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(6TH ICEBIT 2021)**

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A NEED ANALYSIS OF DETERMINING THE EFFECTIVENESS OF THE MAIN 4C's OF 21ST CENTURY LEARNING SKILLS, MOBILE LEARNING INTEGRATION AND SOCIAL NETWORKING SITES WITH REFLECTIVE WRITING PRACTICE

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Abstract: *In general, people consider English language as very pivotal in this 21st century era. Therefore, students need to master the language to be able to survive in the era of globalisation. Nevertheless, it has always been a huge problem when it comes to writing elements among students in Malaysia. This study aimed at determining the effectiveness of using the 4C's which are collaboration, communication, critical thinking, and creativity of 21st century learning skills to foster students' narrative writing skills using mobile learning platform and social networking sites with reflective writing practice. A need analysis was conducted using a questionnaire as an instrument through Google Form. The respondents for this study were 100 teachers who teach English language among Form 4 students in Malaysia with different teaching experiences. The findings revealed that integrating the main four skills (4C's) of the 21st century skills, mobile learning platform and social networking sites with reflective writing practices have great potentials to foster narrative writing skills among upper secondary students. This study is significant as it explores the potential and requirement of 4C's, mobile learning platform with social networking sites and reflective writing practice in developing students' narrative writing skills. The outcomes from this study could enable future researchers or policy makers to provide the specific guidelines by incorporating 4C's, mobile learning application and social networking sites for educators in the future as a preparation to face the changes in education system which is in accordance with Malaysian Education Blueprint 2013-2025 and Education 4.0.*

Keywords: *Need Analysis, 4C's, Mobile Learning Integration, Social Networking Sites, Narrative Writing Skills, Reflective Writing Practice*

Introduction

The goal of education system in the present system should be able to provide complex learning environments for students by integrating authentic learning methods to develop their skills. Teachers need to emphasise on using the modern teaching methods to deliver any subject contents among students in this new era with the use of technology applications to help students to achieve their excellence in education fields (Vijayalakshmi, 2019). Furthermore, the correct learning methods according to students' interest and ability is tremendously evident as it will help them to solve any types of complex problems that they will face in their real life. Moreover, teaching in the 21st century is a huge challenge and every school has to manage with all the changes that to develop students' skills magnificently. The learning skills focus in developing students' collaboration skill, communication skill, critical thinking skill, and

creativity skill as the key elements to prepare students for the future (Siti Noor Ismail, Yahya Don, Fauzi Husin, & Rozalina Khalid, 2018).

Shahroom and Hussin (2018), as well as Sangakala, Ahmed and Pahi (2016) remarked that technology has a pivotal role in the 21st century learning to educate the future generation to be a knowledgeable person as cited in Che Surhaizai Che Wil, Melor Md. Yunus and Ashairi Suliman (2019). Additionally, the new education system has to prepare the students and this system must be in line with Education 4.0. Dunwill (2016) mentioned that Education 4.0 is a process of teaching and learning that occurs by using technology as cited in Anealka Aziz Hussin (2018). In today's world, students like to use technology in their learning because they are engaged with several of technology tools in their daily lives. Dauksevicuite (2016) and Rothman (2016) stated that the current children are recognised as Generation Z or Gen Z, in which those who were born from 1995 to 2012 are largely satisfied with technology devices as cited in De Gracia (2019).

National Educational Blueprint (2013-2025) has also given importance to enhance Information and Communication Technology (ICT) in teaching and learning process in the present curriculum system (Raman, Thannimalai & Ismail, 2019). Battons (2018) explained that it is vital to implement technology in education system in current setting as the students are digital natives. Consequently, Malaysia has started to set up Electronic and Smart Schools in 2013 (Cheok, Wong, Ayub, & Mahmud, 2017). In 2014, the online learning system called Frog Virtual Learning Environment (VLE) was implemented to organise learning and teaching at schools in Malaysia. This system was initially a United Kingdom (UK) system until Malaysia decided to use it to develop e-learning use at schools (Ebrahimi & Jiar, 2018). Recently, Ministry of Education Malaysia has announced the termination of Frog VLE to be replaced by Google Classroom in July, 2019 (Ministry of Education, 2019). Ministry of Education Malaysia tries to implement a new technology platform from time to time to produce new structures of education that suits the 21st century learning skills and encourage deep-rooted learning (Ahmad, Adnan, Yusof, Mohd Kamal, & Mustafa Kamal, 2019).

Due to technology advancement, using smart devices, like smart phones, iPads, tablets, laptops, and other mobile gadgets are spreading extensively among students today due to the overwhelming rise in technology. Conejar and Kim (2016) described that in the next 15 years, mobile learning tools will be fully included in the education system as most of students around the world will be able to have their own mobile devices due to the importance of technology to be connected around the world. In Malaysia, mobile learning is presently gaining momentum and discovered by many educators and researchers (Hussin et al., 2012). Some earlier studies stated that mobile learning is in the beginning stage in Malaysia (Ismail & Idrus, 2009; Ismail & Azizan, 2012 as cited in Munir Shuib, Siti Norbaya Azizan & Malini Ganapathy, 2018). However, several scholars mentioned that there has been important progress in the number of studies focused on mobile learning in Malaysia since the last decade (Masrom et al., 2016; Song et al., 2013).

English has become a necessity today because everyone needs it in different fields of life. The growing globalisation of the working sector forces companies to pay more attention to international developments. Hence, students in Malaysia need to enhance their proficiency level in using the English language accurately, so that they can survive in this modern era. Ministry of Malaysian Education (MOE) has transformed some new policies to address the present growing international education standard, national objective and people's expectation to develop the English language skills among Malaysians, especially the younger generation who can achieve the necessities of the 21st century skills (Azman, 2016). English language education in Malaysia has endured several transformations in the last three decades. It is viewed

as an important language in Malaysia since independence. The English language is introduced among Malaysian students from pre-school education up to tertiary levels of education.

Hence, it is of utmost importance to conduct a study to identify the effectiveness of the main 4C's of 21st century learning skills, mobile learning platform and social networking sites with reflective writing practice to foster upper secondary students' narrative writing skills in Malaysian national schools. This is done to ensure the findings could assist policy makers or educators in the future to use different and new approaches. Additionally, the students' narrative writing skills or other similar writing skills would be boosted. Thus, this study is conducted to address the following objectives:

1. To identify the effectiveness of using the main 4C's of 21st century skills to develop upper secondary students' narrative writing skills
2. To identify the effectiveness of using mobile learning platform to enhance upper secondary students' narrative writing skills
3. To identify the effectiveness of using social networking sites to enhance upper secondary students' narrative writing skills
4. To identify the effectiveness of using reflective writing practice through mobile learning platform with social networking sites to develop upper secondary students' narrative writing skills
5. To identify the challenges of integrating the 4C's of 21st century learning skills through mobile learning platform and social networking sites in improving narrative writing skills

Literature Review

Writing Difficulties in Malaysia

In this present era, Malaysian government has given more priorities to improve the English language among students which has clearly been stated in Malaysia Education Blueprint (2013-2025) (Ministry of Education, 2012). On the other hand, a roadmap is associated with National Educational Blueprint to function as a guide for English language curriculum designers and educators to ensure that students achieve the proficiency level associated to the international standards and are benchmarked by referring to Common European Framework of Reference (CEFR). It was implemented in Malaysia in 2018 (Ishak & Mohamad, 2018). Nonetheless, students at secondary schools face several problems in writing skills as compared to other three language skills even though they have been taught and learned the second language for more than 10 years in school (Che Surhaizai Che Wil, Melor Md. Yunus, & Ashairi Suliman, 2019). This is because students need to interact unrequitedly with unfamiliar audience, and they need to guess input from readers (Majid & Stapa, 2017). Besides that, writing is the hardest skill to acquire as it requires a greater use of lexical and syntactic information than listening, speaking and reading skills (Tangpermpoon, 2008). Writing must be aligned with the ability to learn grammatical rules and vocabulary. It shows that students with a good knowledge of grammar and a broader vocabulary content will write better than those with lack of skills (Che Surhaizai Che Wil, Melor Md. Yunus, & Ashairi Suliman, 2019). Incompetence in syntax, coherence, idea expansion, content selection, topic sentence, rhetorical conventions, mechanics, organisation, as well as lack and inappropriate use of vocabulary are overall deficiencies that arise in writing (Muhammad, Almas, & Muhammad, 2016).

Moreover, writing skill has always been a challenge for second language students. To come up with a good piece of writing, they need to stay focused. This situation has caused them to think about writing as a boring activity, especially for those who have difficulties in linguistics, psychology and cognitive problems (Chandran, Plaindaren, Pavadai, & Melor Md. Yunus, 2019). Firmansyah (2015) also specified that students are unable to create different ideas for their writing and they find it difficult to organise their ideas into paragraphs.

Moreover, students feel that it is tough to write a good essay due to a lack of exposure to practise writing (Yunus & Chien, 2016). When there is limited time, teachers do not have time to discuss the students' mistakes and weaknesses that students tend to do in their writing skills. When writing mistakes are difficult to overcome, the students are not able to produce a good piece of essay (Chandran et al., 2019). In Malaysia, students face more complicated problems in writing due to cultural and linguistic ones. They tend to use different languages at home because English language is their second language. Hence, during their thinking process while writing, they may think in their own language which results in weak performances in their writing. As a result, it is difficult to ensure that the students' piece of essay has very few grammatical errors, particularly in the use of tenses and word order (Maros, Hua, & Salehuddin, 2017).

Narrative Writing Skill

Narrative writing depends on individuals' personal experiences and it is often in the form of a story. Narrative essays are told from a defined point of view, frequently in first person, so there is a feeling, as well as specific and sensory particulars provided to get readers involved in the elements and classification of the storyline. It enables writers a chance to think and write about themselves and their experiences (Boucher, 2011). Thus, narrative writing is referred to writing stories and considered as a reproduction of the writers' story and they construct their stories by using the past events or even the present events to be told and observed by the readers (Jordan, 1988). When teachers teach their students to write narrative essays, they can help their students to imagine that telling a story is like telling their own personal experience or what they experienced in the past, such as an exciting moment, a remarkable moment or an awkward moment. They are required to order the events chronologically (Heim & Edwards, 1986). In the same vein, the educational psychologist, such as Bruner (2007) explained that narrative writing is tremendously significant in the field of education, culture and students' daily lives to help them to develop imaginative thinking and creativity, as well as to increase the connecting cultural gaps.

Sulaiman (2017), as well as Kurniaman, Yuliani and Mansur (2018) described that narrative writing is an article that tries to tell an event or events that it gives the idea as if the readers see or experience the event itself. Narrative essay helps to send the readers about the sequence of an event with the aim of providing meaning to an event so that the readers can gain the sense of the event. It is also described as a series of events that is associated through time and action (Trapsilo, 2016). Apart from that, writing skill helps the students to develop thinking, makes them to concentrate to ensure that they are able to establish ideas, as well as cultivates their summarising, evaluating and criticising ability (Maghsoudi & Haririan, 2013). Consequently, one of the genres is narrative writing. It helps to notify function, report events that occurred or tell stories (Abdel-Hack & Ahmed Helwa, 2014). Adam (2015) clearly claimed that narrative writing is about writing stories that can be related to the writers' own personal experiences or any real or made-up events.

Reflective Writing Practice

Reflective writing is a process of writing which inspires people to think critically about the phases of an event, incidence, involvement, or activity (Gibbs, 1988). It is essential to practise reflective writing about a certain topic, as well as to evaluate and to categorise any background knowledge. This helps students to be associated with information, ideas or opinions in a rational arrangement (Chakraverty & Gautam, 2000). Schon (1983) indicated that reflective writing also motivates students to critically reflect on their writing skills, as well as to practise in order to analyse and learn through experiences. Hence, it is an opportunity to gain self-

knowledge, which is a way to attain clarity, a better understanding of what students are learning and a chance to develop writing skills among students.

In this 21st century, practising writing skills is essential to enable the students to master the skill profusely. Writing skill is very important among students to enable them to deliver their ideas and thoughts to others in a proper way. Therefore, reflective writing is regarded as a ‘mental process’ which allows critical and analytical thinking, as well as problem-solving skills. This helps students to familiarise themselves with new situations that contribute towards life-long learning (Asiah & Siti Zaidah, 2017; McGuire, Lay & Peters, 2009). On the same trend, Fernsten and Reda (2011) elucidated that reflective writing can be an appropriate practice to build students’ assurance to see themselves as writers because it is also an appropriate strategy to bridge the gap between students who write well and those who do not.

As Foote (2015, p. 118) described, narrative writing supports “students to critically reflect upon the past and consider ways they might reframe and make meaning of past experiences”. Reflecting on their personal life stories helps them to have more own experience with the learning and also, to reflect on their writing process. This enables them to slow down and think about their learning. By linking reflection and narrative writing, students have the opportunity to examine themselves, their experiences and their learning process. As a result, this eventually helps them to write more effectively.

Integration of Mobile Learning Platform and Social Networking Sites into English as a Second Language (ESL) Writing Classroom

Mobile technology is also regarded as a boundless possibility to notify the growing need for educational accessibility due to the benefits offered by the general ownership and usage of mobile devices in Malaysia (Arokiasamy, 2017). Mobile learning is defined as e-learning that uses mobile applications in the teaching and learning context (Alzaza & Yaakub, 2011). In this 21st century, using a new approach for learning language is desirable among students because mobile devices become more convenient and powerful as educational learning tools for both inside and outside classrooms (Lin, Chen, & Liu, 2017; Sung, Chang, & Liu, 2016). Nowadays, in English language teaching, teachers tend to integrate technology tools to support and motivate students to learn the English language. Many researchers have stated that technology devices play an imperative role in improving second language learning (Beatty, 2013; Chapelle, 2016). It is clearly addressed that by using various types of mobile devices, language teachers can make their lessons to be more reliable, interactive and motivating as compared to the old teaching methods (Balakrishnan & Mubarak, 2016; Hussin et al., 2012).

In contrast, the usage of social networking sites among people nowadays has been very common to get in touch with people around them. There are Facebook, Instagram, Twitter, WhatsApp, MySpace, Foursquare, Fliker, and many more. Social networking sites have provided many benefits in education sector which makes educators to be more attracted in innovative ways of teaching various subjects among students. There are many social networking sites available in teaching writing skills among students in the current context in Malaysia. Teachers or educators can select appropriate education platform in their teaching to develop their students’ writing abilities. Al-Naibi, AL-Jabari and Al-Kalbani (2018) stated that social networking sites have been acknowledged as one of the most common platforms that educators use in teaching the English language. On the other hand, implementing the use of social networking sites on mobile learning devices is very significant as it allows students to actively participate in their learning process. There are many studies that have been done using social networking sites in improving writing skills among students. Vikneswaran and Krish (2016) clarified that online writing is a new approach that needs to be taught among students in Malaysia to foster their writing abilities.

Methodology

This section mainly discusses the methodology used in the study, which contains of four sections, namely, the research design, sampling, research instrument, and data collection procedures.

Research Design

The researcher had planned to utilise quantitative research method as a basis of the research. This was conducted to determine whether the respondents agreed that the main 4C's of 21st century learning skills, mobile learning integration and social networking sites with reflection writing practice should be employed to foster Form 4 students' narrative writing skills in 21st century classes in Malaysia.

Sampling

A total of 100 language teachers who teach Form 4 English subject in Malaysia participated in this study. Each of them has different teaching experiences according to teaching years of service, and some of them are paper evaluators of the SPM English 1119/1 in Malaysia. Besides that, some teachers teach at rural areas in Malaysia, such as Peninsular Malaysia, Sabah and Sarawak.

Research Instrument

A questionnaire with a 5-point Likert scale was used to explore the respondents' perceptive and needs. The questionnaire encompassed five sections: the first section focused on the respondents' demographic background information; the second section focused on the potential of integrating mobile learning platform and social networking sites in developing students' narrative writing skills; the third section focused on the usefulness of the main 4C's of the 21st century learning skills with technology platform to overcome the issues in narrative writing skills in terms of: (i) *generating ideas*, (ii) *developing narrative writing organisation skills*, (iii) *improving vocabulary skills*, and (iv) *improving grammar knowledge*; the fourth section emphasised on the challenges of integrating technology resources among teachers and students in developing narrative writing skills, and the final section concentrated on the importance of reflective writing practice in developing students' narrative writing skills.

Data Collection Procedures

After designing the survey instrument, the researchers delivered the questionnaire to the respondents electronically using Google Form. Finally, the researchers analysed the data from the questionnaire. Data were then collected and reported in tables using percentages.

Findings and Discussion

Section 1

The demographic data for this research is shown in the table as follows:

Table 1: Demographic Profile of Respondents

Demographic Information		Percentage (%)
Age	25-35 years old	34.3
	36-45 years old	28.3
	46-55 years old	31.3
	56-60 years old	6.1
Gender	Male	21.2
	Female	78.8
No. of teaching experiences	1-5 years	21.2
	6-10 years	19.2
	11-15 years	15.2
	16-20 years	20.2
	21-25 years	10.1
	more than 25 years	14.1

Table 1 indicated the respondents' demographic information. In this present study, the researcher collected the demographic information about age, gender and number of teaching experiences. The age group was divided into four categories, such as 25 to 35 years old, 36 to 45 years old, 46 to 55 years old, and 56 to 60 years old. Majority of language teachers that answered the questionnaire were of the age group of 25 to 35 years old (34.3 %), followed by age group of 46 to 55 years old (31.3%). The third highest group was exhibited by the age group of 36-45 years old (28.3%), while only 6.1 per cent of language teachers aged between 56 to 60 years old answered the questionnaire. Conversely, majority of female language teachers (78.8%) answered the questionnaire, while only 21.2 per cent of male teachers participated in the study. Apart of that, the researcher divided the number of teaching experiences into six categories, such as 1 to 5 years, 6 to 10 years, 11 to 15 years, 16 to 20 years, 21 to 25 years, and more than 25 years. The teachers with teaching experience between 16 to 20 years responded more (20.2%) as compared to other categories. This was followed by teachers with teaching experience between 1 to 5 years (21.2%), teachers with teaching experience between 6 to 10 years (19.2%), teachers with teaching experience between 11 to 15 years (15.2%), teachers with teaching experience of more than 25 years (14.1%), and lastly, teachers with teaching experience between 21 to 25 years (10.1%).

