to proceeds is also the highest as it reaches 76.87 percent out of total proceeds. This value is highest compared to quadrants A, B and D that report 46.34, 55.15 and 69.69 percent of growth to proceed ratios, respectively.

Results of Multiple Regressions. This study conducts the cross-sectional multiple regression analyses to test hypotheses. Basically, this study has found that the variance inflation factors (VIF) range for all the regression analyses do not exceed 10 points. Therefore, the results are free from the serious issue of multicollinearity [5]. The results are more reliable with the use of Breusch-Godfrey Lagrange Multiplier statistics test that helps to identify autocorrelation and heterokedasticity problems in each model. Any of the regression analysis results with significant existence of autocorrelation and heterokedasticity issues, are treated with Newey–West covariance estimator. Therefore, the results are more precise in estimating

the coefficient covariances in the presence of heterokedasticity and autocorrelation of unknown form.

Table 3: Multiple regression result analysis on *Shariah* IPOs

Panel Shariah Sample

$$\begin{aligned} \text{IPORTN}_S &= \alpha + \beta_1 \text{ALLOCT}_i + \\ &\beta_2 \text{GROTOPROCEEDS}_i + \\ &\beta_3 \text{LNRISK}\,EBITDA_i \\ &+ \beta_J \sum_{j=1}^{J} \text{CV}_{j,i} + \varepsilon_j \end{aligned} \tag{1}$$

Variable	Coefficient		t-Statistics	
	IPORTN^{OPEN}	**IPORTN^{CLOSE}**	**IPORTN$^{OPEN\#}$**	**IPORTN$^{CLOSE\#}$**
ALLOCT$_j$	-24.727	-27.004	-3.884***	-4.554***
GROTOPROCEEDS	4.969	4.300	0.634	0.533
LNRISKEBITDA	-0.495	-1.590	-0.245	-0.684
CONTROL VARIABLES (CV)				
LNOFFERSIZE	-7.845	-4.280	-2.077**	-0.958
LNAGE	5.261	3.058	2.051**	1.116
LNTA	1.678	-1.008	0.424	-0.198
OWNERFIVE	-0.375	-0.370	-2.139**	-2.054**
DWRITER	-3.395	-1.625	-0.827	-0.359
DMKT	-2.107	-5.040	-0.308	-0.658
INTERCEPT	135.658	113.380	3.074***	2.667***
Adjusted R-Squared	0.147	0.112		
F-Statistics	7.626***	5.862***		
F-Statistics Probability	0.000	0.000		
Durbin-Watson stat.	1.461	1.661		
VIF range	1.030-3.420			

Notes:
Autocorrelation and heteroskedasticity in the analysis are identified through Breusch-Godfrey Langrange multiplier test and corrected with Newey-West covariance estimator. The adjusted values are highlighted by symbol #. The symbols ***, **, * denote significance at the 1%, 5% and 10% levels respectively.

The Impact of Shariah Extensiveness Quadrants on the Factors that Influence the Initial Performance of IPOs. The construction of Shariah-compliant extensiveness quadrants has segregated the 347 IPO issues into four quadrants (A, B, C and D). The hypothesis is basically to discover whether the factors that influence the initial returns of each quadrant might be different.

Panel A of Table 4 describes the results for quadrant A. The regression results derived from Equation (1a) show that IPORTN^{OPEN} of quadrant A are influenced by ALLOCT$_j$ and DWRITER. Meanwhile for IPORTN^{CLOSE} , the variables are ALLOCT$_j$, and DMKT. Through Panel B of Table 4, the results for the least extensive IPOs represented by quadrant B suggest that ALLOCT$_j$, OWNERFIVE and DMKT are variables that influence IPORTN^{OPEN}, while IPORTN^{CLOSE} are influenced by variables of ALLOCT$_j$, GROTOPROCEEDS, LNTA and OWNERFIVE.

Next, the regression results from Panel C of Table 4 presents the determinant factors that explain the initial returns for quadrant C. The study finds that IPORTN^{OPEN} is significantly influenced by ALLOCT$_j$, LNOFFERSIZE and LNAGE, while IPORTN^{CLOSE} is influenced by ALLOCT$_j$. Lastly, Panel D of Table 4 illustrates quadrant D regression results. The results indicate that ALLOCT$_j$ and

LNRISKEBITDA are the two determinant factors that explain the $IPORTN^{OPEN}$ while, $IPORTN^{CLOSE}$ is only influenced by $ALLOCT_j$.

Table 4: Regression Analysis on *Shariah* Extensiveness Quadrants

Panel A : Quadrant A

$$IPORTN_{QA} = \alpha + \beta_1 ALLOCT_j + \beta_2 GROTOPROCEEDS_j + \beta_3 LNRISK\,EBITDA_j + \beta_J \sum_{j=1}^{J} CV_{j,i} + \varepsilon_i \quad (2a)$$

Variable	Coefficient		t-Statistics	
	$IPORTN^{OPEN}$	**$IPORTN^{CLOSE}$**	**$IPORTN^{OPEN}$**	**$IPORTN^{CLOSE}$**
$ALLOCT_j$	-37.340	-35.690	-6.316***	-5.255***
GROTOPROCEEDS	-1.201	6.228	-0.113	0.508
LNRISKEBITDA	-0.642	-2.973	-0.251	-1.013
CONTROL VARIABLES (CV)				
LNOFFERSIZE	-0.738	2.448	-0.133	0.385
LNAGE	0.918	2.208	0.305	0.638
LNTA	-1.947	-3.444	-0.353	-0.544
OWNERFIVE	-0.011	-0.174	-0.052	-0.724
DWRITER	-10.634	-9.102	-1.755*	-1.308
DMKT	-8.002	-15.920	-1.270	-2.200**
INTERCEPT	34.535	23.576	0.636	0.378
Adjusted R-Squared	0.379	0.320		
F-Statistics	6.085***	4.922***		
F-Statistics Probability	0.000	0.000		
Durbin-Watson stat.	1.678	1.563		
VIF range	1.07- 4.34			

Panel B: Quadrant B

$$IPORTN_{QB} = \alpha + \beta_1 ALLOCT_j + \beta_2 GROTOPROCEEDS_j + \beta_3 LNRISK\,EBITDA_j + \beta_J \sum_{j=1}^{J} CV_{j,i} + \varepsilon_i \quad (2b)$$

Variable	Coefficient		t-Statistics	
	$IPORTN^{OPEN}$	**$IPORTN^{CLOSE}$**	**$IPORTN^{OPEN}$**	**$IPORTN^{CLOSE}$#**
$ALLOCT_j$	-16.453	-30.319	-1.847*	-2.290**
GROTOPROCEEDS	18.670	25.611	1.088	2.004**
LNRISKEBITDA	-1.346	-2.098	-0.227	-0.639
CONTROL VARIABLES (CV)				
LNOFFERSIZE	-7.656	-6.556	-0.923	-0.971
LNAGE	1.799	-1.240	0.378	-0.261
LNTA	12.560	12.282	1.368	2.101**
OWNERFIVE	-0.836	-0.556	-2.463**	-1.673*
DWRITER	0.081	0.525	0.009	0.065
DMKT	-15.186	-13.463	-1.682*	-1.328
INTERCEPT	53.729	7.806	0.519	0.068
Adjusted R-Squared	0.057	0.134		

F-Statistics	1.646	2.645***
F-Statistics Probability	0.115	0.009
Durbin-Watson stat.	1.722	1.692
VIF range	1.058-2.525	