Section 2

Table 2: The Potential of Integrating Mobile Learning Platform and Social Networking Sites in Developing Students' Narrative Writing Skills

Item	Percentage (%)				
	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
1. Students struggle to write a narrative essay during their individual task.	0	3.0	12.1	70.7	14.1
2. Students are able to write a narrative essay during their group work.	0	4.0	14.1	70.7	11.1
3. Incorporating social networking sites in teaching and learning narrative writing process is essential in the 21 st century.	0	4.0	11.1	67.7	16.2
4. Mobile learning platform has the potential to allow students to have more ownership of their learning which helps them to foster their narrative writing skills.	1.0	8.1	12.1	67.7	11.1
5. Social networking sites have the potential to allow students to collaborate and	1.0	7.1	8.1	72.7	11.1

communicate which enables them to think critically and creatively to develop interesting ideas or storyline for narrative essays.					
6. Social networking sites have the potential to allow students to enhance their vocabulary and grammar knowledge through group discussion.	0	5.1	12.1	69.7	13.1

Table 2 shows the possibility of integrating mobile learning platform and social networking sites in developing students' narrative writing skills. Based on the results of this survey, it was revealed that majority of the respondents agreed (70.7%) and strongly agreed (14.1%) that students struggled to write a narrative essay during their individual task. For Item 1, only a small percentage indicated that the respondents were neutral (12.1%), and disagreed (3.0%) that mobile learning platform and social networking sites should be incorporated to enhance students' narrative writing skills. Nonetheless, most of the respondents agreed (70.7%) and strongly agreed (11.1%) for Item 2, in which students were able to write better narrative essays during their group activities. Only 14.1 per cent and 4.0 per cent displayed that the respondents chose that they were neutral and disagreed for Item 2, respectively. Conversely, pertaining to Items 3 and 4, 67.7 per cent of the respondents responded that they agreed to incorporate social networking sites and use mobile learning platform because it had a high opportunity to encourage students to foster their narrative writing skills. Moreover, 16.2 per cent and 11.1 per cent of the respondents strongly agreed for Items 3 and 4. Only 11.1 per cent of the respondents chose neutral response for Item 3, while 12.1 per cent of the respondents chose neutral response for Item 4. In addition, 4.0 per cent of the respondents disagreed with Item 3, while 8.1 per cent of the respondents disagreed for Item 4. However, only 1.0 per cent of the respondents indicated that they strongly disagreed for Item 4. Furthermore, majority of respondents agreed (72.7%), and strongly disagreed (11.1%) that social networking sites had a boundless potential to allow students to collaborate and communicate which enables them to think critically and creatively to develop interesting ideas or storyline for narrative essays. Nevertheless, some respondents had responded neutral (8.1%), disagreed (7.1%), and strongly disagreed (1.0%) for Item 5. Concerning Item 6, most of the respondents agreed (69.7%) and strongly agreed (13.1%) that social networking sites had the potential to allow students to enhance their vocabulary and grammar knowledge by group discussion, while only some respondents indicated that they were neutral (12.1%), disagreed (5.1%) and strongly disagreed (5.1%) for Item 6.

Based on the overall findings for this section, majority of respondents strongly agreed and agreed that the influence of mobile learning platform and social networking sites had a great potential to have more ownership of students' learning, as well as to allow students to collaborate and communicate which enables them to think critically and creatively to develop interesting ideas or storyline. The students were also encouraged to enhance their vocabulary and grammar knowledge by group discussion which helps them to foster their narrative writing skills as shown by many previous studies related to technology-enhanced learning. For instance, mobile-assisted learning positively contributed to the development of teaching and learning (Sung, Chang & Liu, 2016).

Section 3

Table 3: The Main Skills (4C's) of 21st Century Learning Skills via Mobile Learning Platform to Overcome the Issues in Narrative Writing Skills: *Generating Ideas*

Item	Percentage (%)				
	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
7. The integration of 4C's skills via mobile learning platform will allow students to generate better ideas for writing a narrative essay.	0	3.0	12.1	77.8	7.1
8. The integration of 4C's skills via mobile learning platform will allow students to include on stimulating or suspense elements to construct their ideas for narrative essay.	0	3.0	16.2	70.7	10.1
9. The integration of 4C's skills via mobile learning platform will allow Form 4 students to think critically and creatively to develop their ideas according to their level.	0	6.1	11.1	73.7	9.1

Table 3 depicts the effectiveness of the main four skills (4C's) of 21st century learning skills through mobile learning application to overcome students' deficiencies in generating ideas in narrative writing skills. The findings revealed that majority of respondents agreed and strongly agreed for Items 7, 8 and 9. With regards to Item 7, the integration of 4C's through the mobile learning platform to allow students to generate better ideas for writing a narrative essay was agreed by the respondents that it would allow students to generate better ideas (77.8%). In contrast, 7.1 per cent of the respondents strongly agreed for Item 7. Pertaining to Item 8, 70.7 per cent of the respondents agreed that the integration of 4C's through the mobile learning platform would include on stimulating or suspense elements to construct their ideas, while 10.1 per cent of the respondents strongly agreed with the idea. There were 73.7 per cent of the respondents agreed that the integration of 4C's skills via mobile learning platform would allow the students to think critically and creatively to develop their ideas according to their level, while 9.1 per cent of the respondents strongly agreed with the notion. On the other hand, only a small percentage of the respondents indicated they were neutral and disagreed for Items 7, 8, and 9. For instance, 12.1 per cent of the respondents were neutral, while 3.0 per cent of the respondents disagreed for Item 7. For Item 8, 16.2 per cent of the respondents responded that they were neutral, while 3.0 per cent of the respondents responded that they disagreed with the idea. Lastly, 11.1 per cent of the respondents stated that they were neutral, while 6.1 per cent of the respondents stated that they disagreed for Item 9.

**Table 4: The Main Skills (4C's) of 21st Century Learning Skills via Mobile Learning Platform to Overcome the Issues in Narrative Writing Skills:
*Developing Narrative Writing Organisation Skills***

Item	Percentage (%)				
	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
10. The integration of 4C's skills via mobile learning platform will allow students to organise their ideas into a few paragraphs.	0	4.0	16.2	74.7	5.1
11. The integration of 4C's skills via mobile learning platform will allow students to show link between characters, setting, conflict, and theme during their group work.	1.0	6.1	12.1	74.7	6.1
12. The integration of 4C's skills via mobile learning platform will allow students to be aware of the elements of plot while composing their narrative essays.	2.0	7.1	12.1	71.7	7.1

Table 4 represents the effectiveness of the main four skills (4C's) of 21st century learning skills through mobile learning application to overcome students' insufficiencies in developing organisation skills. From the table, most of the respondents agreed and strongly agreed that incorporating 4C's through mobile learning platform would allow students to organise their ideas. For Item 10, 74.7 per cent of the respondents agreed, while 5.1 per cent of the respondents strongly agreed that the integration of 4C's skills would allow students to organise their ideas into a few paragraphs. In relation to Item 11, for the notion that the integration of 4C's would help students to show link between characters, setting, conflict, and theme during their group work, majority of the respondents agreed to it (74.7%), while some respondents strongly agreed to it (6.1%). With regards to Item 12, in which the integration of 4C's skills via mobile learning platform would allow students to be aware of the elements of plot while composing their narrative essays, 71.1 per cent of the respondents agreed, while 7.1 per cent of the respondents strongly agreed to the idea. Nevertheless, for Items 11 and 12, only a small percentage included neutral, disagree and strongly disagree responses. There were 16.2 per cent of the respondents that were neutral, while 4.0 per cent of the respondents disagreed for Item 10. Besides that, 12.1 per cent of the respondents responded neutral, 6.1 per cent of the respondents responded disagree and 1.0 per cent of the respondents responded disagree for Item 11. Only 12.1 per cent of the respondents were neutral, followed by 7.1 per cent of the respondents who disagreed and 2.0 per cent of the respondents strongly disagreed for Item 12.

**Table 5: The Main Skills (4C's) of 21st Century Learning Skills via Mobile Learning Platform to Overcome the Issues in Narrative Writing Skills:
*Improving Vocabulary Skills***

Item	Percentage (%)				
	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
13. The integration of 4C's skills via mobile learning platform enables Form 4 students to enrich their vocabulary knowledge which allows them to write a good narrative essay according to their level.	0	3.0	12.1	74.7	9.1
14. The integration of 4C's skills via mobile learning platform enables students to use idiomatic expressions, proverbs and similes in their narrative essay.	0	3.0	17.2	68.7	10.1
15. The integration of 4C's skills via mobile learning platform enables students to use expressive words to narrate their narrative essay.	2.0	5.1	19.2	64.6	9.1

Table 5 displays that the effectiveness of the main four skills (4C's) of 21st century learning skills through mobile learning application to overcome students' problems in vocabulary skills. According to the findings by the respondents, majority agreed (74.7%) and strongly agreed (9.1%) that incorporating 4C's through mobile learning application enabled the upper secondary students to enrich their vocabulary knowledge which allows them to write a good narrative essay according to their level. With regards to Item 13, the percentage for neutral was 12.1 per cent, while disagree was 3.0 per cent. Furthermore, the 4C's with mobile learning application enabled students to use idiomatic expressions, proverbs, and similes (see Item 14), as well as students used expressive words to narrate their narrative essays (see Item 15). This is confirmed in the present study by the majority of the respondents who chose agree (68.7%) and strongly agree (10.1%) responses (see Item 14). Additionally, 64.6 per cent of the respondents agreed, while 9.1 per cent of the respondents strongly agreed for Item 15. Nevertheless, the neutral responses for both Items 14 and 15 were exhibited by 17.2 per cent and 19.2 per cent of the respondents, respectively. Only a small percentage indicated that the respondents disagreed for the both Items 14 and 15 which was 3.0 per cent and 5.1 per cent, respectively. In addition, some respondents chose strongly disagree response for Item 15 (2.0%).

**Table 6: The Main Skills (4C's) of 21st Century Learning Skills via Mobile Learning Platform to Overcome the Issues in Narrative Writing Skills:
*Improving Grammar Knowledge***

Issue	Percentage (%)				
	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
16. The integration of 4C's skills via mobile learning platform enables students to be aware of using proper tenses to compose their narrative essay.	1.0	4.0	20.2	68.7	8.1
17. The integration of 4C's skills via mobile learning platform allows students to use correct pronouns to compose their narrative essay.	0	2.0	15.2	72.7	8.1
18. The integration of 4C's skills via mobile learning platform allows students to use various sentence structures to compose their narrative essay.	0	3.0	16.2	71.7	8.1
19. The integration of 4C's skills via mobile learning platform enables students to apply connectors to link their ideas.	0	3.0	14.1	71.7	9.1

Table 6 reveals that the effectiveness of the main skills (4C's) through mobile learning application to overcome the issue of grammar mistakes made by students while narrating their narrative essay. Majority of the respondents agreed and strongly agreed for Items 16, 17, 18, and 19. The integration of 4C's via mobile learning platform enabled students to be aware of using proper tenses which indicated they agreed (68.7%), were neutral (20.2%), strongly agreed (8.1%), disagreed (4.0%), and strongly disagreed (1.0%). Besides that, students were able to use correct pronouns which showed that they agreed (72.7%), were neutral (15.2%), strongly agreed (8.1%), disagreed (2.0%), and strongly disagreed (1.0%). Moreover, using 4C's and mobile learning application allowed students to use various sentence structure to compose their narrative essays. There were 71.7 per cent who agreed, 16.2 per cent who were neutral, 8.1 per cent who strongly agreed, and 3.0 per cent who disagreed for Item 18. In addition, both 4C's and mobile learning application enabled students to apply or use connectors to link their ideas while writing activities as agreed by the respondents (71.1%). This was followed by neutral (14.1%), strongly agree (9.1%) and disagree responses (3.0%).

Based on Section 3 (see Tables 3, 4, 5, and 6), majority of respondents selected strongly agree and agree responses that the 4C's skills through mobile learning platform had a great chance to develop ideas, improve organisation skills, as well as progress students' vocabulary skills and grammar knowledge in improving upper secondary students' narrative writing skills. This revealed that the 4C's skills which are collaboration, communication, critical thinking and creativity had a great possibility to improve students' writing skills as remarked by Tan and Muhammad (2019) in their study.

Section 4

Table 7: The Challenges of Integrating Technology Resources among Teachers and Students in Developing Narrative Writing Skills

Item	Percentage (%)				
	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
20. I notice that teaching time is not sufficient enough for me to incorporate ICT platform for teaching and learning.	1.0	10.1	20.2	50.5	18.2
21. I realise that I struggle to integrate ICT platform in teaching and learning due to lack of technology knowledge.	7.1	18.2	19.2	44.4	11.1
22. I notice that there are not enough trainings or technical supports provided for teachers regarding use of ICT in teaching.	0	8.1	19.2	56.6	16.2
23. I believe that lack of adequate materials for teaching and inadequate teaching support are the factors for teachers, in which there is no link between integrating ICT platform in teaching and learning.	0	7.1	9.1	63.6	20.2
24. I believe that students are unable to access mobile learning platform due to some circumstances while doing their assignments.	0	1.0	4.0	69.7	24.2

Table 7 illustrates the challenges of integrating the 4C's of 21st century learning via mobile learning platform in developing narrative writing skills among language teachers and students. Majority of respondents agreed (50.5%) and strongly agreed (18.2%) that language teachers did not have sufficient time to incorporate ICT resources for teaching narrative writing skills among students. Some respondents selected neutral (20.2%), disagree (10.1%), and strongly disagree responses (1.0%) for Item 20. According to the respondents' feedback, about 44.4 per cent and 11.1 per cent of the respondents agreed and strongly agreed that they struggled to integrate ICT platform in teaching and learning due to lack of technology knowledge. However, 19.2 per cent of the respondents responded neutral, while 18.2 per cent and 7.1 per cent of the respondents disagreed and strongly disagreed for Item 21. On top of that, majority of respondents agreed (56.6%), and strongly agreed (16.2%) for Items 22 and 23, respectively. They noticed that there were not enough trainings or technical supports and lacked adequate materials for teaching and learning using ICT resources. For Items 22 and 23, only a few respondents selected neutral and disagree responses. Furthermore, the respondents agreed (69.7%) and strongly agreed (24.2%) that students were unable to access mobile learning platform due to some circumstances while doing their assignments. On a contrary, only a small percentage indicated that the respondents were neutral (4.0%) and disagreed (1.0%) for Item 24.

Based on the results, it was displayed that teachers still made little use of technologies because they did not have adequate time to utilise technology resources in their lessons as supported by Ghavifekr, Kunjappan, Ramasamy, and Anthony (2016) in their studies. The lack of technology competency could reduce the teachers' desire to incorporate the use of the technology resources in teaching and learning among students as supported by Pelgrum (2001) who had conducted a worldwide survey on competency of teachers in using technology resources. Pelgrum (2001) found that the top obstacles that educators faced in realising their school-based objectives were material and non-material conditions. These conditions included

lack of computers and lack of knowledge among teachers. In addition, there insufficient materials for teaching as guidelines which were found in the study. Apart from that, lack of effective trainings was one of the factors for teachers not to be able to integrate ICT platform in teaching and learning. This notion is supported by Ghavifekr and Rosdy (2015).

Section 5

Table 8: The Importance of Reflective Writing Practice in Developing Students' Narrative Writing Skills

Item	Percentage (%)				
	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
25. Reflective writing practice can help students to improve their narrative writing skills.	0	2.0	4.0	66.7	26.3
26. Continuous reflective writing practice enables students to reflect their experiences to narrate a narrative writing.	0	0	6.1	65.7	27.3
27. Reflective writing practice allows students to think for ideas and organise their storyline accordingly.	0	3.0	6.1	75.8	15.2
28. Reflective writing practice allows students to critically develop their ideas.	0	2.0	7.1	75.8	14.1
29. Reflective writing practice allows students to improve their imagination or creativity skill.	0	3.0	8.1	70.7	18.2
30. Mobile learning platform can be used to allow students to do their reflective writing practice.	3.0	3.0	13.1	69.7	11.1

Table 8 presents the importance of reflective writing practice in developing upper secondary students' narrative writing skills. Majority of the respondents agreed (66.7%) and strongly agreed (26.3%) that reflective writing practice could help students to improve their narrative writing skills. Only a small percentage of respondents disagreed that reflective writing practice can improve students' narrative writing skills (2.0%). Only 4.0 per cent of the respondents stated that they were neutral for Item 25. On the other hand, the respondents also agreed (65.7%) and strongly agreed (27.3%) that continuous writing reflective writing practice enabled students to reflect their experiences to narrate a narrative writing. Only 6.1 per cent of the respondents stated that they were neutral for Item 26. Moreover, majority of the respondents agreed and strongly agreed for Items 27, 28, and 29 that reflective writing practice allowed students to generate ideas, enabled them to organise their storyline critically and improve their creativity skills. However, for Items 27, 28 and 29, only a small number of respondents disagreed and chose neutral. Apart from that, the results of survey showed that most of respondents agreed (69.7%) and strongly agreed (11.1%) for Item 30, in which mobile learning platform could be used to allow students to do their reflective writing practice. Conversely, some respondents indicated that they were neutral (13.1%), disagreed (3.0%), strongly disagreed (3.05) for Item 30.

Based on the findings for this section, reflective writing practice had a significant impact in the study. Its effectiveness in allowing students to develop better ideas, improve organisation skills, able to think critically and creatively is concurred by Chakraverty and Gautam (2000), as well as Gibbs (1988) in their studies.

Conclusion

In this 21st century era, policy makers and educators need to use new approaches, as well as technology resources in teaching and learning to develop the students' writing skills in Malaysian national secondary schools according to the present education policy. These elements are highlighted as they are essential in the 21st century learning and a significant shift in Industrial Revolution 4.0 which forms Education 4.0 (Bell, 2010; Md Abdul, 2018; Woolf, Lane, Chaudhri & Kolodner, 2013; Yoke, 2018). The results of this study found that the majority respondents agreed that the integration of the four main skills (4C's), mobile learning platform and social networking sites had a huge possibility to improve students' narrative writing skills in the future. Besides that, they agreed that using reflective writing practice among students to foster their narrative writing skills would be very beneficial (Foote, 2015, p.118). Consequently, further studies need to be conducted in order to investigate the possibility to incorporate 4C's, mobile learning platform, social networking site, and reflective writing practice in this area of study. The findings of this study could be used as an indicator to design an appropriate writing module to be used for online teaching and learning mode, as well as an approachable notification for the ministry to implement mobile technology as useful educational tools to support teaching and learning the English subject, especially for writing skills in Malaysian national secondary school in the future. The module could be employed during any unavoidable circumstances, such as haze, floods and coronavirus disease 2019 (COVID-19) pandemic, in which students are restricted from going to schools.

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TECHNOLOGY USAGE EXPERIENCE OF UNIVERSITY STUDENTS DURING THE ONGOING COVID-19 PANDEMIC IN MALAYSIA

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Abstract *This paper examined university students' technology usage during the ongoing Covid-19 pandemic in Malaysia. Eighty-five students from a local university, located in the mid-northern region of Malaysia, participated in an online survey on their technology usage experiences during their online teaching-and-learning (OTL) lectures and tutorials (henceforth, known as classes). The study found that a majority (88.2%) of the students reported using a combination of laptops and other devices, such as smartphones and home desktops; one in four of them had shared their devices with their parents or siblings. Although this local, mid-northern university has successfully implemented the OTL project as an interim measure to enable continued student learning, slightly over half (51.8%) of the students surveyed reported difficulties with internet access during their classes. The issues cited mainly revolved around 'poor internet connection' and 'unstable connection.' This showed that while the technology penetration rate is reasonably high among the respondents, their access to stable internet bandwidth and connection remains a challenge. Further analysis showed that a majority (71.1%) had subscribed to wi-fi services from local telecommunications providers. While Malaysia has progressed by leaps and bounds in terms of internet access among its citizens, news reports indicate that the Bottom 40 percent (B40) group and the Orang Asli communities have faced difficulties attending online lessons. This study will identify some of the Malaysian government's strategies of narrowing the digital gap between the country's haves and have-nots. Finally, this study will also briefly outline the social impact caused by the technology driven Fourth Industrial Revolution (IR 4.0) in Malaysia.*

Keywords: *Technology Usage, Online Teaching-and-Learning (OTL), Covid-19 Pandemic, University Students, and Fourth Industrial Revolution (IR 4.0)*

Introduction

Technology has enabled humanity to lead a better. Baase (2013) likened technology to the gift of fire given to humanity by the Greek God Prometheus that makes our lives more comfortable, healthy, and enjoyable. Computer technology is another leap in our technological advancement which has revolutionized the way we communicate and live.

In the Modernization Theory outlined by Walt Rostow (1960, 1978), the five-stage technological adoption is an important criterion for the industrialization and development of a country (as cited in Macionis, 2015) despite its criticism as an inadequate model explaining development (Jacobs, 2020). Thus, technological advancement can be an impetus for economic growth. Therefore, Malaysia is keeping abreast with technological innovations in hopes that these would help power its economy and prosperity/growth.

Has Malaysia's digitalization process been successful? According to the 2018 Internet Users Survey conducted by the Malaysian Communications and Multimedia Commission

(MCMC), the percentage of Internet users at the national level has increased from 76.9% in 2016 to 87.4% in 2018 (MCMC, 2018). While this high percentage looks very impressive, news published in Malaysiakini, a local web-based news portal, suggested that the situation on the ground is not as rosy as the statistics show. For example, during this Covid-19 pandemic, vulnerable groups such as children of the Orang Asli and the Bottom 40 percent (or B40) group have been reported to be missing out on classes (i.e., education) because they lacked adequate access to the Internet or technological devices to attend online classes (M. Fakhru Halim, 2021; N. Faizal Ghazali, 2021; Malaysiakini, 2021).

Meanwhile, Covid-19, an infectious disease caused by the SARS-CoV-2 virus, has caused a global lockdown. Thanks to the help of the Internet, the classroom was moved from the physical to virtual environment. In Malaysia, the government had instituted the Movement Control Order (MCO) 1.0 on 18th March 2020 and variations of the MCO since then. The MCO 2.0 was later imposed in stages on all states, except Sarawak, from 22nd January 2021 to 18th February 2021.

Literature Review

According to the 2018 Internet Users Survey (henceforth, the IUS 2018 report) conducted by the Malaysian Communications and Multimedia Commission, (MCMC), a total of 4,160 Internet users responded to its survey. It's found that nine (93.1%) out of 10 Internet users had used a smartphone to access the cyberworld. Moreover, WhatsApp and Facebook were the most well-liked communication and social media platforms respectively. A majority (N=2,571, 61.8%) of the Internet users had shared content online and these contents were mostly related to education and entertainment genres. It's also reported that the Malaysian government via the MCMC has made continuous efforts to reduce the price of Internet packages in the country and increase the speed of fixed broadband. These efforts have contributed to the increase of Internet users in the country.

Moreover, the IUS 2018 report found that the National Broadband Initiative (NBI) implemented nationwide in 2010 to introduce broadband throughout the country and encourage more Internet usage has borne fruit as shown by the statistics. It is found that the users (N=3,686, 88.6%) mainly accessed the Internet from the comforts of their homes, followed by access on-the-go (N=2,833, 68.1%) and workplace access (N=2,346, 56.4%). Accessing free wi-fi anywhere and everywhere was not as popular in 2018 as it was in 2016. The report attributed this decline to the easy availability of good-value-for-money mobile Internet data plans provided by service providers in Malaysia. Therefore, users had preferred their own mobile data plans to searching for and relying on free wi-fi.

As the World Economic Forum's founder and executive chairman, Schwab (2016) had introduced the term 'The Fourth Industrial Revolution' (henceforth known as, IR 4.0) whose main characteristics included a fusion between the physical, digital, and biological spheres of our post-industrial or postmodern life. He argued that because of this three-fold fusion, the IR 4.0 would be fundamentally different from the other three previous Industrial Revolutions even though its impact would be equally as powerful and wide-ranging as the earlier three.

He then outlined the impact of the ongoing IR 4.0 on the world economy, on businesses, governments, societies and the individual. He also sketched out twenty-three (23) trends during this IR 4.0 phase which he termed as 'deep shift(s)' in the world. These 'deep shifts' which are revolutionizing the way we live and communicate included wearable Internet, reading glasses connected to the Internet, implantable technologies, smartphones, the Internet of and for Things, The Connected Home, Smart Cities, big data, artificial intelligence, Bitcoin and the Blockchain, 3D Printing, the Human Health and Consumer Products, designer beings and

neurotechnologies which will offer the possibility of fighting addictions and also allow the disabled to control their artificial limbs or wheelchair with their minds.

Schwab (2016) also mentioned that the gender gap between men and women might widen because "...men still tend to dominate computer science, mathematical and engineering professions..." Therefore, he noted that the demand for such specialized computer and technical skills which men still dominate might aggravate gender inequalities. He also wrote that improvements in artificial intelligence capabilities and the digitalization of tasks in the service sectors where women are prevalent might put these women's jobs at risk of elimination. However, he mentioned that demand might grow for roles that machines cannot do such as jobs requiring empathy and compassion where women tend to dominate. These jobs included being "...psychologists, therapists, coaches, event planners, nurses and other providers of healthcare."

According to Raja and Nagasubramani (2018), technological innovations have revolutionized the education sector and their uses have made teaching-and-learning more enjoyable for all concerned. They had outlined how students can make use of computer technology to enhance their own learning such as using the Internet round the clock and acquiring online degrees from top institutions of higher learning. However, the authors cited Gressard and Loyd (1985) who asserted that teachers' attitudes towards computers are a major factor in determining the efficacious execution of Information and Communications Technology (ICT) in education. Moreover, Shampa Iftakhar (2016) also mentioned how improvements in teachers' skills and expertise in using ICT are the key factor in enabling the incorporation of technology in education.

Amar Singh (2021) commented on the impact of the Covid-19 pandemic on children, especially those in poor households. According to him, the pandemic has exacerbated the divide between the wealthy and the underprivileged as well as widening the digital gap between the haves and the have-nots. For example, school shutdowns have resulted in some children missing out on education and retrogressing in learning aptitudes. Moreover, a Ministry of Education survey in March-April 2020 indicated that 37 percent of children did not have any digital device. Only 15 percent of the students had personal computers while half had relied on smartphones to attend virtual classes. The Malaysian National News Agency (BERNAMA) reported that laptops priced at RM2,000 and below were sold out in Ipoh, Perak, Malaysia following the implementation of home-based OTL for school children (as cited in Free Malaysia Today, 2021; The Star, 2021). However, it is thought that the Ministry of Education's Educational TV programme named as *DidikTV KPM* was a good solution to overcoming access problems related to OTL in the country (BERNAMA, 2021), especially for rural areas.

Research Method

This exploratory study was a quantitative research using an online survey. A total of 85 students from a local university, located in the mid-northern region of Malaysia, were asked about their technology usage experience while attending virtual classes (i.e., lectures and tutorials) during their January 2020 and May 2020 semesters when the country was still in the Covid-19 pandemic lockdown and then partial lockdown. The data collection was conducted via convenience sampling which was disseminated via emails and WhatsApp.

Problem Statement

Little is known about students' technology usage experience while attending virtual classes. This pilot study explores three themes:

- A) Location of Internet access - from where did they access the internet?
- B) Access to device – did they have access to a computer/laptop/smartphone if they need it?

C) Wi-Fi and Internet velocity - were the internet speed and bandwidth enough to support everyone's usage?

Results and Discussion

Location of Internet access

Question 1. When asked where they had stayed during the MCO 1.0, sixty-four (75.3%) respondents had replied that they had stayed in their own respective hometowns. Only twenty (23.5%) respondents had stayed behind in the university town and only one (1.2%) respondent had stayed somewhere 'other than hometown' (See Figure 1). This showed that many of them had travelled back to their respective hometowns before the MCO 1.0 came into force or perhaps they had travelled back home when it became possible to do so. Moreover, the respondents' home state was a good mix, with 21 respondents (24.7%) hailing from Perak, 14 respondents (16.5%) from Johor or Pahang, 13 respondents (15.3%) from Selangor, 11 respondents (12.9%) from Penang and seven respondents (8.2%) from Sabah or Sarawak, seven respondents (8.2%) from Kuala Lumpur or Labuan, six respondents (7.1%) from Kedah or Perlis, three respondents (3.5%) from Melaka or Negeri Sembilan and two respondents (2.4%) from Kelantan or Terengganu. Only one respondent (1.2%) of the 85 surveyed was a foreigner.

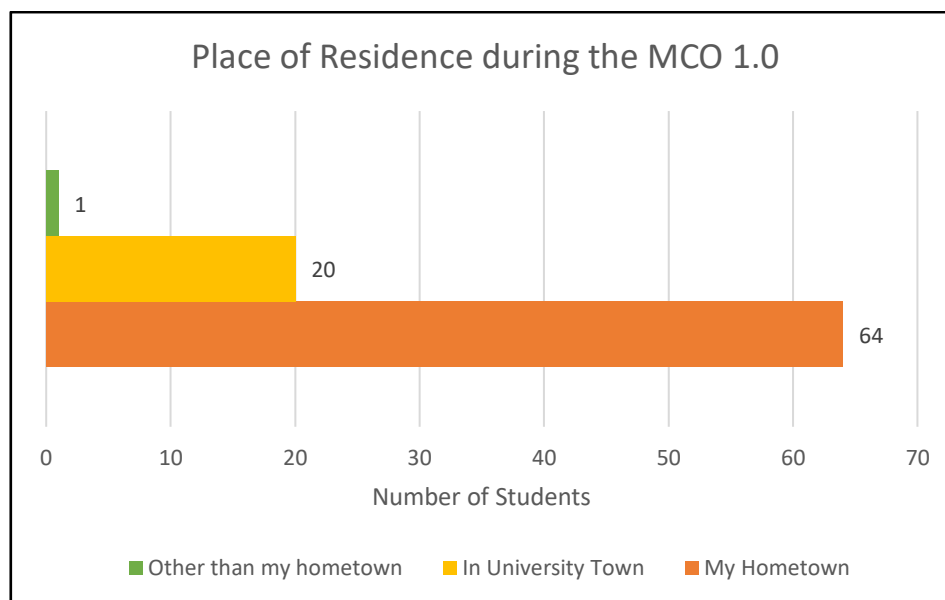


Figure 1: Respondents' Residence during the MCO 1.0

Question 2. Respondents were then asked why they had stayed in the residence they had mentioned in the first question. For this, the respondents were asked to provide multiple reasons for their decision and the following (Figure 2) is the breakdown of their answers, in numbers and percentages.

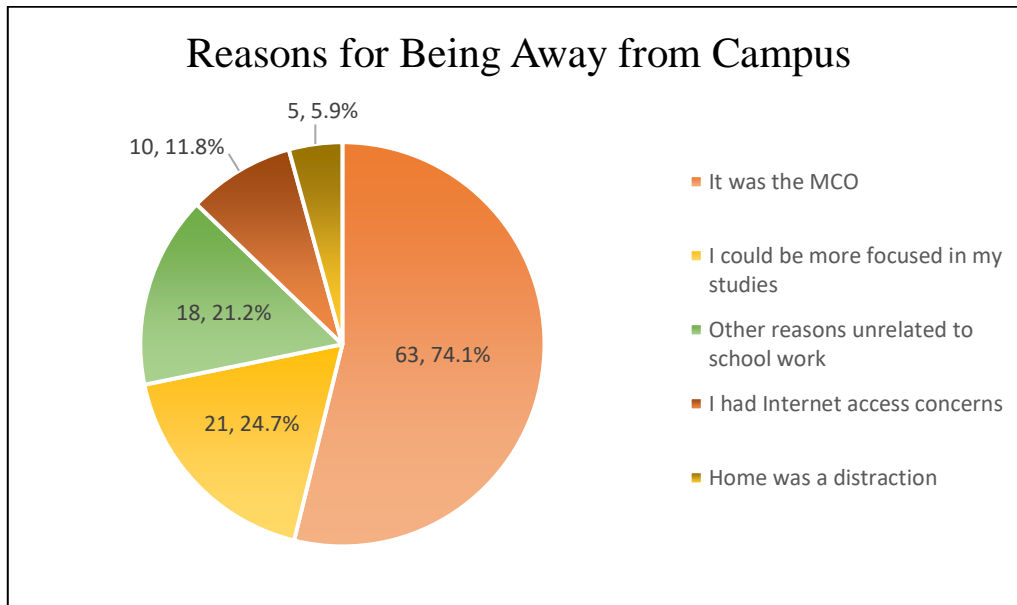


Figure 2: Reasons for Staying in Their Hometowns or in University Town or Elsewhere

As can be seen from Figure 2, there were indeed respondents who were concerned about Internet connectivity issues in their own hometowns and that's why they had stayed on in the university town even though the place became quite deserted after the exodus of many students back to their respective hometowns. Internet availability issues were especially acute in rural areas of Malaysia. In Sabah, there were news reports about an 18-year-old student, Veveonah Mosibin, from Universiti Malaysia Sabah (UMS) who, on at least two occasions, had had to climb a tree to get stable 3G Internet connection to sit for her university's online exams (Malaysian Wireless, 2020; Lee, 2020; Tan, 2020). She even resorted to staying overnight on a *langsat* fruit tree for her online exams (Lee, 2020). Moreover, due to her village being in a remote part of Sabah, Malaysia, she didn't have access to any good mobile data plans at home either (Malaysian Wireless, 2020). This showed that Internet connectivity is better in the country's urban areas and that the digitalization process in Malaysia is still ongoing and could be even better in the future.

From Figure 2, it is also noted that one respondent had probably answered contradictorily in Question 1 and Question 2 of the survey; only 63 respondents and not 64 mentioned that they had stayed in their hometowns because it was the MCO. Conversely, there were 21 respondents and not 20 who had cited 'I could be more focused in my studies', meaning that they had stayed put in the university town.