Panel C : Quadrant C

$$\text{IPORTN}_{QC} = \alpha + \beta_1 \text{ALLOCT}_j + \beta_2 \text{GROTOPROCEEDS}_j + \beta_3 \text{LNRISK}\,EBITDA_j + \beta_J \sum_{j=1}^{J} \text{CV}_{j,i} + \varepsilon_i \quad (2a)$$

Variable	Coefficient		t-Statistics	
	IPORTN^{OPEN}	**IPORTN^{CLOSE}**	**IPORTN^{OPEN}#**	**IPORTN^{CLOSE}**
ALLOCT$_j$	-21.972	-19.811	-2.469**	-1.871*
GROTOPROCEEDS	3.059	-16.669	0.138	-0.555
LNRISKEBITDA	7.413	7.185	1.240	0.671
CONTROL VARIABLES (CV)				
LNOFFERSIZE	-24.383	-13.854	-2.252**	-0.944
LNAGE	9.559	2.441	1.748*	0.317
LNTA	5.936	-5.378	0.557	-0.403
OWNERFIVE	-0.433	-0.561	-1.265	-0.925
DWRITER	-6.353	1.563	-0.640	0.119
DMKT	3.705	-5.854	0.268	-0.382
INTERCEPT	319.540	300.344	2.964***	2.208**
Adjusted R-Squared	0.164	0.040		
F-Statistics	3.133***	1.455		
F-Statistics Probability	0.003	0.178		
Durbin-Watson stat.	1.291	1.615		
VIF range	1.056 – 6.250			

Panel D : Quadrant D

$$\text{IPORTN}_{QD} = \alpha + \beta_1 \text{ALLOCT}_j + \beta_2 \text{GROTOPROCEEDS}_j + \beta_3 \text{LNRISK}\,EBITDA_j + \beta_J \sum_{j=1}^{J} \text{CV}_{j,i} + \varepsilon_i \quad (2a)$$

Variable	Coefficient		t-Statistics	
	IPORTN^{OPEN}	**IPORTN^{CLOSE}**	**IPORTN^{OPEN}#**	**IPORTN^{CLOSE}**
ALLOCT$_j$	-33.949	-40.221	-3.792***	-3.520***
GROTOPROCEEDS	-4.918	4.370	-0.281	0.196
LNRISKEBITDA	-12.850	-10.144	-2.424**	-1.499
CONTROL VARIABLES (CV)				
LNOFFERSIZE	5.360	3.691	0.504	0.272
LNAGE	6.898	5.442	1.352	0.836
LNTA	0.443	-0.333	0.055	-0.032
OWNERFIVE	-0.137	0.040	-0.354	0.081
DWRITER	0.474	0.498	0.060	0.049
DMKT	1.352	5.601	0.160	0.521
INTERCEPT	-17.350	-31.287	-0.150	-0.212
Adjusted R-Squared	0.225	0.131		
F-Statistics	3.385***	2.234**		

F-Statistics Probability	0.002	0.031
Durbin-Watson stat.	1.586	1.816
VIF range	1.029 – 3.407	

Notes:
Autocorrelation and heteroskedasticity in the analysis are identified through Breusch-Godfrey Lagrange multiplier test and corrected with Newey-West Covariance estimator. The adjusted values are highlighted by symbol #. The symbol *, ** and *** denote significance at 10 percent, 5 percent, and 1 percent level respectively.

In term of the adjusted R-squared values for each quadrant, the study finds that quadrant A has the most of its variance in initial returns (37.90 %) explained by the determinant variables, followed by quadrant D with 22.48 percent, quadrant C with 16.38 percent and lastly quadrant B with only 5.71 percent.

The study concludes that each of the quadrants has a different set of variables that significantly influence the initial returns. Each measure of initial returns also indicates that it is basically affected by different types of determinant variables. Obviously, it is only $ALLOCT_j$ that significantly has shown as the common determinant factor of the initial returns or underpricing of IPOs' for all the quadrants. Overall, the results of these analyses lead to the rejection of the hypothesis which proposes that the different sub-samples with different extensivenesss of Shariah compliance (as indicated by the four quadrants) have the same determinant factors that influence the initial returns of IPOs.

Conclusion Remarks

The main motivation for the present study to examine the initial performance of *Shariah* IPOs is that despite the emphasis and importance given on attaining the status of *Shariah* compliance and despite the claims that *Shariah* investment should perform better than those investments that do not comply to *Shariah* criteria, *Shariah* investment in general and IPOs in specific still fail to show any significance difference in term of their performance as compared to investment in non-*Shariah* equities. This can be obviously witnessed through the financial performance of MyETF Dow Jones Islamic Market Malaysian Titan 25 in 2008. Although the portfolios consist of public listed companies with *Shariah*-compliant status, the performance tumbled down during the year it was launched. While the existing empirical studies on *Shariah* IPOs are still lacking, those by Abdul Rahim and Yong [1-6] basically leave the questions on the seemingly similar performance between the *Sharia*h and non-*Shariah* IPOs remained unanswered. The present study addresses the puzzle by examining two possible explanations, firstly the characteristics of the two groups of IPOs and secondly the inadequacy of the existing screening criteria of *Shariah* equities including IPOs.

Based on the international standard, by undergoing all the relevant processes and consistent monitoring, *Shariah* equities are expected to outperform their conventional counterparts. This expectation somehow increases the investors' trust especially institutional investors that require a lot of *Shariah* equities for their portfolios. Hence, in Malaysia it is understandable why almost 89 percent of shares traded in the equities market seek and possess the *Shariah*-compliant status. However, in reality, the rising trend of equities with *Shariah*-compliant status does not seem to contribute to an increase in performance. This implies that, the pre-revision screening status before revised SAC *Shariah* screening in 2013 failed to differentiate the performance of *Shariah* from the non-*Shariah* IPOs. This study produces the second evidence after Abdul Rahim and Yong [1-6] that there is no statistical difference in term of performance by comparing the non-*Shariah* IPOs with the Shariah IPOs in general and with a matched sample *Shariah* IPOs.

This finding implies that the pre-revision screening criteria adopted by SAC may need to be modified to include debt ratio and ARTA ratio in order to differentiate the *Shariah* IPOs from their conventional counterparts. Even though the proposed, more stringent screening criteria might defer firms' ability to comply with and obtain the *Shariah*-compliant status, there are several advantages that can potentially

be benefited from it. One of them is that when the Malaysian IPOs (and equities in general) are screened based on the international standards e.g. Accounting and Auditing Organization for Islamic Financial Institution (AAOIFI), they can more easily gain the trust from the international fund or portfolio managers. The trust brings in foreign investment which will increase the liquidity for *Shariah* IPOs market.

The importance of the financial ratios particularly debt and ARTA ratios in selecting *Shariah* investment implies that the Malaysian regulators and policy makers must come up with a solution to address this issue. The findings of the study show the importance of adopting stricter *Shariah* screening methodologies in Malaysian IPOs. An advantage of the proposed screening methodology is it helps to tackle the issues of *gharar* or uncertainty factor and liquidity risk as discussed by *fiqhi* scholars. Any improvement in the existing practices is expected to boost back the Malaysian equities market particularly the Malaysian *Shariah* IPOs segment that had experienced slow performance after the Asian financial crisis in 1997/1998 and Global financial crisis in 2008.