The digital gap between the haves and the have-nots can probably be bridged because there is much awareness of this issue and efforts are being made within the Malaysian government to help its citizens adopt ICT into their lives. For example, it has initiated some programmes such as 1Nita project led by women entrepreneurs for ICT adoption in their small-and-medium-sized enterprises (SMEs), established Internet centres in rural areas and low-income residential areas, set up Wifi 'hotspot' areas within the city of Kuala Lumpur, enabled a One-Stop Business Registration and Licensing Portal or also known as Malaysiabiz Portal and expanded ICT infrastructure into the rural areas via the Rural Internet Telecentres (PID) (MAMPU, 2019). These initiatives are ways in which the Malaysian government had planned to bridge the digital divide in the country. Have these initiatives worked? Further research is needed to assess the effectiveness of such programmes on the ground.

Access to Device

Question 3. When asked if they have had to share their device with others, 67 respondents (78.8%) said that they did not need to share it with anyone. The following graph (Figure 3) showed the breakdown of those who did not need to share and those who have had to share their device with others; with six respondents (7.1%) saying that they have had to share with one person other than themselves, another six respondents (7.1%) who said that they have had to share with two persons other than themselves and finally, two respondents (2.4%) who said that they have had to share their device with three or more people. Four respondents (4.7%) had declined to answer this question.

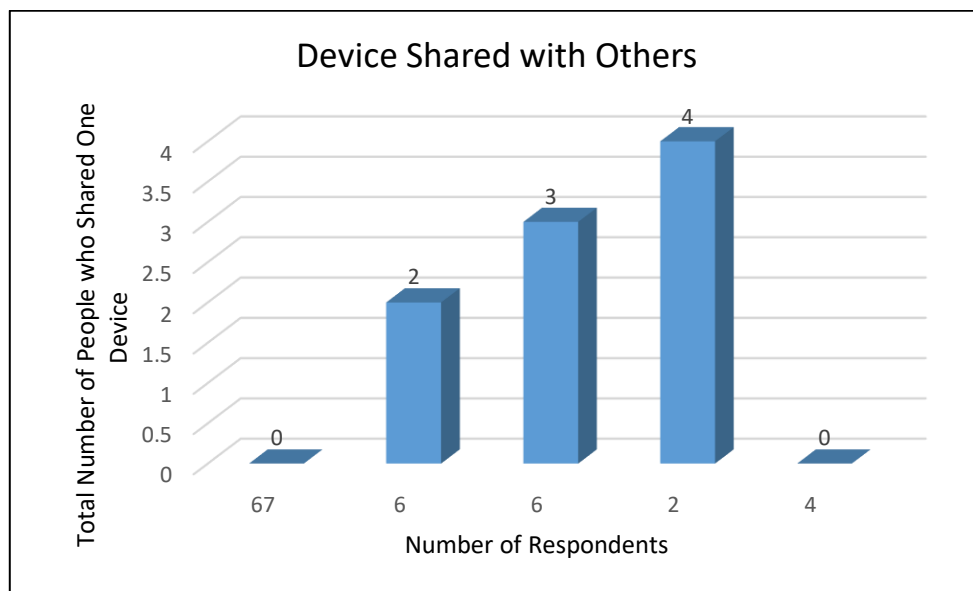


Figure 3: Those Who Shared Their Device with Others and Those Who Did Not

On a positive note, a big majority of the respondents have enjoyed good fortune and prosperity because they did not have to share their device with anyone. They and their parents were also probably the ones who have heeded the Malaysian government's call to learn and adopt ICT into their everyday lives. As such, when the Covid-19 pandemic hit our shores, the respondents were able to adapt quickly and attend their university's virtual classes without much hassle. Another reason which explained the respondents' high ICT adoption rate was the pressure to conform to group norms. Peers, as one of the basic agents of socialization, are important in establishing group norms and conformity within the university as proven in pioneering experiments by Muzafer Sherif and Solomon Asch (Chang, 2015; Macionis, 2015). The need to conform to group norms meant that the respondents had, even in pre-Covid-19 days, already bought smartphones and other digital devices to keep up with their peers.

Furthermore, ICT adoption is also part of Malaysia's digital agenda and strategy as outlined by the Malaysian government via its many government agencies. For example, the Malaysia Digital Economy Corporation Sdn Bhd (MDEC) has outlined several strategic thrusts to propel the nation's economy forward (MDEC, 2019). It helps Malaysian businesses to digitally transform themselves while at the same time, encouraging youths to seize the opportunities available through its programmes such as eRezeki where they, especially youths from the B40 group, can find employment by completing micro tasks and digitally enabled tasks or jobs (MDEC, 2019). It also has an eCommerce platform where both the youths and the veterans are helped so that they can embrace e-commerce in their businesses while its Global

Online Workforce (GLOW) programme teach and empower Malaysians to earn income online professionally, either based at home or at a location of their choice (MDEC, 2019).

Question 4. Respondents were further asked whom they had shared their device with, to which 64 respondents (75.3%) replied ‘not relevant’, 15 respondents (17.7%) replied ‘my sibling(s)’, two respondents (2.4%) said ‘my parent(s)’ and four respondents (4.7%) did not answer the question. Here, a discrepancy was again discovered in the respondents’ answer where those who said that they had shared their device totalled 17 respondents as opposed to only 14 respondents in Question 3. This could mean that the respondents were more honest when asked a direct question like ‘I shared my device with...’ On the other hand, both questions 3 and 4 can be said to be a check-and-balance in ensuring that accurate answers were given by the respondents.

Question 5. Finally, the respondents were asked about the devices they used to attend their virtual or online classes. They were asked to tick all relevant devices used. Figure 4 (below) showed the breakdown in numbers and percentages.

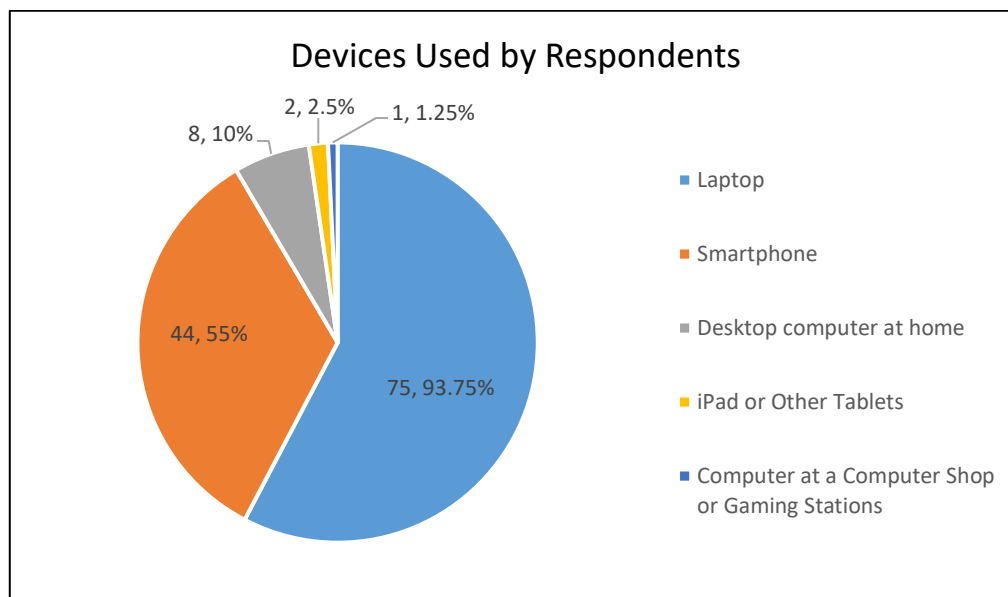


Figure 4: The Devices Used by The Respondents to Attend Online Classes

From Figure 4, a big majority of the respondents had used a combination of devices to attend their online classes, with laptops (N=75, 93.8%) and smartphones (N=44, 55%) topping the charts. A small number of respondents (N=8, 10%) had used the desktop computer at home while yet others had used the iPad or other tablets (N=2, 2.5%) and one respondent (1.3%) had used a computer at a computer shop or gaming station. This paper’s finding slightly differed from MCMC’s IUS 2018 report findings (as elaborated in the Literature Review section above). For example, the IUS 2018 report had found that nine (93.1%) out of 10 Internet users had used a smartphone to access the cyberworld whereas in this survey, many respondents had used a combination of devices.

On the surface, this study’s respondents seemed more privileged with their laptop usage while others could only afford to use the smartphone to access the Internet and to attend virtual classes. Further and future probing by the authors would reveal more information such as the cost of the respondents’ respective laptops and smartphones. Generally, an affordable smartphone is as cheap as a laptop in today’s Malaysia. For example, the cheapest laptop in the market featured on a Malaysian website by iPrice Group Sdn Bhd, is a DELL Latitude E6230

at only RM899 (iPrice, 2021). Using the same amount of money, one could choose to buy a smartphone instead, such as a Vivo V20 priced at RM899 (iPrice, 2021) or an Apple iPhone 6 Plus, priced at RM650 (iPrice, 2021) with some extra left as savings.

To bridge the digital gap and to enable continuous OTL, the Ministry of Higher Education (MOHE), Malaysia, has announced that all students in the Higher Education Institutions are eligible to apply for a special data plan package from Celcom, Digi, Maxis, and TM (Unifi Mobile), and IT device package from Acer, Samsung, and Apple Online Store (as cited in the university's announcement via its email system). On top of these packages, all students are also eligible to apply for a free daily 1GB data from eight telecommunications companies in the country. Furthermore, this mid-northern university has also started its own 'Student Laptop Loan Programme' to enable its students from the B40 households to borrow a laptop for three months in the January 2021 semester. A total of 50 laptops are available for loan and each of them has an Intel Core i5 1st Generation or 2nd Generation processor. Moreover, each of these 50 laptops has 4GB RAM, 120GB SSD disk space and runs on Windows 10. Besides, both staff and students from this mid-northern university have been provided with free web-based Microsoft Office 365 package.

As a trading nation, Malaysia must keep up with technological advancements and cannot afford to live like a hermit in a globalized environment. As such, the Malaysian government has kept pace with the IR 4.0 through its digital agenda via MDEC, among many other government agencies. However, there are pros and cons of such ICT adoption. While people tend to focus on the positive aspects, the authors feel that they should also provide a balanced view of such progress. For example, the pace of life has sped up with ICT adoption and many people expect a quick reply to their emails and WhatsApp messages. However, local culture has ameliorated this phenomenon whereby some people would consciously resist the speed and pause to think of suitable responses before replying to emails or WhatsApp. Studies have also shown that those who use Facebook or other social media tend to compare themselves often with their friends and as a result, they run the risk of developing mental health issues like addiction, anxiety, loneliness, depression, having lower self-esteem and even contemplating suicide (Thompson, 2019; Brown, 2017; Kenrick, 2014).

Wi-Fi and Internet Velocity

Question 6. Over half (N=44, 51.8%) of the respondents had experienced difficulties with their Internet access during their online classes. This was an open-ended question and the authors had found two major themes: poor Internet connection (i.e., can't go online and once it's disconnected, it takes some time to get re-connected to the Internet) and unstable connection (i.e., lagging or stalling during their streaming). Several reasons could probably explain such difficulties. For example, since it's a nation-wide lockdown, almost everyone has had to use their wi-fi more intensively, therefore, causing a lag in the Internet connection. Alternatively, as the Internet packages subscribed by most of the respondents were wi-fi packages (N=73, 85.9%), they are less stable than wired fibre optics broadband. Finally, the country's broadband infrastructure must continuously improve so that Malaysian citizens' Internet experience become seamless, and uninterrupted.

Question 7. When asked when they had experienced difficulties with their Internet connection, 37 respondents (45.68%) cited peak hours (8am to 5pm) while others (N=22, 27.16%) cited off peak hours (5pm to 11pm) and a small number (N=8, 9.88%) cited midnight (11pm to 1am). Those who said they didn't experience any issue totalled 32 (39.51%) respondents. The respondents had been asked to pick one or more choices in this question. Figure 5 (below) summarizes the data. Moreover, in this paper, the authors had defined peak

hours and off-peak hours differently from Malaysia's telecommunications companies. They have different cut-off times for peak and off-peak hours.

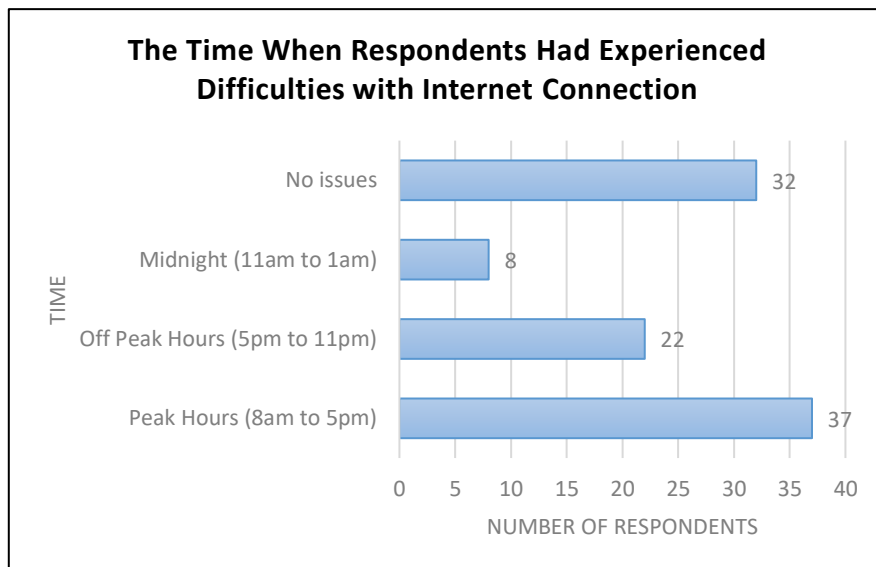


Figure 5: Time When Respondents Had Experienced Internet Connection Difficulties

Conclusion

From the results and discussion, we can safely conclude that technological or ICT adoption in education and in the country has hiccups. Over half of the respondents' technology usage experience has not been seamless and this speaks volumes about the need for Malaysia to continuously improve its connectivity infrastructure, both in the urban areas and especially in the rural areas.

The limitations of this study included not being able to generalize its findings. This is because, having conducted convenience sampling, most of the respondents was Chinese Malaysians as is reflected in this mid-northern university's overall student population. Moreover, the sample size and its ethnic composition should also be increased and diversified to reflect multi-racial Malaysia.

Future research can attempt to examine the respondents' wi-fi packages and their experience dealing with poor and unstable Internet connections during their online classes. Moreover, one-to-one interviews can be conducted to find out how those who had shared their devices with other family members juggle their classes and time. As it is now, due to the private and confidential nature of the questionnaire, there is no way the authors could trace those who had said that they had shared their device with their family members. This can be an interesting peek into these 17 respondents' experience and worldview on ICT adoption in education and in the country.

Finally, as stated by Schwab (2016), the disruptive impacts of IR 4.0 are extensive, and its social impact includes the possibility of the gender gap and the digital gap widening nationally and globally. Mitigating measures must be planned to ameliorate such expected chasms. For example, providing incentives and subsidies to women and poor households to adopt ICT in their lives. The Malaysian government, through many of its agencies such as MDEC and the Malaysian Administrative, Modernisation and Management Planning Unit (MAMPU) have outlined strategies and programmes to help Malaysian citizens master ICT skills and find good employment. Besides the INITA project, Amanah Ikhtiar Malaysia, Malaysia's largest microcredit organisation, should also consider helping the nation bridge the

gender gap in ICT skills between women and men. This can be done by possibly expanding its vision and mission to include ICT adoption by its lenders.

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ASSESSMENTS IN THE BLENDED MODE

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Abstract: *It has been mentioned often enough that blended learning transforms passive learners in a traditional learning to more active learners who are able to construct their knowledge in a blended learning environment. However, this must go hand-in-hand with good and meaningful assessment designs. Learners must be able to perceive the relevance of an assessment task to a particular topic and to the course. Since the attention span of the present day learners are short, we must diversify the way we assess these learners, making it more interesting and engaging. In this paper we look at the formative assessments and the online assessments by providing examples of students' work.*

Keywords: *assessment designs, formative assessments, online assessments*

Introduction

Blended learning has transformed conventional teaching design into one that connects the informal and formal learning experiences in order to provide more meaningful and authentic learning experiences (Suartama, Setyosari & Ulfa, 2019). Since teaching has undergone transformation, assessment cannot simply be confined to examination-type of assessments but one that indicates learners' progression and is relevant to the classroom and also to online learning modality. The quality of students' achieved learning outcomes, among others is dependent on the quality of the assessments. According to Idris and Krishnan (2016), good assessments should provide a continuous flow of evidence about learning, enhance learning, and provide useful information for the instructors and the institution to make future decisions and plans.

Pedagogical transformations and technological advancement together with cultural shift have resulted in the change of the role of assessment. Adapting to a new culture of learning includes changing one's perception and belief about what assessment means (Krishnan, 2019). In current learning trend, assessments are tools for developing learners' higher order thinking skills and promoting life-long learning. Clores and Reganit (2020) mentioned that instructors should carefully consider their assessment practices because these practices tremendously affect student's learning. In addition, the use of innovative, creative and alternative forms of assessment allows students to construct knowledge and achieve deep learning. Assessment in blended learning has two primary objectives that is to measure the effectiveness of the learning modalities and to evaluate learners' progress in order to improve their blended learning experience. In this paper, some forms of assessments in the blended learning mode are discussed by including examples of students' work.

Formative assessment

Idris and Krishnan (2016) mentioned in their book that assessments in the higher education takes place at various levels comprising of learners, courses, faculties, universities and groups of institutions. The learners, who is the nucleus in most assessment concerns, benefits in terms of clearly defined learning outcomes, prioritized learning, and knowing their strengths and weaknesses through assessments. Assessment of learning or summative assessment is used to make decisions about learners' abilities to meet learning outcomes. Assessment for learning or

formative assessment measures what learners can and cannot do in the learning process with respect to the learning outcomes. Formative assessment more strongly relates to summative assessment but is less useful for timely interventions, as said by Tempelaar (2020), because of the longer time lag. The blended design of a course creates the possibility of choosing a learning path that is preferred or suits an individual learner. More importantly, blended learning creates innovative classroom practices that incorporates the use of technology for new forms of learning experiences including innovative forms of assessments (Hostt, de Almeida Souza & Evangelista, 2020).

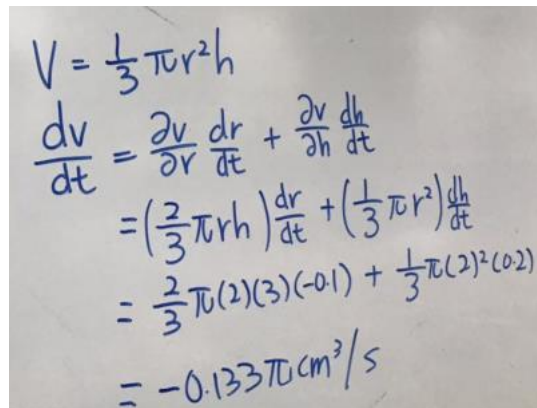
Blended learning has made assessment more flexible in terms of what is being assessed and how the assessment is conducted. Formative assessments accommodate this flexibility by providing continuous and immediate feedback and information about learners' progress (Febriani & Abdullah, 2018). As such, formative assessments are more prominent than summative assessments particularly in a blended learning environment. In particular, the purpose of online formative assessment is: (1) to enhance opportunities for formative and immediate feedback, (2) to engage learners with critical learning process in order to create meaningful learning experiences, and (3) to promote equitable education by providing diverse learning opportunities to cater to learners' varying individual needs (Gikandi, Morrow & Davis, 2011).

Dreon (2014) points out that assessment strategy is not as important as the information that the assessment provides. Dreon's (2014) idea of conducting basic assessments in three phases of a blended cycle is an excellent way to monitor learners' progress in a course. This cycle consists of before-the-class assessment, during-the-class assessment and after-the-class assessment. Pre-assessment that is assessment before-the-class can be very informative to the instructors in teaching a new topic. For example, prior to teaching the topic partial differentiation, learners can be pre-assessed with a simple quiz on their knowledge of basic derivative rules and formulas. On the other hand, during-the-class assessment can be carried out in a more sophisticated way. For instance, we can use clickers throughout the lesson to get learners' responses to simple questions. After-the-class assessment are usually the more conventional types such as written tests and examinations which are carried out at the end of the lessons.

Figure 2 displays a sample of undergraduate students' group work for the topic rate of change for the question shown in Figure 1. This is an example of the during-the-class assessment. First, the instructor solved a few examples from the topic rate of change, in class. Then, the students collaborated in solving questions pertaining to the same topic and presented their answers to the others. The instructor took snapshots of these answers, compiled them and uploaded them onto the learning management system. In this way, the students have access to these solutions throughout the semester. In addition, students form a sense of ownership and pride when they see that their work have been uploaded for their classmates' reference.

The base radius of a cone r is decreasing at the rate of 0.1 cm/s while the perpendicular height h is increasing at the rate of 0.2 cm/s. Find the rate at which the volume V is changing when $r = 2$ cm and $h = 3$ cm.

Figure 1: An Example of Rate of Change Question



$$\begin{aligned}
 V &= \frac{1}{3} \pi r^2 h \\
 \frac{dv}{dt} &= \frac{\partial v}{\partial r} \frac{dr}{dt} + \frac{\partial v}{\partial h} \frac{dh}{dt} \\
 &= \left(\frac{2}{3} \pi r h \right) \frac{dr}{dt} + \left(\frac{1}{3} \pi r^2 \right) \frac{dh}{dt} \\
 &= \frac{2}{3} \pi (2)(3)(-0.1) + \frac{1}{3} \pi (2)^2 (0.2) \\
 &= -0.133 \pi \text{ cm}^3/\text{s}
 \end{aligned}$$

Figure 2: Solution from Group Collaboration

Gielen, Dochy and Dierick (2003), in discussing the pre-assessment effects and the post-assessment effects of the formative assessment and summative assessment, said that summative assessment is subject to pre-assessment effects. This means that the effects happen prior to the assessment because in summative assessment students adjust their learning behaviour to their expectation of the assessment. Meanwhile, the post-assessment effects are dominant in formative assessment whereby students reflect on their learning process based on the feedback received from the teacher. Both the pre-assessment effects and the post-assessment effects influence students' cognitive strategies depending on the cognitive complexity of the assessment task. More importantly, the effect can be positive provided students form the correct perception in the former and there is proper feedback in the latter.

Online assessment

Use of technology in education facilitates higher order thinking skills and increases motivation towards learning (Setyaningrum, 2018). Especially in mathematics education, technology creates meaningful lessons by providing hands-on experiences such as with the use of interactive and visualization software. Use of technology in mathematics education has also created different and sometimes easier ways of assessing learners. Reasons for inclination towards online assessments include reduction of paper usage, flexibility in terms of timings and location, and possibility of repeating the assessment (Khan & Khan, 2019). On the other hand, poor results due to technological rigidity, and reduced interaction and personalized engagement with the instructor are some factors that causes learners' disinclination towards online assessments (Khan & Khan, 2019).

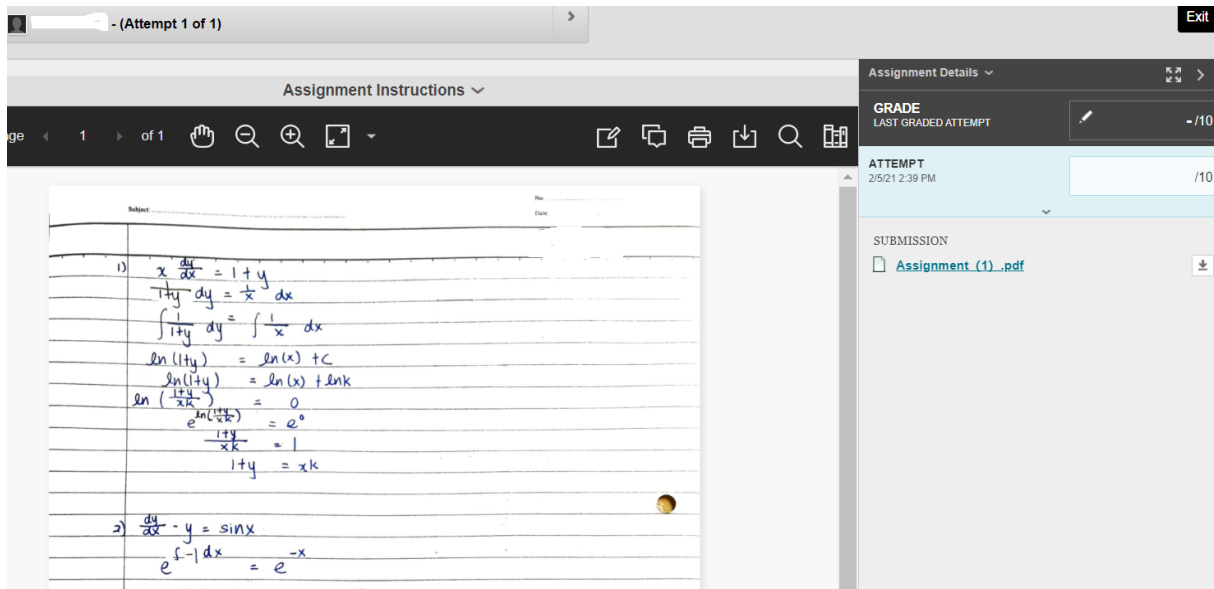


Figure 3: Example of Traditional Assessment Submitted Online

Examples of online assessments are traditional assessment submitted online, automated assessment, and critical reflection and meta cognition. Traditional assessment submitted online includes essays, reviews and worked solutions. Students upload their work on the learning management system and the instructor grade online and provides feedback online. Figure 3 shows an example of written solution submitted on the Blackboard learning management system. On the left hand side of Figure 3 is the student's worked solution while shown on the right hand side are the details of the submission. The student's name (which is deleted here for confidentially reason) and the number of attempts are shown on the left hand side. Meanwhile, the date and time of submission, and the marks can be seen on the top right.

Example of automated assessment is online multiple-choice quiz, short answer questions or calculated numeric questions. This type of assessment is excellent for self-learning as students can immediately know if their answers are correct or wrong. Figure 4 displays an example of instructions for an automated assessment. In this example, students are allowed to choose one of the two questions. They have twenty minutes to complete the assessment. More specific instruction such as the number of decimal places are also displayed. This assessment has ten questions with a total of ten marks and forty-six students have completed this assessment. Figure 5 shows an example of a calculated numeric question while Figure 6 shows an example of a multiple-choice question.

Description	You can choose either Question 1 or Question 2 or attempt both. The highest score will be recorded. You have 20 minutes to complete this task.
Instructions	Type in the answers correct to 3 decimal places . If you do not use 3 decimal places and the system gives 0 mark, I will not re-mark manually.
Total Questions	10
Total Points	10
Number of Attempts	46

Figure 4: Example of Online Instructions for An Automated Assessment

1. Calculated Numeric: 1: What is the probability that a respon... Points: 1

Question	What is the probability that a respondent chosen at random is a male?
Answer	0.48
Answer range +/-	0

Figure 5: Example of Calculated Numeric Questions

6. Multiple Choice: What is the vector product of $\underline{a} = j + 2j - k$ and $\underline{b} = 2i + 3j + k$? Points: 2


Question	What is the vector product of $\underline{a} = j + 2j - k$ and $\underline{b} = 2i + 3j + k$?
Answer	<input checked="" type="radio"/> A. $5j - 3j - k$ <input type="radio"/> B. $5j + 3j - k$ <input type="radio"/> C. 9 <input type="radio"/> D. None of the given.

Figure 6: Example of Multiple-choice Question

Critical reflection and meta cognition type of online assessments include reflective activities, online journals, blogs and wikis. The purpose of this type of assessment is essentially to assess the learning process rather than the final product. In this sense, the learning management system can be an excellent platform to get the students to reflect on their learning and to give their feedback to the instructor with the purpose of improving the learning process. Figure 7 displays an example of a student's feedback on an analytical methods course. Students are generally more honest with their comments and feedback on the learning management system, especially with undesirable feedbacks compared to giving an oral feedback for concern of being disadvantaged.

Wednesday, 2 May 2018

Feedback on New

Posted by  - at Wednesday, 2 May 2018 11:49:44

This analytical method course was hard at the beginning. From the aid of lecturer i have gain more knowledge about this course and is a very good lecturer for this subject. Moreover, no one else teach students like does. is a strict yet kind lecturer. Furthermore, would help us solve maths problems in easy ways because of experience of teaching for many years. This helps us to understand in detail of the maths problems we bring to : Adding to this, notes on blackboard are very clear and the formula for the topics are neat. examples are begins from easy to hard which help us to solve maths problems in all terms of difficulties.

Figure 7: Example of Student's Reflective Journal

Summary

Assessment tools in blended learning can assess large number of students, enhance learning quality, support feedback, is systematic and provide results that are more consistent (Febriani & Abdullah, 2018). Some of the technological tools that support assessments in blended learning are Kahoot!, Quizizz, Spiral, Quizlet Live, Flipgrid, Padlet and Socrative, to name a few. However, the study by Febriani and Abdullah (2018) shows that there is a higher usage of online assessment than blended assessment since the former has more flexibility and provides prompt feedback to learners. Besides, the interactive and immediate feedback features of an online assessment serves as a motivating factor in the learning process.

On the other hand, online assessments need not necessarily involve innovative assessments but can be traditional form of assessments such as written solutions and multiple-choice questions that can either be uploaded on the learning management system or conducted using the learning management system as a tool. In this way, technology is used to supplement traditional assessments in order to provide additional learning platform for the students, said Kavitha and Nalliah (2018). Formative assessment in an online environment can provide learners with greater access to contents (Hostt, de Almeida Souza & Evangelista, 2020). Among others, online formative assessments enable learners to self-appraise their work, identify their strengths and weaknesses, and use feedback to improve their performance (Kavitha & Nalliah, 2018).

However, the focus of assessment must not be the sophistication of the tool or the complexity of the assessment but rather how the assessment drives the pedagogy and how it enables achievement of the learning objectives. A simple assessment task has achieved its purpose if it can encourage and enhance students' learning. Ideally, assessment should be a pedagogical action that reveals learners' understanding than a process that simply provides a grade. The blended learning design also encourages instructor and learners to approach assessment as a combined effort for the realization of meaningful learning experiences.

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FROM HOME TO DORM: VIEWS ON ITS INFLUENCE IN THE ACADEMIC PERFORMANCE OF STUDENTS

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Abstract: *This study aimed to determine the views of students on the influences of living in a dormitory/boarding house to their academic performance. The study tested to prove if there is a significant difference present in the views of fifty-two (52) respondents on the influences of living in a dormitory to academic performance between male and female, Course A and Course B, and the socioeconomic status. This employed a descriptive research design with quantitative. The 2-tailed t-test, two-way ANOVA and weighted mean were utilized to analyze and statistically treat the data. Findings showed that the mean grade of the respondents is 1.78568462 which is very good. It concluded that living in a dormitory/boarding house does not adversely affect the students' academic performance. It brought about more of a positive impact on their studies than the negative. They performed better when living independently rather than with their families. Regardless of sex, the respondents manifested similar views on the influence of living in a dormitory/boarding house on academic performance. In terms of the courses, Course B respondents have better views on the influence of living in a dormitory/boarding house on academic performance. While, in socioeconomic status, the respondents with high socioeconomic status have better views compared to those with low and middle socioeconomic status.*

Keywords: *Academic Performance, Dormitory/Boarding house, Influence*

Introduction

Dormitories or boarding houses are known to be temporary shelters or dwellings of students who stay far from schools or in provinces. These were built to accommodate students' needs particularly the school's distance can be more accessible and can minimize the hassles of commuting.

Based on the Fifteen Congress of the Republic of the Philippines, Senate Bill No. 1113 was introduced by Sen. Manny Villar on July 10, 2012, explaining that "Dormitories and boarding-houses have been providing temporary shelter to thousands of transients, employees, and students who have to live away from their parents and loved ones to pursue their respective endeavors."

The establishments of dormitories or boarding houses provide students the chance to be more focused on school activities. This is also an opportunity for students to learn among peers or dorm-mates which generally influence their academic success.

Further, the various living options of students can generate advantages and disadvantages. According to the study conducted by Brilliantes, Aga, Tipace, Adeque, Perez, Aya-ay, and Sagarino (2012) the findings state that living away from home to dormitory/boarding house can be advantageous and adversely affect the academic performance of students. Students who live in a dormitory or boarding house have influenced their personal, social, and academic development such that these accommodations provide well-housing facilities with provisions of safety and security. The respondents further disclosed that they are

getting more responsible as they have to take care of themselves together with their daily academic undertakings out of their comfort zones with their own family. On the other hand, results revealed that living away from home allowed them to have the opportunity to be independent, learning to manage time and finances, exceptions to household chores and caring for younger siblings.

Also, students are minors and are vulnerable to temptations of any kind when unguarded by responsible adults. These students have to be monitored regularly to check whether their academic performance is doing well. In the case of students who are living in a dormitory, both families and their children will decide and anticipate some changes that they may influence and adjust with. Hence, being independent is also exposing them to possible danger for they may learn new things and be pressured among peers that may bring about a positive and negative impact on their academic performance.

Nonetheless, parents are continuously supporting their children in sending them to school despite the challenges in finances and the distance of the preferred school from home as long as they can cope up well in school because for students college is the life that they are looking forward to. These students start their college undertakings minding its easy transitions and optimistic social, emotional, spiritual, and academic endeavours. This is also one of the significant episodes in students' life because it does not only provide education but also moving out of their own comfort. In this stage, some students have to live away from their families in the province due to the distance and save money for other expenses. But, even the financial aspects were provided, the students' performance is more important.

Decision-making among parents is also crucial in the academic success of their children. They have to plan and decide wisely whether to allow their children to go to their preferred school away from them. Their decisions can contribute to success in the academic performance of their children. According to the study of Walker and Satterwhite (2002) as cited in the study of Glory, Go, Gonzales, Leviste, Santos, and Nozawa (2014) one of the responsibilities of parents is to consistently track down the performances of their children academically. In their study, the influence of living in a dormitory to academic performance is just minimal due to the kind of lifestyles that students are used to, practicing the western culture. However, in the study of Heiss (1996), it depends on the family from various racial ethnicity that can bring about changes in the academic performance of students.

Thus, this motivated the researchers to examine views on the influence of living in a dorm in the academic performance of students. Document results to further help the students in the Education Department Institution Z who are living in a dorm away from their parents. The researchers focused on how living alone can affect one's academic performance.