Complying with *Shariah* rules is the main motivation Muslim investors choose to invest in *Shariah*-compliant IPOs. When prompted with *Shariah*-compliant IPOs in specific, of most important are the investors' perceptions that these assets are free from all the prohibited elements including *gharar, riba* and forbidden sector by Islam. The fact that debt usage and accounts receivable are indefinitely tolerated can potentially contribute to these elements particularly the riskiness of the investment suggest that having these financial ratios incorporated in the screening practice will improve the quality of *Shariah* IPOs toward being an investment that is more consistent with the requirement of Islamic rules.

In addition, the results which show that the most conservative *Shariah* IPOs group (represented by quadrant C) offers the highest initial returns imply that there are at least two ways in which the investors can benefit from an investment in these assets. First and foremost is the quality of these IPOs which are more consistent with the *Shariah* requirement. Second, the investors could enjoy a high returns despite the lower financial risks which results from the issuing companies employing lower debt level and less accounts receivable per dollar of their assets.

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THE DETERMINANTS OF INFLATION IN NIGERIA FROM 1970-2014

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Abstract: The aim of this paper is to examine the long-run relationships between exchange rate, broad money supply, gross domestic product, interest rate, financial instability, oil price and inflation. The study employed an Autoregressive Distributed Lag (ARDL) technique using annual time series data for 45 years period, from years 1970 to 2014. The findings derived from this study clearly confirmed the existence of a long run relationship between the variables tested. Besides that, the findings also showed the existence of a positive long-run relationship between the exchange rate, broad money supply, oil price and inflation; but negatively related to financial instability, interest rate, gross domestic product and broad money supply nominal effective exchange rate irritation term. Conclusively, throughout the overall findings, it is recommended for monetary authority in Nigeria to pursue price stability either through monetary policy or exchange rate target since shocks in both money supply and exchange rate influence variation in inflation. Besides that, diversification strategy and export-based economy are also recommended for Nigerian economy as this will lead to increase in output and productivity, as well as to overcome the trade balance of the nation.

Key words: Autoregressive distributed lag ·Financial instability ·Inflation

Introduction

The inflationary procedure has remains a disputable point in both hypothesis and observational discoveries. It is for the most part questionable that regardless of whether inflationary pace is a decent or awful for the economies. It brings up an issue before the strategy creators that how to accomplish the twin objective of low swelling and low unemployment. It has been watched that high swelling diminishes reserve funds and occupy speculation into theoretical channels. The nations are concerned that high expansion will swell the objective of accomplishing high financial development. This is clarified by surely understood Phillips bend supporting the conceivable exchange off amongst swelling and unemployment [1]. The bend sets up that there is no exchange off between the inflation and unemployment over the long haul however there are a conceivable trade off amongst inflation and unemployment in the short-run [2].

All through the previous two decades, the goals of Nigerian monetary policy were to achieve the external balance and price stability. As documented by Batini [3], the CBN monetary policy circular no. 33, year 2002, stating that one of the CBN's real targets is the "sustenance of price and external stability." However, still the goal remained unchanged over years. As the Nigerian economy is an import oriented economy, this necessitates the need to continuously investigate the precise linkages between exchange rate and consumer prices. Further, there is also a need to address the possible effect of exchange rate policy as well as money supply on inflation in Nigeria. This is because the exchange rate and money supply are variables that can be influenced by monetary policy instruments, so that they can

serve as monetary policy intermediate targets. Besides, the inflation is also considered as one of the ultimate targets of monetary policy instruments. Therefore, the aim of this paper is to investigate the causal relationship between determinants the nominal effective exchange rate, broad money supply, gross domestic product, interest rate, financial instability, oil price and inflation. The remaining section of this paper is presents as follow: Section two presents the empirical literature review while the methodology employed for the study formed the contents of section three. Findings and discussion are presented in section four and finally, conclusion and recommendations are presented in section five.

Empirical Literature Review

A survey of the many works on exchange rate reveals that it is dominated by issues relating exchange rate and prices (import prices, producer prices, CPI, agricultural and industrial prices). Similarly, VAR or VECM methodology dominates such literature. Empirically analysing the interaction between floating exchange rates, money and prices with a VAR model for a sample of countries, Iyaji [4] investigated the effectiveness of monetary policy in controlling the inflationary pressure in Nigeria by using OLS method. The literature examined the real effective exchange rate, broad money supply and minimum rediscount rate and discovered that monetary policy innovations based on controlling money supply has modest effects on prices and output with a fast and speedy adjustment. While minimum exchange rate as well as real effective exchange rate have neutral and fleeting effects on output. The study suggested that inflationary growth rate can be checked by embarking on the monetary policy, based on moderating the level of money in circulation within the Nigerian economy. Langnan and Shoufeng [5], observed the transmission of foreign exchange reserves on price level in China from 1993 to 2008 by using non- parametric model. The results report that an increase in foreign exchange reserves caused a rising in money stock in circulation, which in turn lead to an increase in the price level, hence inflation. Therefore based on the VAR model of consumer price index and money supply the price level was fully respond to shocks in money supply in only two months. But the literature has short comings because the clear shocks will not be captured in only two months. The research forgot to acknowledge the role of exchange rate variation, he only consider the foreign reserve in the analysis.

Jalil et al. [6] tested the fiscal theory of price level for Pakistan using Autoregressive Distributive Lag (ARDL) techniques for the period of 1972–2012. The found that fiscal deficit is a major determinant of the price level along with other variables like government sector borrowing, private borrowing and interest rates. In Bangladesh Muktadir-Al-Mukit et al. [7] investigates the relationship between inflation and import using a sample period of 2000 to 2011. They applied Johansen cointegration techniques and found that import is statistically positively related to inflation. The Granger causality test shows a unidirectional causality running from inflation to import.

Maku and Adelowokan [8], observed the dynamic of inflation in Nigeria by using vector autoregressive model and reveals that money supply, real output growth rate, fiscal deficit and interest rate exert contributed to an increase in the inflationary dynamic pressure in Nigeria. But money supply and real output growth contributed higher than the interest rate and fiscal deficit. However, the researchers did not include exchange rate variation which is also important cause of inflation in Nigeria, due to the fact that Nigerian economy is an import oriented economy. Okoro [9], using error correction model, examined the relationship among money supply, interest rate, inflation rate, exchange rate and gross domestic product in Nigeria. The study findings suggested that the greater the coefficient in the parameter, the higher the speed of adjustment of the model from short run to a long run, which means that there was an existence of long run relationship between monetary policy and economic growth in Nigeria. Therefore, the result shows that exchange rate and money supply were positively correlated to GDP in long run. But the study did not consider or give emphasis on the relationship between the price level and other variables under the study. This is because both economic growth and price stability are integral part of economic development in Nigeria.

Bozkurt, [10] examined money, growth and, inflation relationship in Turkey over the period of 1999Q2-2012Q2. They used co-integration test. Their results indicated that money supply and velocity of money is a main determinant of inflation in the long run. On the other hand, 1 percent declines in income directly reduce inflation by 1%. Similarly, Turhan et al. [11], examined the dynamic relationship between exchange rate and oil prices in G20 member countries by using the consistent dynamic conditional correlation (CDCC) model. The empirical result shows the negative relationship between exchange rate and oil prices in some member countries. Moreover, the study reveals that in 2003 there was a shift of correlations to a significant negative point because of the intervention of United State of America into Iraq and global financial crisis. However, the variation in the exchange rate has led to inflationary pressure in all the member countries.