Statement of the Problem

This study specifically sought to answer the following questions:

1. What is the academic performance of students living in a dormitory/boarding house?
2. What are the views of the students on the influences of living in a dormitory to their academic performance?
3. Is there a significant differences on the views of students on the influences of living in a dormitory to their academic performance when data are grouped according to:
 - 3.1. sex
 - 3.2. course
 - 3.3. socio-economic status

Literature Review

Accommodation like the dormitory or boarding house is a student house or a hall of residence where an individual can stay while studying away from parents. It is also the accommodation or quarter paid by students for their stay within a period. The landlord or landlady oversees the living conditions of students especially their security.

Studies have shown that college students welcome the idea of independency whereas this can bring about changes and influences in their academic performance. Their views on living away from families vary for they encounter different unexpected challenges and experiences. Thus, they tend to manage these problems directly or indirectly. This is closely related to the study conducted by Jordyn and Byrd (2003) as cited in Glory et al. (2014) that the most challenging part of the young adolescents' life is leaving their families back home to attend school. It is as well expected that they will encounter problems and solve them on their own with less supervision from parents.

In the Philippine context, Filipinos are family-oriented. The attachment among family members is strong. This is relevant to what Watkins and Astilla (1980) have stated that Filipino children are accustomed to living with the family structure until they reached to the point that there is a need to move for independence. In terms of the academic performance of students, living away from families has a positive influence despite the close relationship among family members.

This affirms with the study of de Araujo and Murray (2010) there was an increased level of improvements in the academic performance of students who were living in a dormitory. Similarly, in the study of Goldscheider and Davanzo (1985) as cited in Glory et al. (2014) that staying away from their families breaks their routine of doing things as well as the communication or interaction because the usual bonds of siblings and other members of the family be minimized. In the same citation, Walker and Satterwhite (2002) saw the need for the intervention of families in the academic performance of students and they compare this practice to the Western students. They found out that the relationship of families matters to influence the academic performance of students. Others have less effect on parents to their studies due to the lifestyles that they practice.

Further, according to Moffatt (1991) as cited in the study of Glory et.al (2014) that "College is a mixture of higher education and youth culture for its students. College life is a youth culture that exists beyond the classroom. It is how the students interact and what they do within the university or college. College life can be an exciting or stressful phase in one's life, a transitional phase from late adolescence to young adulthood. As such, it is a critical developmental for both late adolescence and young adults."

In the research study of Glory et al. (2014) about "Living Away from Home and Academic Performance", it was discussed that the family has to decide in the essentials of letting their child stay far away and live in a dormitory or boarding house so that it would be more accessible to the school or university of their choice. This ensures the safety of traveling to and fro, saves money and time. On the other hand, many students consider the idea of living away from their families because they want to be independent. Given these reasons, this can contribute to a positive and negative effect in their college life, especially in their academic performance.

Similarly, in the study of López and Wodtke (2010) showed that "students who live on campus are more advantaged than those who lived with their families. They showed better performance on their academic subjects and other school activities thus they gain higher GPAs and become more active in school compared to those who lived with their families. These students claimed that they become more motivated, independent and better prepared when they

attend to academic institutions that are away from their families. Most of them also said that they were able to concentrate more on their studies when they are living alone.”

According to Lopez (2015) in his study conducted that there are main problems that are related to living away from family and he mentioned the studentification and its negative effects. In the study of Lopez (2015 p. 26) it explains that studentification processes connote urban changes which are tied to the recommodification of ‘single-family’ or the repackaging of existing private rented housing, by small-scale institutional actors (e.g. property owners, investors, and developers) to produce and supply houses in multiple occupations (HMO) for higher education (HE) students.” The other concern relating to living in a dormitory is the adverse influence on students. This can be addressed to negative peer influence.

With the readings of several researchers conducted similar studies, there were significant comparisons as to the culture and environment they were brought up. Western students perform and behave differently with Asian students. At the same time, the differences in performances of students living on campus dormitory and the nearby hall of residence. All of those studies provided information about understanding the views of students living independently of academic performance.

Theoretical Framework

This study is anchored on the theory of Alexander Astin (1999) which is the theory of student involvement wherein this focuses on facilitating the administrators and faculty to provide more conducive and operational learning environments for students. He further explains that “student involvement refers to the amount of physical and psychological energy that the student devotes to the academic experience”.

The Student Involvement Theory of Astin (1999) emphasizes the behavior of students. Involvement determines and describes the behavior and actions of students that take significant and dynamic contribution to learning. The environment of the students as a whole is valuable that they can fully achieve the greatest potential in their learning development. Consequently, this theory is composed of three elements that describe its main idea. First is the input of students’ profiles and prior experiences, second, students’ environment in which they interact and gain experiences during college and third, students’ outcomes which comprise of the students’ knowledge, character, attitudes, beliefs, and values.

Astin (1999) attempted to study the influences of students’ environment in tertiary that has a valuable impact on the continuous education of students. The increase of involvement among students depends on the positive influences while less involvement for negative influences the students may experience during their college years. Further, Astin’s student involvement theory is correlated with academic performance. This has various uses in the area of higher education and provided greater proof of students’ co-curricular activities.

Similarly, Clarkson (2006) supports the theory of student involvement. He emphasized that this theory originated from the general theories of human development. The general experiences of students are being studied and described as part of the growth processes. He further believes that it is essential to take care of one’s health condition in which this gets critical to students in the tertiary level. The gratifying life that the college students need is felt in the environment which is familiar to them away from the vulnerability. Clarkson further states that students when placed in a new environment that generates efforts to achieve acceptance from peers and acquaintances. Thus, developing social groups is tough.

Another concepts that claim support to this study is the conducted research of Kane (1990) stating that living away from families and reside from dormitory adversely influence the holistic development of students. Living in dormitory/boarding house is beneficial to

students' personal development. Further, stated that living in dormitory showed that there is progress in the students' social and intellectual growth.

Research Methodology

Research Design

The respondents of this study focused on the fourth year students who stayed in a dormitory/boarding house for they facilitated the information needed in the study. The study was limited to the students from the Education Department Institution Z excluding other departments in the college for they generated relevant concerns in education. The involvement of the respondents in the study is voluntary without compensation. The respondents can withdraw any time they wished. The withdrawal from the study did not harm them in any manner. In the conduct of the study, there were no respondents who withdrew from the actual data gathering.

All data gathered were treated with utmost confidentiality such that the names of the respondents were properly coded. This was checked by the Research Oversight Committee (REOC) for clearance. The output of this research was not publicly disclosed that can provide information to the identity of the respondents. The findings of the study can also be provided to the respondents if requested.

This research study utilized a quantitative research design with a descriptive method or normative survey approach to determine their views on the influence of staying in a dormitory to their academic performance. The quantitative data collection makes use of a survey to determine the information about variables. Further, according to Best and Khan (1989) that the design involves the interpretation of the meaning or significance of what is described.

In this study, the researchers used purposive sampling in selecting the number of respondents. The respondents were selected through total enumeration with the basis that they are living in a dormitory/boarding house and fourth-year students enrolled for second semester SY 2018-2019 from the Education Department. This was conducted at Institution Z which positioned two (2) kilometers west of Zamboanga City proper. A questionnaire-checklist was used to identify the views of students on the influence of living in a dormitory/boarding house to their academic performance. The questionnaire consists of two parts.

Part I was intended to gather general information on the background of the respondents such as the name, sex, course, GPA, and socio-economic status.

The socio-economic status of students was based on the parents' monthly income with the range of High, Middle, and Low. The overall household income is an indicator of the socioeconomic status of a person. According to the Philippine Statistics Authority (PSA), there are three income classes for an average household monthly which are the High income with ₱50,000 and up, Middle income with ₱11,915 to ₱49,999 and Low income with ₱0 to ₱11,914.

For the Grade Point Average of the participants, the researchers secured them from the University Registrar for accuracy. Records of the respondents such as the grades were kept confidential. This was only used for the study.

Part II includes the main instrument that indicates the views of students on the influence of living in a dormitory/boarding house to their academic performance. The questionnaire was on a Likert Scale which includes Strongly Agree- 3.5-4.0; Agree- 2.5-3.49; Disagree-1.50-2.49; Strongly Disagree- 1.0-1.49 according to the views of the respondents regarding the situation of living independently.

The researchers prepared the instrument and presented it to a panel of three experts for validation and improvements to ensure the validity of the items. The validation committee was requested to rate the items using the scale as very relevant (3), relevant (2) and not relevant (1).

The validated instruments were pilot tested at the Peninsula College utilizing the fourth year Course A and Course B students. To assess reliability, Cronbach Alpha was used to determine the content validity from the three raters' ratings.

Plan for Data Processing and Analysis

Permission was sought from the school administrators through a written letter securing approval to conduct the study. With the approval, a letter of consent was given to the identified respondents seeking for their voluntary participation. Each respondent was oriented and provided with a complete set of the instrument for them to accomplish. This instrument was immediately retrieved by the researchers for appropriate interpretations.

Statistical devices such as tables were utilized to make the interpretation and analysis of data clear and understandable. The data were tallied and analyzed using descriptive statistical measures like the frequency counts, mean, and percentage.

T-Test and two-way ANOVA were used to determine significant variables exist in the views of influence in the academic performance of student staying in a dormitory/boarding house

Results and Discussions

Problem 1. What Is the Academic Performance of Students Living in A Dormitory/Boarding House?

Table 1 shows the Grade Point Average (GPA) of the respondents wherein twelve (12) out of fifty-two (52) or 23.08% of respondents graduated with Latin Honors. Three (3) respondents or 5.77% with the GPA lies between 1.25-1.49 (Very Outstanding); nineteen (19) respondents or 36.54% with the GPA that lies between 1.5-1.74 (Outstanding); twenty-four (24) or 46.15% of the respondents with the GPA within 1.75-1.99 (Very Good); and six (6) or 11.54% of the respondents with the GPA within 2.0-2.24 (Good).

Table 1 Grade Point Average of the Respondents indicating their Academic Performance covering their four years in college.

<i>Respondents Code Name</i>	<i>Sex</i>	<i>Course</i>	<i>GPA</i>
Aira	F	A	1.3611
Eric	M	A	1.4012
Rico	M	B	1.4797
Marie	F	A	1.5073
Ross	M	B	1.5155
Jay	M	B	1.5180
Sye	M	A	1.5305
Rine	F	B	1.5309
Alia	F	A	1.5584
Issa	F	A	1.5817
Nita	F	A	1.5863
Gary	M	A	1.5952
Annie	F	A	1.6919
Vince	M	A	1.6982
Aiza	F	A	1.6982
Tin	F	B	1.7113
Lyn	F	B	1.7176
Juliet	F	B	1.7255
Hazel	F	B	1.7263
Marky	M	A	1.7240
Jen	F	B	1.7410
Reena	F	B	1.7436

Melyin	F	B	1.7537
Jane	F	B	1.7588
Boy	M	A	1.7703
Lea	F	A	1.7904
Maja	F	B	1.8043
Thea	F	B	1.8077
Joy	F	B	1.8134
Tina	F	B	1.8275
Lilia	F	A	1.8341
Kyle	M	A	1.8403
Echo	M	B	1.8528
Cherry	F	A	1.8528
Eya	F	B	1.8744
Clarie	F	B	1.8750
Mia	F	B	1.8756
Deli	F	B	1.8902
Narda	F	A	1.9043
Mitch	F	B	1.9264
Kaye	F	B	1.9331
Lene	F	A	1.9372
Ches	F	B	1.9503
Oey	M	A	1.9601
Rina	F	B	1.9652
Jean	F	B	1.9851
Ralph	M	A	2.0150
King	M	B	2.0387
Marj	F	B	2.0429
Lee Ann	F	B	2.0572
Abner	M	A	2.0573
Son	M	A	2.1844

Table 2 Summary of the Mean Grade of the Respondents

Respondents	N	Mean Grade	Description
Course A	29	1.81966897	Very Good
Course B	23	1.74283478	Very Good
TOTAL	52	1.78568462	Very Good

Legend: 1.0 Excellent, 1.25 Very Outstanding, 1.5 Outstanding, 1.75 very Good, 2.0 Good, 2.25 Very Satisfactorily, 2.5 Satisfactorily 2.75 Fair, 3.0 Passing, 5.0 Failure, INC Incomplete (Source: University Registrar)

The data in Table 2 shows the mean grade of the respondents wherein both the Course A and Course B respondents had a mean grade of 1.82 and 1.74 respectively with the description of Very Good following the grading system description of the University. Thus, the overall average mean grade of the respondents is 1.78568462 with the description of Very Good.

This further reveals that living away from parents can have both a positive and negative impact on the students' academic performance. These findings agree with the study conducted by Brillantes et al. (2012) that living in a dormitory/boarding away from parents is advantageous and has an impact on students' academic performance. Being independent, helps them become more responsible for themselves and their endeavours towards academic success.

Similarly, these findings are linked with the theory of Astin (1975) with the theory of involvement wherein students' behavior is taken into considerations for it involves interaction in the environment and decision-making because these are contributory to students learning the process. The environment of students as a whole is valuable for them to achieve their greatest

potential as an individual. This theory of Astin is supported by Clarkson (2006) which emphasizes human development. Experiences of students are described and studied as part of growth processes. Clarkson further emphasized that when a student is placed in a new environment, this allows him/her gain acceptance from people that surrounds him or her. Achieving social acceptance in groups is challenging.

Problem 2 What Are the Views of The Students on The Influences of Living in A Dormitory to Their Academic Performance?

Table 3 presents the views of students using the Likert Scale regarding the influences of living in a dormitory to their academic performance. There were twenty-five (25) statements and two (2) statements yielded the weighted mean within 3.5-4.0 with the description of Strongly Agree, seventeen (17) statements gained the weighted mean within 2.5-3.49 with the description of Agree, and six (6) statements with the weighted mean within 1.50-2.49 with the description of Disagree. No statement was rated as Strongly Disagree.

Table 3 Statements with the Highest Responses Views on the Influence of Living in a dormitory/boarding house

No.	Statements	Weighted Mean	Description
13	I have constant communication and close relationship with my parents.	3.71	Strongly Agree
14	I was trained by my parents to be independent. I am used to this set up	3.54	Strongly Agree
15	If I have the choice, I would rather live with my parents rather than living in a dormitory/boarding house.	3.48	Agree
16	I am more motivated to strive harder in my studies when I am with my family.	3.44	Agree

Legend: Strongly Agree- 3.5-4.0; Disagree- 1.5-2.49; Agree- 2.5-3.49; Strongly Disagree- 1.0-1.49

Table 3 shows the top 5 statements which highly rated by the respondents across the twenty-five (25) statements used in the research instrument. The statement number 13 “*I have constant communication and close relationship with my parents.*” has the highest mean score with the weighted mean of 3.71 which is Strongly Agree. This implies that the respondents communicate consistently with their parents. Despite the distance yet the family bonding continues.

These findings agree with the study of Walker and Satterwhite (2002) wherein they saw the need for the intervention among family members in the academic performance of students. Further according to their study that in the Philippine setting, it was found out that family relationships are significant that greatly influence the academic performance of students. However, others have minimal influenced due to accustomed lifestyles and practices.

Meanwhile, the statement number 14 “*I was trained by my parents to be independent, I am used to this setup.*” was also given a description of Strongly Agree with the weighted mean of 3.54. This means that based on the respondents they had the prior experiences of being independent before entering tertiary schooling. According to them, being trained in this set-up makes them comfortable even away from home.

This somehow negates with the study of Watkins and Astilla (1980) which stated that some Filipino families had a strong family attachment. The Filipino culture of kin-knitted is still being valued. Thus, only when the children are ready for independency that is the time parents allow them to live in a dormitory/boarding house despite that the children are used to live with the family.

On the other hand, this result agrees to the study of Lopez Turley and Wodthes (2010) as cited in the study of Glory et al. (2016) that students living away from families are more productive compared to those who are with their parents. They perform better academically and in other school activities and gain a higher GPA if they live away from their families.

Moreover, in terms of the statement number 15 “If I have the choice, I would rather live with my parents rather than living in a dormitory/boarding house.” It has the third-highest weighted mean of 3.48 with the description also of Agree. This shows that the respondents agree that they prefer to stay with their parents while studying. This corroborates with the study conducted by Lopez (2015) about studentification and its negative effects. This further explains the ability of students to cope with urban changes.

In statement number 16 “I am more motivated to strive harder in my studies when I am with my family”. This is the fourth highest weighted mean of 3.44 with the description of Agree. This implies that respondents further agree that motivation from family helped them to strive harder in school.

Problem 3.1 “Is There A Significant Difference on The Views of Students on The Influences of Living in A Dormitory to Their Academic Performance of Students When Data Are Categorized According to Sex?”

Table 4 in the next page presents the significant difference in the views of students on the influences of living in a dormitory to their academic performance when data are grouped according to sex. The 2-tailed t-test was used to determine if there are differences in the views of students when categorized according to sex.

Table 4 T-Test Result on the Views of Students on the Influences of Living in a Dormitory According to Sex

	Sex	N	Mean	SD	t-test	Sig (2-tailed)	Interpretation
Views	Female	30	2.84	0.32	-1.95	0.057	Not Significant
	Male	22	3.04	0.45			

Legend: t-Value < 0.05 alpha is significant
t-value > 0.05 alpha is not significant

The data in Table 4 show that the male students have a higher mean score of 3.04 as compared to female students with 2.84. However, when this difference was statistically tested using Independent t-test, the t-value is -1.95 with a significant value of 0.057 which is greater than Alpha 0.05. Therefore, there is no significant difference in the mean score between the two (2) groups. This implies that male and female students have the same views on the influence of living in a dormitory to their academic performance.

Problem 3.2 Is There A Significant Difference on The Views of Students on The Influences of Living in A Dormitory to Their Academic Performance of Students When Data Are Categorized According to Course?

Table 5 presents the significant difference in the views of students on the influences of living in a dormitory to their academic performance when data are grouped according to course.

Table 5 T-Test Result on the Views of Students on the Influences of Living in a Dormitory According to Course

	Course	N	Mean	SD	t-test	Sig (2-tailed)	Interpretation
Views	B	23	3.05	0.38	2.10	0.04	Significant
	A	29	2.83	0.37			

Legend: t-Value<0.05 alpha is significant
t-value>0.05 alpha is not significant

Table 5 presents the significant difference in the views of the students on the influence of living in a dormitory to their academic performance when data are grouped according to course. It reveals that the Course B students have a higher mean score of 3.05 as compared to Course A students with 2.83. In addition, when this difference was statistically tested using Independent t-test, the value is 2.10 with the significant value of 0.04 which is less than Alpha 0.05. Therefore, there is a significant difference in the mean score between the two (2) groups. This implies that the Course B students have better views on the influence of living in a dormitory to their academic performance as compared to the Course A students.

This further proved that the Course B students have better views on the influence of living in dormitory than the Course A in terms of comparing their GPA wherein based from the table 1 eight (8) out of twelve (12) students or 66.67% with Latin Honors are coming from the pool of Course B students. This implies that the Course B students have positive perspectives on living independently.

Problem 3.3 “Is There A Significant Difference on The Views of Students on The Influences of Living in A Dormitory to Their Academic Performance of Students When Data Are Categorized According to Socio-Economic Status?”

Table 6 presents the significant difference in the views of students on the influences of living in a dormitory to their academic performance when data are grouped according to socio-economic status.

Table 6 Two-way ANOVA Result on the Views of Students on the Influences of Living in a Dormitory According to Socio-economic status

	SES	N	Mean	SSBG	SSWC	SST	F	Sig (2-tailed)	Interpretation
Views	High	9	3.45	3.039	4.59	7.63	16.23	0.000	Significant
	Middle	16	2.87						
	Low	27	2.79						

Legend: f-Value<0.05 alpha is significant
f-value>0.05 alpha is not significant

Table 7 Scheffe Test Two-way ANOVA Result on the Views of Students on the Influences of Living in a Dormitory According to Socio-economic status

SES	Mean Difference	Sig	Interpretation
High Middle	0.584	0.000	Significant
High Low	0.661	0.000	Significant
Middle Low	0.078	0.726	Not Significant

Legend: f-Value<0.05 alpha is significant
f-value>0.05 alpha is not significant

The data in Table 7 present the significant difference on the views of the students on the influence of living in a dormitory to their academic performance when the data are grouped

according to socio-economic status. The results show that the students with high socio-economic status have the highest mean score of 3.45 followed by the middle socio-economic status with 2.87 and low socio-economic status with 2.79 respectively. Furthermore, when this difference was statistically tested using One-way ANOVA, the F-value is 16.23 with a significant value of 0.000 which is less than Alpha 0.05. Therefore, there is a significant difference among the means of the three (3) groups on the views of the students on the influence of living in a dormitory to their academic performance.

This implies that the students with high socio-economic status have the best views on the academic performance. Moreover, when the difference was statistically tested using the Scheffe test, there is a significant difference between the mean score of high and middle as well as high and low socio-economic status. This further shows that the high socio-economic status has better views on the influence of living in a dormitory to their academic performance as compared to middle and low Socio-economic status. However, there is no significant difference between the middle and low socio-economic status on their views. This reveals that the middle socio-economic status and low socio-economic status have the same views on the influence of living in a dormitory/boarding house to their academic performance.

Conclusion

Based on the findings, it was therefore concluded that living in a dormitory/boarding house does not adversely affect the students' academic performance. It brought about more of a positive impact on their studies than the negative. According to the data presented, they performed better when living independently rather than with the family. The respondents' views on the influence of living in a dormitory/boarding house to their academic performance concurred as Agree.

The respondents regardless of sex manifested similar views on the influence of living in a dormitory/boarding house to their academic performance. In terms of the Course A and Course B, the one with better views on the influence of living in a dormitory to the academic performance was the Course A students. While, in socioeconomic status, the students with high socioeconomic status have better views compared to those with low and middle socioeconomic status.

Implications

First, the parents of these students have to continue exerting more effort in monitoring, motivating and intensifying good parenting styles such as guidance and counseling as support to their children's academic endeavours. Second, the teachers of these students especially the advisers are recommended to look into their challenges by providing extra time to communicate or counsel as guidance for them to do their responsibilities as students even away from parents. Save part of the day for an informal conference just to listen to their experiences. Third, the school administrators have to continuously enhance the delivery services in a dormitory for in-campus to facilitate the students' needs such as an in-house library, accessible internet connection, printers, and other school supplies at affordable prices. They can also be safer just within the campus. The administration can also provide orientation prior to the formal classes begin solely for those students away from the family through the coordination of the Guidance and Counselling Office of the University for support and guidance.

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THE DISCLOSURE OF CORPORATE SOCIAL RESPONSIBILITY (CSR), BASED ON THE MAQASID AL-SHARIAH IN MALAYSIA AND MENA REGION

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Abstract: *Islamic Banking works in an economy and achieving the ideal position of Shariah financial institution requires continuous improvement and indicators. The right values and environment of a bank that is operating based on Shariah are important to ensure that the delivery services could be executed in the best manner possible. Islamic Bank therefore should embed with social and the charity work network for the purpose of its corporate social responsibility to the community. The fundamental issue of the insufficiency of conventional CSR theories to underpin CSR practices of Islamic organisations is due to the lack of focus on the prioritisation of the socio objectives of Islamic organisations based on Shariah. The existing concept of CSR is based on western perspectives. Therefore, it is of great significance to delve CSR within the Islamic perspectives. This study employed content analysis method to collect quantitative data on CSR based on Maqasid Al-Shariah in the Bank Islam annual report and stand-alone sustainability report. According to Neuman (2014), content analysis is a technique for gathering and analysing the content of the text. The focus of this study is to explore and examine the extent of CSR based on Maqasid Al Shariah in term of four dimensions of Islamic Banks sector between Malaysia and MENA region for the period of 2013 to 2018. The Content analysis was carried out to achieve this objective. The investigation on the content is based on CSR reporting in their annual report and stand-alone sustainability report according to what have been provided by the banks. The results of the analyses provide important insight into on the amount and nature of CSR among Islamic Banks across sectors. Overall, the CSR activities cover all organization activities related with the organizations and its various stakeholder. Finally, through mean score ranking for CSR items, it shows that there was mixed ranking for CSR based on Maqasid Al-Shariah dimension and element in Malaysia and MENA region.*

Keywords: *Corporate Social Responsibility (CSR), disclosure, environment, community, workplace, marketplace, maqasid al-shariah*

Introduction

In the early 1930s, Corporate Social Responsibility (CSR) had turned out to be part of a business plan for the sustenance, survival, and corporate development (Adamu & Yusoff, 2016). Nowadays, the corporate social responsibility concept has grown to be a common practice which is not entirely due to regulation of a legal bodies but more on the custom practices of the organization around the world. However, many organizations remain unfamiliar with CSR (Rahim, Jalaludin, & Tajuddin, 2011). Corporate firm in Malaysia views

CSR as a strategic agenda in their company in a way to become good corporate citizen (Saleh, 2009).

Since Islamic organisations operate their businesses based on the principles of Shariah, their CSR policies and practices should be derived from Islamic laws and principles as revealed in the Qur'an and the Sunnah to gain legitimacy (Farook, 2007). Therefore, Islamic organisations which claim to act within the principles of Shariah should be clear about their CSR in relation to society. The existing CSR framework which was developed in the context of the liberal market was formulated without giving due consideration to the concept of Islamic laws and principles as enjoined in the Qur'an and the Sunnah. This study integrates the objectives of Shariah (Maqasid Al-Shariah) to know if the CSR policies and practices of Islamic organisations fulfil values as set out in Shariah.

Islam views on Corporate Social Responsibility (CSR) in a rather holistic approach. It is in contrast to human theorist. It is spiritual view from Qur'an and the Prophet's saying and practices (Sunnah). It presents a framework for a person's interaction with nature and fellow human beings the principle is derived from legal evidence (Sunnah) and the Revelation that is the Quran. Therefore, the characteristic is absolute, eternal and enduring. In other words, it presents better guidelines for corporations executing their business and social responsibilities concurrently. One of the Islamic legal maxim which that is preventing harm, is relevant to CSR framework. As such, corporation must consider social responsibility and avoid business practices that can bring harm to the society's well-being at large.

CSR on Islamic perspectives assume a boarder and more holistic concept. The corporations are responsible to the customer, workers, managers, and society. They need to embrace the concept of taqwa by taking their responsibilities as servant and vicegerent of God in all circumstances (Dusuki & Abdullah, 2007). A few verses in the Qur'an contains certain provisions which aim at attaining certain objectives (maqasid) intended by Allah as the law giver. It is proven that Allah does not act in vain as mentions in the Qur'an: "For (thus it is): we have not created the heavens and the earth and all that is between them in mere idle play. None of this have We created without (an inner) truth: but most of them do not understand it". (Qur'an: Ad-Dukhan: 44, verse: 38-39)

Therefore, all of Allah creations have purpose and value. Which respect to the creation of man and Islam as the last revelation given to them, Allah has explicitly stated that "This day I have perfected for you your religion and I have completed my bounties and I am pleased with the religion of Peace (Islam)" (Qur'an: Al-Maidah: 5, verse: 3). Hence, the prime objectives of Shariah have been developed by a few Muslim scholars including Al- Ghazali. According to Al-Ghazali, the objectives of shariah is to promote well-being of all mankind which lies in safeguarding their faith (deen), their lives (nafs), their minds (aql), their posterity (nasl) and their properties (mal). Any deeds which safeguard any of these five objectives of Shariah serve public interest and therefore, is considered desirable. (Al-Maisawy, 1998).

The doctrine of Maqasid Al-Shariah as put forward predominantly by Al-Ghazali and Al-Shatibi are valuable reference points for the purpose of developing choices and preferences from the Islamic perspective (Jalil, 2006). The two concepts can be seamlessly imported into the notion of conventional CSR to become an integral part of the Islamic perspective of CSR and subsequently adopted by business corporations that claim to comply with Shariah based principles such as Islamic banks. The discussion on how CSR being integrate in corporate firm are discussed below.

Methodology

The population of the study comprises of Islamic Banks in Malaysia and MENA Region. The company selection is based on the availability of financial data and annual report or stand-alone

sustainability report provided by Bursa Malaysia. Furthermore, mentioned by Branco and Rodrigues (2008) larger companies tend to have greater public visibility, transparency, and impact on society.

The secondary data are obtained from reliable sources such as Bank Annual Report, Sustainable Report of Islamic Bank, and Islamic banks' website in order to gain information and better understanding regarding CSR framework. This study uses financial data of the Islamic banks listed in Bank Negara Malaysia (BNM) and World Database for Islamic Banking and Finance. The list of the Islamic banks selected based on the availability of the CSR data from the cited sources. By using annual data, the information is gathered for five years starting from 2011 to 2017. The listed Islamic bank in Malaysia is included in this study which are:

No.	Name	Ownership
Malaysia		
1	Ambank Islamic Berhad	L
2	Bank Islam Malaysia Berhad	L
3	Bank Rakyat Berhad	L
4	CIMB Islamic Bank Berhad	L
5	RHB Islamic Bank Berhad	L
6	Hong Leong Islamic Bank Berhad	L
7	Maybank Islamic Berhad	L
8	Public Bank Islamic Berhad	L
MENA Region		
1	Abu Dhabi Islamic Bank	UAE
2	Emirates Bank	UAE
3	Islamic Development Bank	Saudi Arabia
4	Jordan Islamic Bank	Jordan
5	Qatar Islamic Bank	Qatar
6	Bank Mellat	Iran
7	Bahrain Islamic Bank	Bahrain

Measurement of Corporate Social Responsibility based on Maqasid Al-Shariah.

Corporate Social Responsibility (CSR) is more difficult to measure compared to corporate financial performance because it may reflect an approach. The measurement of CSR is also commonly referred to as corporate social performance. Different researcher has used varying methods to measure CSR performance. Based on literature review, there are four common method used to measure CSR in the previous studies (Mishra & Suar, 2010; Preston & Bannon, 1997; Waddock, Graves and Carrol 1997; Aupperle, 1991; Cochran & Wood, 1984). These are reputation indices, company rating approach, survey methodology and content analysis. The most common method used to measure social and environmental performance in Kinder, Lydenberg, Domini (KLD) ratings (Chatterji, Levine & Toffel, 2009). They explained that social and environment rating can reveal a company's performance and reputation. Furthermore, these social rating provide the transparency that allows interested parties to distinguish environmentally friendly companies. In addition, the ratings are beneficial for the investors to examine the company's past performance and assist the managerial decision making.

The researcher develops the CSR measure to suit the needs of their own country. Nevertheless, two generally common accepted methods are reputation index and content analysis. A reputation index is where an expert observes rates firms based on one or more dimensions of social performance. The reputation index was generated by Moskowitz, 1972, who rated several firms as an outstanding, honourable mention, or worst over a period of several years. Nevertheless, Mahoney and Thorn (2006) disputed the reliability of the

reputation indices on CSP using KLD rating. As suggested by Cochran & Wood (1984), the rankings are very subjective, and results may be varied since it heavily depends on the observer's estimation. Thus, this might lead to inconsistent result.

Content analysis has been widely used in previous studies to measure the quantity of CSR (Hackston & Milne, 1996; Zeghal & Ahmed, 1990). The method identifies and describes patterns on specified social responsibilities reported in websites, annual report and stand-alone sustainability report. It is technique of codifying the presence of certain words or concepts within sets of text. Various authors (Krippendorff, 1980; Weber, 1990) proposed a formula definition for content analysis. Kriffendorff (1980) defines content analysis as a research technique for making a valid inference from the data according to their content while, Weber (1990) defines content analysis as a method of codifying text or content of a piece of writing into various group or classification depending on the selection criteria.

There are several ways of codifying the CSR information into quantitative measurement such as counting the number of words (Deegan & Gordon, 1996; Zaghel and Ahmed, 1990) number of sentences (Tsang 1998; Milne & Adler, 1999; Gray et. al, 1995; Patten, 1991). Generally, there is no common standard of content analysis that can be applied to evaluate the reliability of CSR. The reliability of content analysis seems to be questionable and heavily criticised in the previous studies (Milne & Adler, 1999). Unerman (2000) also highlight the reliability and validity of content analysis need to be pondered.

Although there are different indices available (FTSE4Good Index, Dow Jones Sustainability Index), unfortunately these cannot be directly applied in the context of developing countries since the measurement is based on the developed countries and international CSR standards. Therefore, this study will apply CSR based on Maqasid Al-Shariah scoring index process to quantify the CSR-i by examining the Islamic Banks annual report and stand-alone sustainability report.

Table 3.2 Codifying Method and Arguments of Content Analysis

Method	Argument	Prior Studies
Word	It is questionable as individual words do not convey any meaning without the sentence to provide the content	<ul style="list-style-type: none"> • Milne & Adler (1990) • Tilt (1994) • Zeghal & Ahmed (1990) • Wilmshurst & Frost (200) • Kimboro & Melendy (2010)
Sentence	It suffers less judgment compared with word measurement.	<ul style="list-style-type: none"> • Ingram & Frazier (1980) • Tsang (1998) • Unerman (2000) • Saleh, Zulkifli & Muhamad, 2010
Page	The element of subjectivity due to differences in font size, margin and size of the graphics. The variance of company annual report in terms of quality and format between one to another.	<ul style="list-style-type: none"> • Hackston & Milne (1996) • Tilt (1994) • Belal (2000)

Content Analysis (CA)

This study employed content analysis method to collect quantitative data on CSR based on Maqasid Al-Shariah in the Bank Islam annual report and stand-alone sustainability report. According to Neuman (2014), content analysis is a technique for gathering and analysing the content of the text. The content refers to words, meaning, pictures, symbols, ideas, themes or any message that can be communicated.

Krippendorff (1980), extend the definition of a content analysis as a systematic, replicable technique for comprising many words of text into fewer content categories based on explicit rules of rules. Apart from the objectivity, systematically and reliability of collected data, it is also important to ensure high level of external legitimacy and allow for greater volumes of data, which can be coded by multiple individuals if necessary (Gary et al., 1995). Prior study has used content analysis in examining the extent of CSR disclosure for different items (Zainal et al., 2013; Saleh et al., 2011; Guthrie, Petty, Yongvanich & Ricceri, 2004; Hackston & Milne 1996)

To determine the extent of CSR based on Maqasid Al-Shariah of the companies, a content analysis was performed to analyse the annual report and stand-alone sustainability report. It was carried out by gathering qualitative data from annual report and stand-alone sustainability report and converting it into quantitative score. Although there are issues regarding the reliability and validity Guthrie & Parker, 1989; Tilt, 2001; Ahmad & Sulaiman, 2004) associated with content analysis, a few guidelines were established in order to lessen the issues. Therefore, there were various stages involves in measuring the CSR-i in this study through content analysis.

Results and Discussions

Cross country analysis Score and Ranking Disclosure (CSR-D) Items based on Maqasid Al-Shariah for Malaysia and MENA Region.