However, Hassan, [12] examined the relationship between money growth and inflation in Nigeria over the period of 1970-2012. They employed Johansen co-integration approach, Vector Error Correction Model (VECM) and Granger Causality Analysis. They showed that in the long run money supply growth has significant and positive relationship with inflation while the insignificant relationship with inflation in the short run. Furthermore, the causality test results revealed a unidirectional causal relationship isrunning from money supply growth to inflation. However, import and interest rates have significant and positive relationship with inflation but Gross Domestic Product and exchange rates have a significant and negative relationship with inflation in the long run. Also, Stephen [13], studied the exchange rate volatility, devaluation and price level dynamic in Nigeria using the OLS method, from 1970 to 2009. The study however analyzed if any correlation exist between exchange rate instability, the distortion in the general price level and depreciation in Nigeria. (OLS) was utilized for the study. This explanatory system is suitable in light of the fact that it is productive in term of yield and sufficiency of measurements created. The findings shows that inflation rate and money supply were stationary at level at 5% level of significance while and exchange rate were stationary at first difference. The work found that exchange rate volatility has negative impact on the price level in Nigeria.

On the other hand, Hossain [14] has explored the relationship between money, output and prices in some Muslim majority countries. The empirical result acquired by the Engle–Granger, Johansen and ARDL bound test shows the presence of the causal relations among money, prices and output.In India, Mohanty and John [15] examined the determinants of inflation from Q1:1996-97 to Q3:2013-14. Their variables were Gross domestic product deflator, output gap, domestic crude oil prices, overnight weighted average call money rate and fiscal deficit. They applied structural vector autoregressive (SVAR) model. Their analysis indicated that the fiscal deficit appeared as one of the main determinant of inflation in 2011-12.

Adom et al. [16] investigate the internal and external factors in determining inflation in Ghana from 1960-2012. Their variables were food supply, international transfer inflation and inter-continental transfer of inflation through changes in crude oil prices and policy regime changes. They applied fully modified-ordinary least square techniques. The findings indicated the existence of co-integration relationship among the variables. And also, money supply has significant positive effects of inflation in Ghana. However, Alexander et al. [17] analysed the main determinant of inflation in Nigeria using annual time series data from 1986-2011. The variables used were import, real gross domestic product, fiscal deficit, money supply GDP of Agriculture, exchange rate and lending rate. They used Granger Causality test and Vector Autoregressive (VAR) model. Their result indicated that exchange rate, money supply fiscal deficit, money supply, import and lending rate have negative relationship with inflation in the short run, but positive relationship in the long run. In the sense of Granger causality, all the variables have bidirectional causal relationship with inflation but causality run from lending rate to inflation.

Moreover, Awang and Imran [18] examine the factors affecting food price inflation in Pakistan using time series data for the period of 1980-2013. Their variables were money supply, exchange rate, fuel prices, foreign aid, per capita and fertilizer prices. They applied Error correction model (ECM). Their

analysis showed that per capita, money supply fuel prices, fertilizer prices and foreign aid have significant positive impact on inflation while exchange rate has negative significant effects. Therefore, Barugahara [19] examined the effects of political instability on inflation in 49 African countries. This study employed GARCH (1, 1) model. The findings indicated that political instability has significant positive impact on inflation volatility in the 49 African countries. In addition, Chakraborty and Varma [20] studied the fiscal theories of price determination (where inflation targeting is emphasised) and the monetarist axioms in India using the autoregressive distributive lag (ARDL) model. They empirically tested the determinants of inflation based on Wholesale Price Index (WPI) and the Consumer Price Index (CPI) for the financially deregulated period. The results revealed that the supply-side variables are indeed significant and have a considerable effect on inflation.

Gerlach et al. [21] examined the determination of inflation between 1926 and 2012 in Ireland. They found that the changes in unemployment and the NAIRU are a significant determinant of inflation both in the full sample and in the subsamples covering the periods before and after the Sterling parity association. In addition, Lim and Sek [22] investigated the determinants of inflation in high inflation group countries and low inflation group countries using time series data from 1970-2011. They employed Autoregressive Distributive Lags (ARDL) techniques and they found that in low group countries GDP growth and import have positive and negative effects on inflation respectively, while money supply and expenditure have insignificant positive and negative effects respectively. In the high inflation group countries they also found that money supply and expenditure have positive and negative significant effects on inflation while GDP growth and import showed no effects. Similarly, Mohanty and John [23] identified the determinants of inflation in India using quarterly data from Q1: 1996–1997 to Q3: 2013–2014. They applied a multivariate econometric framework. The crude oil prices, output gap, fiscal policy and monetary policy were identified determinants of inflation. They found that dynamics inflation in India had changed over time with various determinants showing significant time variation in the recent years, mostly after the global financial crisis.

Murshed and Nakibullah [24] explored the relationship between price level and inflation in GCC countries for the period of 1975-2011. They used the following variables: World oil price index, real gross domestic product, money supply and nominal effective exchange rate. Their result showed that in both long run and short run exchange rate pass-through elasticities to the consumer price level of GCC countries. In Ghana, Ofori et al. [25] investigates the relationship between inflation and import using Autoregressive Distributive Lag (ARDL) techniques. They used a sample period of 1960 to 2012. Their analysis found that import and government expenditure were statistically insignificant negative and positive relation with inflation in the short run but statistically significant negative and positive relations in the long run respectively.

Orji et al. [26] examined the unemployment and inflation nexus in Nigeria. They applied a distributed lag technique with data covering the period 1970-2011. Their variables were consumer's price index (a measure of inflation rate), unemployment rate, budget deficit, the growth rate of money supply, interest rate, the lag of current interest rate and real gross domestic product. Their analysis revealed that unemployment is a significant determinant of inflation and that there is a positive association between inflation and the unemployment rate in Nigeria.Equally, Ola, A. E [27] investigated the determinants of inflation in Sri Lanka and Nigeria from 1963 to 2013. Their variables were money supply, interest rate, exchange rate and import. He employed Error correction model (ECM) and Multiple regression techniques. His findings showed that money supply, interest rate, exchange rate and import are positively related to inflation in both countries. Consequently, Pingfeng [28] examined the determinant of inflation in Sierra Leon using annual time series data for the period of 1990 to 2013. He used Augmented Dickey Fuller test, Johansen Cointegration test and Error correction Model (ECM). Their result showed that GDP and money supply have significant positive impacts on inflation while interest rate has a significant negative effect in the short run. No significant effects of imports of goods and services and exchange rate. In the long run GDP and money supply contribute positively, but interest rate and exchange rate contribute negatively. Sami and Sassi [29] analyzed the nexus between

corruption and inflation using a sample of 100 developed and developing countries representing five regions which are Americas, Europe, Middle East and North Africa, Sub-Saharan Africa and Asia Pacific for the period of 2000–2012. They employed some model estimations and two indicators of corruption. Their findings revealed a significant and positive relationship between all country corruption measures and inflation.

Utama et al. [30] elaborated the impact of changes in BI Rate (interest rates of the central bank), PUAB (money market interest rates) and provincial money supply to regional inflation in the framework Hybrid New Keynesian Phillips Curve (HNKPC). They employed Generalized Method of Moments (GMM) techniques on panel data of 32 provinces from 2005-III to 2014-IV. They classified the data into four groups, which are Jawa-Bali (W1), Sumatera (W2), Kalimantan-Sulawesi (W3) and Papua-Maluku-Nusa Tenggara (W4). Their findings showed that provincial monetary aggregate influence inflation significantly only in Sumatera while BI Rate affects inflation in Sumatera and Kalimantan-Sulawesi. Furthermore, they also showed that PUAB is significantly affecting inflation in almost all Indonesian regions, except Kalimantan-Sulawesi. Van zyl [31] investigated the determinant of South African inflation-linked bond returns using time series annual data of 2000-2013. He applied Augmented Dickey Fuller test, correlation analysis and co-integration test. The result showed no co-integration relationship between interest rate and inflation; inflation linked bond return and inflation. It is also found that trend in inflation is the real causes of inflation-linked bond performance.

Alam and Alam, [32] investigated the determinants of inflation in India using time series for the period of 1989-90 to 2012-2013. They applied co-integration method and revealed that depreciation of the rupee, money supply and supply bottleneck are the main determinants of inflation in the long run. However, in the short run the results indicated that supply bottlenecks and domestic factor MSlead the other factors as a degree of the cause for persistent increase of inflation in India. Furthermore, Deniz et al. [33] examined how inflation rates of inflation focusing on (IT) and non-inflation focusing on (non-IT) developing and modern economies are influenced with the determinants as real effective exchange rate, money growth, budget balance, real wages, output gap and GDP growth dynamic static panel data over the period of 2002-2012. Deteriorating the determinants of inflation rate empowers to examine the presence of a few transmission systems for developing and modern economies.

Jongwanich, Wongcharoen and Park, [34] investigated and compared the causes of consumer and producer prices inflation using ten Asian emerging economies. They applied Variance Decomposition (VC) and Impulse Response (IR) over the period of 2000 to 2015. They also examined the global food prices, exchange rate and global oil prices to consumer and producer prices. The found that cost-push variables, for example, food prices and oil are more critical in clarifying producer price inflation than consumer price inflation in the 10 Asian emerging economies. Then again, demand-pull factors, consumer prices still clarify a great part of the inflation. At last, they revealed that the global food prices, global oil prices and exchange rate have a tendency to be higher at producer prices than consumer prices in Asia.

In Pakistan, Jaffri et al. [35] investigated the influence of demographic variation on inflation over the spinning of 1988 to 2014. They employed Autoregressive Distributive Lags techniques and showed that middle age working population and population growth have negative and positive effect on inflation respectively. Also, Hassan et al. [36] studied the relationship between indirect taxes per capita; export per capita, crude oil prices, exchange rate, external debt per capita and inflation for the period of 1976 to 2011 in Pakistan. They applied Autoregressive Distributive Lags and found the existence of long run co-integration among the variables. Moreover, the crude oil prices, exchange rate, indirect taxes and export have significant positive influence on inflation; however, external debt has insignificant negative impact on inflation.

Recently, Alemu and YilkalWassie, [37] investigated the impact money supply on inflation in Ethiopia using time series data from 1994/95 to 2014/15. They employed Johansen cointegration analysis and confirmed the existence of a relationship between the variables. Moreover, the results of Granger causality test revealed unidirectional causal relationship from money supply to inflation, budget deficit to the money supply. Hence, no causal relationships exist between inflation and budget deficit. In Nigerian context, Iheonu et al. [38] applied autoregressive distributive lag (ARDL) and analyze the influence of money supply, GDP per capita, interest rate and exchange rate during 1980 to 2014. Their results showed that co-integration relationship exists between the variables. This analysis suggested that fiscal strategies ought to be equipped towards the control of interest rate and money supply in the short run in other to direct Inflation and furthermore, the Nigerian economy can stand to shift any of human capital improvement or innovative headway to lift efficiency without bringing on inflation as GDP per capita demonstrated insignificant in the short run.

Rashid et al. [39] investigated the co-integration relationship between inflation, exchange rate and foreign direct investment in Malaysia. They applied Ordinary Least Square Method covering the periods of 1992 to 2012. The results indicated that the variables have a long run relationship. Moreover, Yien et al. [2] examined the determinant of inflation in Malaysia during 1960 to 2014. They employed Granger causality test analysis and Johansen co-integration test techniques. Their results confirmed the existence of co-integration relationship between domestic debt, exchange rate, external debts and inflation. Also, the result of Granger causality revealed one-way causality running from exchange rate to inflation, domestic debt to exchange, it also the two-way causal relationship between external debts and exchange rate.

Therefore, the empirical literature reviewed in this study show blended results and conclusions. In a few literatures, solid positive associations are establish to exist among inflation and the chose factors under study and some the associations are feeble. Different studies account distinctive outcomes. This blend of discoveries and conclusions radiates from contrasts in approach, factors utilized and the time of study. There is in likewise uniqueness of study zone that basically influences the unpredictability of inflation rate. The stunning success of the current study, consequently, will be on these four fronts. It will cross over any barrier made by a portion of the investigated consider by utilizing distinctive approach and study range. This is on the grounds that where the region of study is comparable, the approach and factors utilized difference. Once more, the utilization of 1970-2014 review periods is an incredible change in the literature. Lastly, the creation of the index of financial instability and developing a new model broad money supply nominal effective exchange rate interaction terms will prove to be a major pace in the literature of volatility of inflation in Nigeria.

Methodology

Data

The study utilizes annual time series data over the period from 1970–2014 in order to examine the determinants of inflation in Nigeria. This period is adopted to capture the impact of structural shocks, such as the period of high in?ation during the late 1970s,?rst oil crisis in 1973, global economic recession in the early 1980s, Structural Adjustment Programme (SAP) in 1986, Dual Deregulation policy 1994, global financial crisis in 2007, current problem of insecurity, as well as the current oil crisis Nominal effective Exchange rate, Broad money supply, Gross Domestic Product (GDP), Oil prices, financial instability and interest rate are the independent variables while inflation is used as the dependent variables. The data used for this research are sourced from World Bank Development Database Indicator (2015), the United Nations Statistical Division (2015) and DataStream (2015). The research analysed the data using time series techniques. This consists of unit root tests, co-integration tests, Granger causality test. The study estimated the Cointegration using Autoregressive Distributive Lag (ARDL) developed by Pesaran & Pesaran [40] to estimate the Long run and Short run coefficients.

The ARDL technique indeed was recognized to have additional advantages of yielding consistent estimates of the short run and the long-run coefficients [41].

Unit Root Test: Standard vector autoregressive techniques necessitate that the underlying stochastic procedures are stationary (that is, invariant concerning time). On the off chance that they are not stationary, the F-measurements on which the significance of the regression assessments is based will be one-sided. A standard system used to test for stationarity is an augmented Dickey-Fuller test [42] and Phillips-Perron test [43]. In light of these tests, the study assessed the model in first distinction frame over the whole sample frame. Indicators are expressed in logs, so that first differences indicated the rate of changes. This form is especially helpful on the grounds that the indicators in the evaluated show straightforwardly measure the inflation rate. The test is led by including the slacked estimations of the dependent variables ΔZt as given in equation (1) below:

$$\Delta Z_t = \alpha + \beta t + \theta Z_{t-1} + \sum_{i=1}^{k} \propto_i \Delta Z_{t-1} + \varepsilon_t \qquad (1)$$

where: t is a pure white noise error term and ΔZt-1= (Zt-1 –Zt-2), ΔZt-2 = (Zt-2 – Zt-3) and so on and t is the time or trend variable while k is the lag length and Z in this study represents the independent variables. Therefore, $H_0 : \theta = 0$; this indicated that there is unit-root, while, $H_1 : \delta<0$; which indicated, the time series is stationary.

Autoregressive Distributed Lag Model (ARDL)

The study apply Autoregressive Distributed Lag (ARDL) approach known as the bound test developed by Pesaran & Shin [44] and extended by [45]. As beside the conventional Johanssen cointegration technique that uses a system of the equation to estimate the long run relationship. The application of Autoregressive Distributive Lag helps to prevent problems related with determining short time series [46]. The method can test for cointegration between the variables irrespective of whether the underlying variables are I(0), I(1), or fractionally integrated. Nevertheless the method has a limitation when it comes to integration of order two I(2). Additionally, the long and short-run parameters of the model are estimated concurrently. Consequently, the inability to test hypotheses on estimated coefficients in the long-run associated with Engle-Granger method is avoided. Hence, the Autoregressive Distributive Lag Model in this study is specified as follows:

LNINF=f(LNEXRt,LNM2t,LNGDPtLNINTt,LNFIt, LNOPt) (2)

where INFt is the Inflation, NEERt is the Nominal Effective Exchange Rate, M2t is the Broad Money Supply, GDPt is Gross Domestic Credit, INTt is the Interest rate, FIt is the Financial Instability, OPt is the Oil Price.

According to Central Bank of Nigeria [47] Money supply and exchange rate are the variables that can be prejudiced by the monetary policy instruments and serve as intermediate targets of the monetary policy and the inflation is considered as one of the ultimate targets of monetary policy. In this view, this study developed a new model broad money supply and nominal effective exchange rate interaction terms to answer the objective three. The model is as follows:

LNINF=f(LNEXRt,LNM2t,LNGDPtLNINTt,LNFIt,LNOPtLN(M2EXR)t) (3)

The model can be restated as:
Without Interaction Term;

$$\Delta LNINF_t = \alpha_0 + \sum_{i=1}^{n} \alpha_1 \Delta LNINF_{t-1} + \sum_{i=1}^{n} \alpha_2 \Delta LNEXR_{t-1} + \sum_{i=1}^{n} \alpha_3 \Delta LNM2_{t-1}$$
$$+ \sum_{i=1}^{n} \alpha_4 \Delta LNGDP_{t-1} + \sum_{i=1}^{n} \alpha_5 \Delta LNINR_{t-1} + \sum_{i=1}^{n} \alpha_6 \Delta LNFI_{t-1} + \sum_{i=1}^{n} \alpha_7 \Delta LNOP_{t-1}$$
$$+ \pi_1 LNINF_{t-1} + \pi_2 LNEXR_{t-1} + \pi_3 LNM2_{t-1} + \pi_4 LNGDP_{t-1} + \pi_5 LNINR_{t-1}$$
$$+ \pi_6 LNFI_{t-1} + \pi_7 LNOP_{t-1} + \mu$$

With Interaction Term;

$$\Delta LNINF_t = \alpha_0 + \sum_{i=1}^{n} \alpha_1 \Delta LNINF_{t-1} + \sum_{i=1}^{n} \alpha_2 \Delta LNEXR_{t-1} + \sum_{i=1}^{n} \alpha_3 \Delta LNM2_{t-1}$$
$$+ \sum_{i=1}^{n} \alpha_4 \Delta LNGDP_{t-1} + \sum_{i=1}^{n} \alpha_5 \Delta LNINR_{t-1} + \sum_{i=1}^{n} \alpha_6 \Delta LNFI_{t-1} + \sum_{i=1}^{n} \alpha_7 \Delta LNOP_{t-1}$$
$$+ \sum_{i=1}^{n} \alpha_8 \Delta LN(M2 \times EXR)_{t-1} + \pi_1 LNINF_{t-1} + \pi_2 LNEXR_{t-1} + \pi_3 LNM2_{t-1}$$
$$+ \pi_4 LNGDP_{t-1} + \pi_5 LNINR_{t-1} + \pi_6 LNFI_{t-1} + \pi_7 LNOP_{t-1}$$
$$+ \pi_8 LN(M2 \times EXR)_{t-1} + \mu$$

where: Δ is the first-difference operator and *lnexr, lnm2, lngdpp, lnint, lnfi and lnop* are the dependent variables selected in the study. The constants is a0 the coefficients on the trends are α_1, α_2, α_3, α_4, α_5, α_6, α_7,α_8. π_1, π_2, π_3, π_4, π_5, π_6, π_7 and represent the lagged dependent and independent variables respectively, μ is error term and the n represents the maximum lag length that is decided by the lag selection. There are two procedures for testing the cointegration relationship between inflation and the dependent variables. The first procedure is to estimate eq. (3) by ordinary least squares (OLS) procedure. Secondly, the existence of cointegration is traced by restricting all estimated coefficients of lagged level variables equal to zero.

The H_0 indicates the non-existence of a long-term relation as $\delta1 = \delta2 = \delta3 = \delta4 = \delta5 = \delta6 = \delta7 = \delta7 = \delta8 = 0$ against $H_1 = \delta1 \neq \delta2 \neq \delta3 \neq \delta4 \neq \delta5 \neq \delta6 \neq \delta7 \neq \delta7 \neq \delta8 \neq 0$ implies that cointegration exist among the variables. Two bounds of critical values are computed by Pesaran et al. [45] for decision rule. If the ascertained F-statistics is not as much as the lower and upper basic bound esteem, then we accept the H_0 and presume that there is no cointegration between the variables under review. In any case, if the computed F-statistics is more prominent than the lower and upper basic bound esteem, than we reject the H_0 and infer that there exists cointegration between the variables under review. In any case, if the figured F-statistics fall inside upper and lower basic bound qualities, then we reason that the outcome is inclusive.

The consequent method is to assess the short-run and long-run conditions by utilizing the ECM. To guarantee the joining of the long-run equilibrium, the sign for the coefficient of the lagged error correction term (ECMt–1) must be negative and statistically significant. Additionally, to run the diagnostic tests [40].

Result and Discussion

The paper findings discussed the empirical outcomes of the impact of nominal effective exchange rate, broad money supply and trade on inflation in Nigeria from 1970 to 2014. The discussions are presented in phases, starting with the descriptive statistics, correlation analysis, the analysis of the empirical result

of unit root tests using Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP). The co-integration tests use Autoregressive Distributive Lag Bound testing method that was established by Pesaran et al. [48]. The estimates of the Short-run and Long-run coefficients are observed through the Autoregressive Distributive Lag (ARDL). The last phase is the determination of causality between the nominal effective exchange rate, broad money supply, gross domestic product, interest rate, financial instability, oil price and inflation through autoregressive distributive Lag Granger causality popularly known as Wald Test.

Unit Root Test: Table 3 shows the result of ADF and Phillips-Perron unit root test on level for both constant and constant and trend. The test revealed that all the variables (LNEXR, LNGDP, LNINR and LNOP) except LNINF, LNM2 and LNFI were non-stationary at level that is, I (0).

Table 3: Unit root test on level

	Result for Unit Root Test on Levels			
	ADFPhillips Perron (PP)			
Variables	Constant	Constant and Trend	Constant	Constant and Trend
LNINF	-3.752*	3.741*	-3.538**	-3.486***
LNEXR	-0.672	-1.481	-0.467	-1.571
LNM2	-3.957*	-3.923**	-4.059*	-4.021*
LNGDP	0.464	-0.676	0.464	-0.733
LNINR	-1.433	-1.072	-1.462	-1.231
LNFI	-4841*	-4.781*	-4.742*	-4.678*
LNOP	-0.523	-1.702	-0.550	-1.793
Critical Value for ADF and PP				
ADF-3.368 (1%) -2.981 (5%)			-2.625 (10%)	
PP-3.606 (1%) -2.937 (5%)			-2.607 (10%)	

Note: *, ** and *** imply 10% and 5% and 1% levels of significant respectively

While Table 4 represents the ADF and Phillips- Perron unit root test on first difference [I (1)]. It showed that all the variables under the study LNINF, LNEXR, LNM2, LNGDP, LNINR, LNFI and LNOP were stationary at I (1). And the F* is greater than the critical value at 1%, 5% and 10% level of significance. Thus, the variables are stationary and integrated of same order, i.e., I (1). Since the variables are set to be stationary at first difference, it is possible to carry out the further analysis base on ARDL approach as discussed in the previous section.

Table 4: Unit root test on first difference

	Result for Unit Root Test on First Difference			
	ADF		Phillips Perron (PP)	
Variables	Constant	Constant and Trend	Constant	Constant and Trend
LNINF	-7.156*	-7.157*	-15.473*	-16.607*
LNEXR	-3.699*	-3.646**	-3.716*	-3.652*
LNM2	-8.406*	-8.371*	-10.768*	-12.356*
LNGDP	-6.277*	-6.263*	-6.296*	-6.266*
LNINR	-6.276*	-6.354*	-6.293*	-6.355*
LNFI	-8.857*	-8.748*	-20.859*	-20.111*
LNOP	-6.511*	-6.439*	-6.510*	-6.438*

Note: *, ** and *** imply 10% and 5% and 1% levels of significant respectively

Table 5: Lag Selection

Lag	LogL	SMLR	FPE	AIC	SCIC	HQIC
0	-298.0113	-	0.0004	14.9274	15.2617	15.0491
1	-50.1676	386.8780	5.67e-08	5.9594	8.9686*	7.0552
2	37.2308	102.3200*	2.61e-08	4.8180	10.5021	6.8878
3	131.3088	73.4267	1.91e-08*	3.3508*	11.7097	6.3946*

Note: *indicates lag order selected by the criterion

SMLR: Sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

CIC: Schwarz information criterion

HQIC: Hannan-Quinn information criterion

Based on the table 4.5 above the study is going to use Schwarz information Criterion (which is lag 1) on the grounds that it performs better than others

(Narayan, 2004; Pesaran et al. 2001).

Table 6: Co-integration Bound Test Analysis

Variables	LNGDP DEF		
Optimum-lags	(1,0,1,1,0,0,1,1)		
F-Bound	6.221*		
Critical values	1%	5%	10%
Upper bound	3.90	3.21	2.89
Lower bound	2.73	2.17	1.92
Diagnostic test:			
R2	0.638		
Adj-R2	0.493		
Durbin-Watson	1.813		
F-Statistics	4.402		

Note: *, ** and *** show the significance at the 1%, 5% and 10% levels.

Table 7: ARDL Long Run Co-integration Test

Dependent variable is LNINF 44 observations used for estimation from 1970 to 2014				
Variable	Coefficient	SE	t-Statistic	Prob.
Constant	4.7	4.611	(1.028)	[0.312]
LNEXR	1.7*	0.551	(3.074)	[0.005]
LNM2	1.1*	0.207	(5.091)	[0.000]
LNM2EXR	-0.28*	0.068	(-4.040)	[0.000]
LNGDP	-0.35***	0.200	(-1.767)	[0.087]
LNINR	-0.09	0.577	(-0.165)	[0.869]
LNFI	-0.72***	0.406	(-1.770)	[0.086]
LNOP	0.97**	0.448	(2.155)	[0.039]

Note: *, ** and *** show the significance at the 1%, 5% and 10% levels.

Lag Selection

The lag selection is the second step for using ARDL model according to Pesaran et al. [45]. General the lag are choose based on Akaike information criterion, Schwarz information criterion and Hannan-Quinn information criterion the Table 5 below showed the lag selection system.

F-Bound Test to Co-integration

Table 6 showed the co- integration F-bound test for co-integration and the calculated F-statistics (6.221) exceeds the critical upper and lower bounds values at 1%, 5% and 10% level of significance as indicated above. This confirms that there is existence of co-integral relationship between inflation, nominal effective exchange rate, broad money supply and trade in Nigeria. And the null hypothesis which says that there is no significant cointegration relationship between inflation, nominal effective exchange rate, broad money supply, gross domestic product, interest rate, oil prices, financial instability and broad money supply nominal effective exchange rate interaction term in Nigeria is rejected at 1%, 5% and 10% level of significance. (The critical bound values used are from Pesaran table case ll). The result of the estimation indicates that the explanatory variables account for about 64 percent variation in inflation in Nigeria. However, the highly significant F-statistics recommends the general significance of the model.

Long-Run Cointegration Test

In Table 7, the t-statistics and p-values are given in brackets and square brackets respectively. The coefficients for exchange rate (LNEXR), broad money supply (LNM2) and oil prices (LNOP) are positive but the coefficients for the interaction effects (LNM2EXR), gross domestic product (LNGDP), financial instability (LNFI) are negative and statistically significant. The constant term and interest rate (LNINR) are Negative and statistically insignificant. The volatile of nominal effective exchange rate is ability to increase inflation in the long run. This result confirmed the increased depreciation of the value of the Nigerian currency in exchange against other foreign currencies. The sign of coefficient is positive and significant. This means that One percent increase in exchange rate (depreciation) will leads to the increases in inflation in Nigeria by 0.77. The depreciation in exchange rate makes the goods and service of Nigeria relatively expensive and this further cause to raise the exports and decrease importation. Recently the Nigerian currency has been experiencing too much devaluation which causes high inflation in the country. This finding is consistent with the previous finding of Okoro et al. [9], Adom et al. [16], Alexander et al. [17] and Ola, A.E [27] but inconsistent with Awang and Imran [18] and Pingfeng, L. [28].

The result also showed that broad money supply is positively related to inflation which indicated that a one percent increase in broad money supply will lead to 1.1 percent increase in inflation. This clearly showed that inflation in Nigeria is a monetary phenomenon. This result is in accordance with quantity theory of money that an increase in money supply tends to boost the inflation in the Nigerian economy.

In Nigeria, increasing the money supply causes demand pressures which will cause demand-pull infation. For instances, from the middle of 2015 to date Nigerian citizen is suffering of inflation due to non-availability of money in circulation. Therefore, in Nigeria financing government expenditure by the creation of money has becomes unavoidable [49-17]. Hence, if the volume of money supply is continue to rise will account for the long run increase in inflation rate, since the Nigerian's inflation relates to the monetarists' theory of inflation. This finding is consistent with the previous f inding of Okoro et al. [9], Adom et al. [16], Alexander, et al. [17] and Ola, A.E [27].

The results showed that the interaction term between broad money supply and exchange rate is negatively related to inflation which indicated that a one percent increase in interaction termwill lead to 0.28 percent increase in inflation. This demonstrated that both broad money supply and exchange rate has a small inverse effect on inflation in Nigeria. This result does not comply with quantity theory of money that an increase in money supply tends to increase inflation in Nigeria. This finding also confirmed thatmoney supply, nominal effective exchange rate and inflation are linearly interdependent in Nigeria and that monetary shocks lead to rises inflation. Shocks in nominal effective exchange rate also lead to fall in inflation. The variation in nominal exchange rate has significant impact in determining the fluctuation in inflation than the changes in money supply in Nigeria. This because

Nigerian economy is import oriented economy.

Negative sign of gross domestic product (LNGDP) indicated that an inverse relationship between inflation and gross domestic product (LNGDP) that is, an increase in output leads to a decline in inflation of the economy in Nigeria. The negative sign suggested that 1 percent decrease in output in Nigeria will leads to 35 percent increase in inflation. This result is in accordance the demand full inflation. The current situation on Nigeria due to the decreases in output the prices of all goods and services rises. This result is consistent with Hassan, [12] and inconsistent with the work of Orji, et al [26].

Interest rate showed insignificant negative sign. The coefficient having negative sign suggested that one percent increase in interest rate leads to 0.09 percent decrease in inflation. In Nigeria as interest rate increases, cost of production also increases and this increase is transferred to final consumers from producers and eventually inflation decreases. This result is inconsistent with the work of Saleem and Ahmad [50] and consistent with Hassan, [12] and Orji, et al [26].

The relationship between financial instability and inflation is found to be negative which indicated that a one percent decrease in financial instability will lead to 0.72 percent increases in inflation. This means that the prices of goods and services are increases in the long run because of continuous decreases of investment. Recently, due to the insecurity and crisis in Nigeria leads many business men prefer to leave their money in Bank than to invest in the real sectors and no foreign investors are coming to Nigeria. This discourages and kills both infant and large industry which will lead to shortage of goods in the country. This shortage of goods will create more demand of goods which will leads to inflation.

Oil prices (LNOP) is found to be positively related with the inflation in Nigeria. This positive sign indicated a direct relationship between Oil prices and inflation. The result suggested that one percent increase in oil prices will leads to 97 percent increase in inflation in Nigeria. Oil being the major sources of income in Nigeria has influences on almost every sectors of the economy; either it is agriculture, manufacturing or services. As the prices in Oil increases it contemporaneously affects the prices of goods and services as almost 97 percent. Recently in Nigeria the cost of goods and services is very high due to the scarcity and increase of the oil prices.

Short-Run Co-integration Test

In Table 8, results revealed the short-run association among inflation, exchange rate, broad money supply and trade in Nigeria. In theory, the value ECM (-1) must be significant and negative which is exactly the case in the present study. The higher the coefficient, the more stable the short-run association. The estimated coefficient of the ECM (-1) is - 0.87 (at 1% significant) signifying that in the absence of variations in the independent variables, deviation of the model from the long-run path is corrected by 87 percent per year, which is very fast. The effect is that, it will take a little time to entirely return to long-run equilibrium if there is a shock to the variables (that is nominal effective exchange rate, broad money supply, gross domestic product, interest rate, oil prices, financial instability and broad money supply nominal effective exchange rate interaction term). The result of the estimation reveals the absence of serial correlation problem, Heteoscedasticity problems and the model is normally distributed.

Table 8: Short Run ARDL Co-integration

Dependent variable is LNINF 44 observations used for estimation from 1970 to 2014				
Variable	Coefficient	SE	t-Statistic	Prob.
ΔLNEXR)	1.5*	0.458	(3.252)	[0.003]
Δ(LNM2)	0.32**	0.132	(2.396)	[0.023]
Δ(LNM2EXR)	-0.15**	0.059	(-2.592)	[0.014]
Δ(LNGDP)	-0.31***	0.170	(-1.805)	[0.081]
ECM(-1)	-0.87*	0.120	(-7.204)	[0.000]
Serial Correlation	1.454[0.251]			
Hetroskedasticity	0.305[0.983]			
Normality JB	0.613[0.736]			

Note: *, ** and *** show the significance at the 1%, 5% and 10% levels

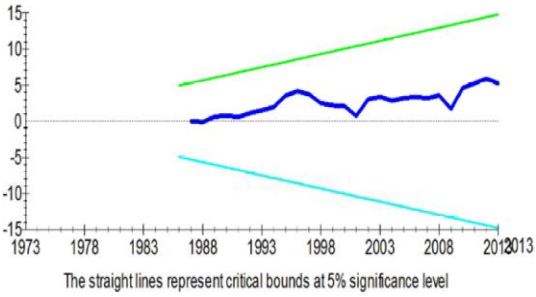

Fig. 1: Plot of Cumulative sum of Recursive Residuals

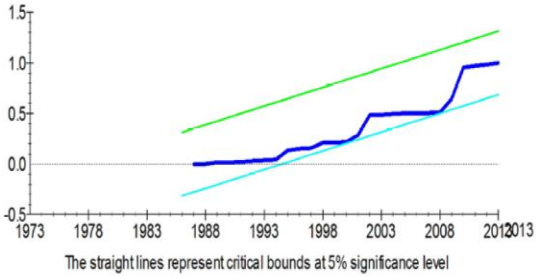

Fig. 2: Plot of Cumulative sum of Squares of Recursive Residuals

The current broad money supply and the previous broad mone supply showed significant positive association with inflation in Nigeria given 0.32 percent reaction of inflation to 1 percent increase in the broad money supply. It also showed a significant positive relationship between nominal effective exchange rate and inflation in Nigeria given 1% increase in nominal effective exchange rate will lead to 1.5 percent increase in inflation. The findings revealed a negative relationship between inflation and gross domestic product. This indicated that a 1 percent increase in the gross domestic product will lead to 0.31 percent decrease inflation. Broad money supply nominal effective exchange rate interaction term also revealed a significant negative association with inflation in Nigeria given 0.15 percent reaction of inflation to 1 percent increase in broad money supply nominal effective exchange rate interaction term.

The stability of the ARDL parameters is observed by applying the CUSUM and CUSUMSQ tests established by Brown, et al [51]. Figures 1 and 2 showed that the plot of the statistics from the CUSUM and CUSUMSQ remains within the critical bounds at 5% significance level. This entails that all coefficients in the error correction model are stable over time. These selected models adopted in the study appear to be sufficient and strong in estimating the short-run andlong-run associations between

inflation and the variables selected under study in Nigeria.

Conclusion

The paper analysed the short-run and long-run relationship between inflation and six macroeconomic variables, namely, nominal effective exchange rate, broad money supply, gross domestic product, interst rate, oil price and financial instability using the Autoregressive Distributive Lag (ARDL) Framework.The analysis used annual data for the period from 1970-2014 which are obtained from the United Nation Statistical bulletin, World Bank Statistical Database Indicator and DataStream. It is believed that, the selected macroeconomic variables, among others, represent the state of the economy. The data properties were analyzed to determine the stationarity of time series using the Augmented Dickey- Fuller and Philips-Perron unit root test that indicated that inflation, broad money supply and financial instability have mixed stationarity that is, they are stationary at both first difference I(1) and level I(0), while nominal effective exchange rate, gross domestic product, interest rate and oil prices were non-stationary at level but were stationary at first difference that is I(1).

The results of the co-integrationtest based on F-bound's procedure indicated the existence of co-integration between variables.Based on the findings, the study suggests that the government should give a serious attention on exchange rate stability in order to cut down the domestic prices to stable position. This is because exchange rate fluctuation is taken more portions in explaining Nigeria's inflationary phenomenon. Moreover, Policy makers should still consider monetary policy as a useful tool of achieving price stability especially in the short run due to the causality between money supply and inflation.To pursue price stability as a macroeconomic objective, either monetary policy or exchange rate target could be employed since shocks in

both money supply and exchange rate influence variation in inflation. Furthermore, diversification of economy is also needed by the government. This will lead to increase in output and productivity and reduce the over

dependency on imported goods, so that the economy will be export based. Hence imported inflation will be reduced.

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