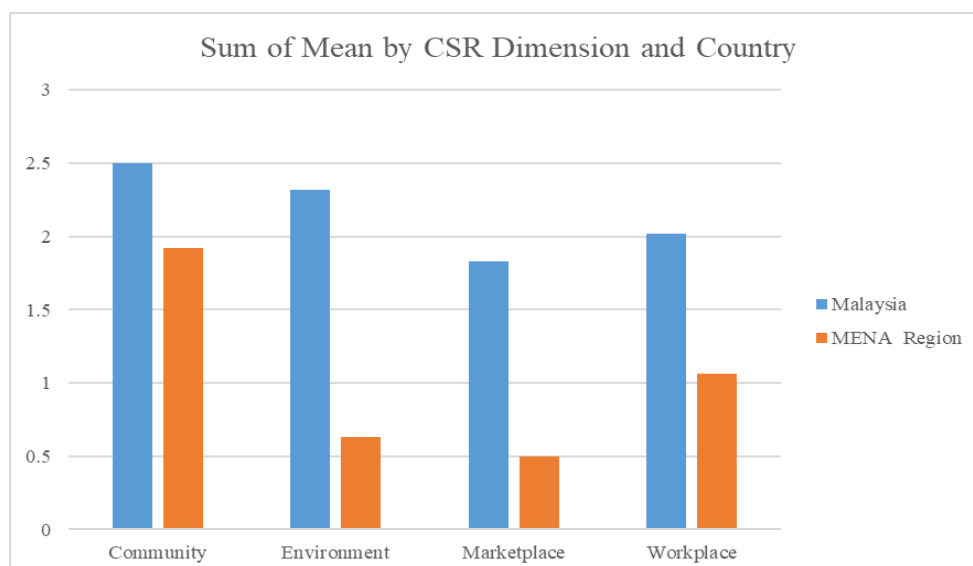
Items	Malaysia		Mena Region	
	Mean	Ranking	Mean	Ranking
Workplace				
W1. Providing adequate training, maintaining equipment in good working condition, maintaining a safe working environment.	3.5714	1	3.0000	1
W2. Protecting in health and safety	2.4286	3	0.6944	3
W3. Treating employees fairly in terms of wages, working hours	1.5714	5	0.6944	4
W4. Investing in education and training.	3.4286	2	1.7500	2
W5. Respecting workers' rights, dealing with workers problems quickly and fairly.	0.8571	6	0.3611	6
W6. Ensuring operation respect human rights	0.5714	7	0.2500	7
W7. Refrain lending to oppressive regime or companies violating human rights.	1.7143	4	0.6944	5
Environment				
E1. Good pollution control, waste and recycle policy	2.8571	2	0.6389	3
E2. Energy conservation	3.0000	1	0.8611	1
E3. Not doing things that harm the environment	0.7143	4	0.2222	4
E4. Undertake initiatives to promote environmental responsibility	2.7143	3	0.8056	2
Society				
C1. Help solve social problems	1.7143	3	1.0000	3
C2. Supporting charities and community projects	4.0000	1	2.7500	2
C3. Participate in management of public affairs	0.2857	4	0.9722	4
C4. Play a role on society goes beyond profit maximization	4.0000	2	2.9722	1
Marketplace				
M1. Declaration of quality, safety and hygienic production process.	2.1429	3	0.6389	2
M2. Fair prices	0.2857	6	0.5556	3
M3. Provision of Halal products and services	3.2857	1	1.3056	1
M4. Fair trading relationship	1.4286	5	0.0000	6
M5. Environmentally friendly products and services	2.2857	2	0.3056	4
M6. Protection of health and safety of the consumers.	1.5714	4	0.1944	5

Based on table above, for the workplace dimension Islamic Bank Malaysia and MENA region accentuate on providing adequate training for their worker, maintaining equipment in good working condition and also ensure their employee working in a safe working environment. This is proven by the highest mean values for this item disclose by the Islamic Banks in their annual report or stand-alone report. However, in term of treating the employee wages and working hour fairly, MENA region emphasized on this item more than Malaysia Islamic Banks as Malaysia concern more on refrain lending to oppressive regime or companies violating human right. Malaysia and MENA share same least concern on the items of ensuring the operation respect human rights.

Under the environment dimension both highest mean score for Malaysia and MENA region are positioned on the energy conservation items. MENA regions play an active role in undertaking initiative to promote environmental responsibility meanwhile Malaysia concern more on good pollution control, waste and recycle policy. While, both regions are least concern on prevention of doing anything that can harm the environment.

Community dimensions have slightly different result between MENA and Malaysia. Malaysia the highest mean score was share by the item supporting charities and community project. These two elements play an active role towards the community which go beyond profit maximization. Meanwhile, in MENA region emphasized the organization played a role on society goes beyond profit maximization as result showed the highest score under community dimension. Both share the lowest ranked items on their participation in public affairs management.

Apart from that, the observation continued for marketplace dimension disclosure. It can be seen that information on the provision of Halal products and service ranked the highest among other remarkable disclosure items for both regions. However, the ranking is varied between both country and regions. Information on environmentally friendly products and services ranked the second highest for Malaysia while fair prices showed the lowest ranked disclose by the Islamic Banks. Meanwhile, MENA region emphasize more on declaration of quality, safety and hygienic production process and they are ranked as the second highest. Information on fair trading relationship with their stakeholders is the least disclosed by the MENA region Islamic banks.



Through the content analysis conducted on 7 Islamic Banks in Malaysia and 6 Islamic Bank in MENA regions for the period of 2013 to 2018 with total 78 observation, table above shows the trends of CSR based on Maqasid Al-Shariah. The result found that, community dimension is the highest and marketplace as the lowest ranked on CSR based on Maqasid Shariah for both Malaysia and MENA region. However, MENA region second highest ranking is workplace while Malaysia shows environment as the second highest ranked disclosure items. Overall charts show that Malaysia have the higher means score in all dimensions compare to MENA region.

Firstly, the most common CSR dimension by all samples was community information. It was found that Islamic Banks does give active support towards charities and community projects. This is followed by the workplace dimension which revealed that the banks provide adequate training, maintaining equipment in good working condition, and maintaining a safe working environment. These are the elements that become preference of the samples. Furthermore, information on energy conservation was the most disclosed under environment dimensions. As expected from the common observation, it was found that marketplace dimension is the least disclosed. However, information on declaration of quality and friendly of the product was modestly being disclosed. Through the content analysis, it is believed that the awareness in disclosing CSR information pertaining to marketplace is still minimal among the samples.

Secondly based on the cross-country analysis, it was found that Islamic Banks in Malaysia disclosed their CSR more and play active role the most in CSR initiative compare to the MENA region.

Conclusion

This study is examining the nature and extend of CSR-i among Malaysian and MENA Region Islamic Banks. Information on community dimension is the highest disclosed followed by workplace, environment, and marketplace dimension. From the observation, there are companies who have not disclosed any information on any of CSR dimensions. This is consistent with Anas et al., (2015) who found the community dimensions is the mostly disclosed in their study.

The difference of closure between the region varies depending on the nature of their business operation as well as their CSR policies in particular Islamic Banks. Based on the finding, the workplace dimension was the most disclosed information for all Islamic Banks. The result indicates that that employees have been recognized as an important asset in the business operation. Thus, it is imperative for the organization taking care the utmost well-being of their employees. However, information on marketplace dimension was the least information found across the sectors. Lacking awareness and motivation could be the reason why the companies did not give priority on this information. For instance, the company may not realize on how such information which marketplace related information is could assist them in enhancing their business reputation as well as reducing their business risk.

With regard on the extent of community dimension among Malaysian and MENA Region Islamic Bank information on 'philanthropy engagement' and 'play a role on society goes beyond profit maximization' are commonly found in the reports while, information on 'participation in management of public affairs is the least information being disclosed. Furthermore, on the environment dimension it reveals that resources conservation and resource efficiency, 'environmental stewardship' and 'environmental recognition' are the most preferred information being disclosed. However, the information on water management is the poorly disclosed. On the marketplace dimension, information on 'provision of Halal products and services' are easily found in their reports while information on 'fair trading relationship'

is poorly disclosed in MENA while in Malaysia information on fair prices is poorly disclosed. Moreover, with respect of workplace dimension information on 'provide adequate training with equipment in good condition while maintaining a safe working environment' and 'investing in education and training' are the most popular items being disclosed but similarly information on 'ensuring operation respect human rights' is the least information found in both region Malaysia and MENA.

Based on the result show that, Malaysia more adheres to CSR based on Maqasid Al-Shariah compare to MENA region. This due to the requirement outline by Bursa Saham Malaysia regards to CSR reporting for the company listed in Bursa Saham Malaysia.

There are several possible issues can be considered in future to produce and more meaningful outcomes. The data collected is only limited on the annual stand-alone sustainability reports. Future study could include information on CSR activities from various medium for instance the information published on the web site of a company. The measurement of the disclosure could be more accurate as more information is gathered.

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THE IMPACT OF CORPORATE SOCIAL RESPONSIBILITY (CSR) ON ISLAMIC BANKING PERFORMANCE IN MALAYSIA

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Abstract : *Corporate Social Responsibility (CSR) activities can lead company to gain better recognition from citizens and investors. The definition of CSR is adopted from Carroll's definition, which included economic, legal, ethical and philanthropic responsibilities. CSR become one of the added values for a company in increasing competition from global and domestic. However, there are some critics argue that it is too expensive for a company to be socially responsible and argue that the benefits of CSR exceed the actual costs. Therefore, the objectives of this study is to determine the relationship between Corporate Social Responsibility (CSR) impacts on the Islamic Banks financial performance specifically in Malaysia. This study used Fixed Effect Regression Model in order to achieve the objectives of this study. The independent variables used in order to determine CSR comprise of environment, community, and workplace and marketplace expenditure ratio. Meanwhile, in order to measure the financial bank performance that is the dependent variable, Return on Asset (ROA) is used in this study. Based from this model, researcher concluded that CSR's elements which are environment, community, and marketplace have significant impacts on banks financial performance. This is consistent with Stakeholder Theory which state that the firm financial performance is determined by external stakeholders. In order to enhance the study future research may segregate the focus of the study specifically on Islamic Bank or conventional banking. The future research may also conduct the research on the different industry.*

Keywords: *Corporate Social Responsibility (CSR), Return on Asset, environment, community, workplace, marketplace*

Introduction

In the early 1930s, Corporate Social Responsibility (CSR) had turned out to be part of a business plan for the sustenance, survival and corporate development (Adamu & Yusoff, 2016). Nowadays, the corporate social responsibility concept has grown to be a common practice which is not entirely due to regulation of a legal bodies but more on the custom practices of the organization around the world. However, many organizations remain unfamiliar with CSR (Rahim, Jalaludin, & Tajuddin, 2011). Corporate firm in Malaysia views CSR as a strategic agenda in their company in a way to become good corporate citizen (Saleh, 2009).

According to (Rahim et al., 2011) CSR activities can lead company gain better recognition to be a responsible corporate from the local and international investor. The traditional business view which is to maximize profit no longer be accepted in today's business environment. As a result, firms have to adopt CSR concept in their practice as it can lead

company to have added value. Earlier CSR which is concern of economic, environment and social performance has said to be shift to a broader component which includes stakeholder interest it's as one of the vital components in CSR. Environment considered as one of the company stakeholders as for those s who are environmentally concerned may not support products and services from those firms which polluted the environment. In others means, corporation which do not prepare themselves with CSR undertakings will be left behind with the increasing competition from global and domestically. As borderless market trends is increasing and corporations with sound CSR activities grow stronger. The educational level increases and consumer are being more conscious of the need for responsible corporate behaviour.

Islam views on Corporate Social Responsibility (CSR) in a rather holistic approach. It is in contrast to human theorist. It is spiritual view from Qur'an and the Prophet's saying and practices (Sunnah). It presents a framework for a person's interaction with nature and fellow human beings the principle are derived from legal evidence (Sunnah) and the Revelation that is the Quran. Therefore, the characteristic is absolute, eternal and enduring. In other words, it presents better guidelines for corporations executing their business and social responsibilities concurrently. One of the Islamic legal maxim which that is preventing harm, is relevant to CSR framework. As such, corporation must consider social responsibility and avoid business practices that can bring harm to the society's well-being at large. In summary CSR on Islamic perspectives assume a boarder and more holistic concept. The corporations are responsible to the customer, workers, managers, and society. They need to embrace the concept of taqwa by taking their responsibilities as servant and vicegerent of God in all circumstances (Dusuki & Abdullah, 2007).

Based from these two views, we can acknowledge that CSR is an organization's responsibility. This is to ensure the four pillars of corporation sustainable development which are environmental protection, community as well as protection in workplace.

Literature Review

The idea of Corporate Social Responsibility (CSR) is originated by Bowen, H in 1950's in his inspiring book "The Social Responsibilities of a Businessman" (Carroll, 1999). CSR bring a lot of benefits to companies. The companies revealed that CSR can be used to reinforce their position in the market. Besides that, Moir (2001), claims that companies can have better reputation and gain superior loyalty among workers. Eventually, the practice of CSR is increasingly and interestingly taken into account over the decades in business communities.

Corporate Social Responsibility (CSR) in Islamic perspectives is not alien. Rendering to the study which was conducted by Dasuki and Abdullah (2007) conclude that corporations which claims to follow Sharia'ah based principles should be the business which promotes the CSR practices. Invoking that Shari'ah and reflecting maslahah imply that corporation such as bank must not be only solely oriented towards profits, but also seek a way to promote social welfare and protect the society as a whole. Their finding is based on the Islamic Legal maxim which stated the principle of preventing harm which is embedded in CSR framework. Based on this principle, as the vicegerent, or Khalifah, manager who desires on profit maximization allowed to do so as long as his business does not bring any adverse effect towards environment, society and stakeholders.

According to Jusoh and Ibrahim (2017), the literature review on CSR of Islamic banks revealed that although CSR is substantial to Islamic banks, there is no standard and comprehensive CSR framework has been developed for Islamic banks best practices. Although there are many present practices in Islamic banks that are in line with notions of CSR in Islam, these seem to be merely improvised and driven more by Shari'ah legal requirements rather than

by a higher-order understanding based on fundamental religious texts concerning social responsibility (Mohammed et al., 2008). In addition, there is no legal requirement and clear guidance on the CSR information imposed on Islamic banks (Aribi, 2009). Undeniably, despite the fact that Islamic banks are governed in accordance with Shari'ah law, many of the banks are still using the conventional frameworks of CSR, which are based on western cultures, values, beliefs and perspectives (Hamdan, 2014). This study, therefore, further by using the existence CSR framework.

Stakeholder Theory

During mid-1980s, Freeman (1984) has introduced the stakeholder theory. The theory re-conceptualizes the nature of firm to consider external stakeholders which go beyond the traditional concept which is shareholders, customers, employees, and suppliers. From this perspective, organization expected responsibility is to manage stakeholder interests across the organization boundaries while acknowledging the duty towards the traditional interest group. This theory also takes regard on the silent stakeholders as well such as environments and local communities. This theory, therefore, offered a new way to organize thinking about organizational responsibilities. This theory also suggested that some degree of the needs of stakeholders have to be satisfied. In other words, if a firm seeks to serve its shareholders as primary concern, the success of it is likely depend on the other stakeholders.

Another study has divided stakeholder's group into two types which is primary and secondary. Primary stakeholders' group is said to consist of organizations shareholders, employees, investors, customer, and supplier public entities for example governments, trade associations and environmental group. Meanwhile the secondary stakeholder's group is referred to those who are not directly engaged in the firm's economics activities however still able to exercise influence or affecting the organizations. Then, CSR which is described as a state of emergence is able to insert its influence in firms and affect the organizations have been challenged theoretically and empirically to clear ambiguity in this construct. As a result, the reason why business should engage with CSR is for economic and ethical justification as the moral element which held by CSR act as contributor in this construct. This theory suggested that the economic and ethical elements blend in business decisions.

Triple Bottom Line

Another foundation of CSR is a concept of the triple performance line or also known as triple bottom line which is expected for the sustainability development. It is based on balancing three dimensions that is economics, ethics, and ecology (Žak, 2015). The first time the notion of the triple line approach was used by John Elkington in years 1994 in the California Management Review which was then being improved by other academicians which expanded and thoroughly explained it. The triple bottom line concept consists of three different or separate bottom line which are, the first is about the traditional measure on the corporate profit. The second is the company people account which measure social responsibility of an organization during the course of its operations. The third is the bottom line of the corporation planet account which measure on how the environmentally responsible the firm has been. Another similar definition can be found in the Green Paper on CSR whereby the three-bottom line is referred as that the overall performance of a company should be dignified based on its joined contribution to prosperity of the economics, the quality of the environment and the social capital. While the Andrew Savitz (2006) explains triple bottom line as capture the core of sustainability by measuring an organization undertaking which include their profitability, shareholder value, corporation, and its social, human and environmental capital impact on the

world. All the definitions have one common thing which is emphasized by the sustainable development.

The other part of sustainability development is involving profit which need to be perceived as economics benefit that benefited the society. It has a permanent effect on the economy which is exercised by an organization in its business environment. Companies that earn profit should consider how they could contribute to the other two elements which are people and environment. To conduct a more balanced and ecological activities, TBL concept must be a continuous process. This shows that company does not just operate for profit but also for the community members. Therefore, CSR can be summarized based on integration between these two theories as the way in which organizations achieve a balance between economic, environmental and society. By this way, they can simultaneously address both shareholder and stakeholders' prospect.

Corporate Financial Performance

There is a wide existence of research conducted in measuring financial performance of organizations. The great portion of the measurements come from either accounting view or market view. Yet problems may occur using the accounting-based measures and as well as market-based measures (McGuire, Sundgren, & Schneeweis, 1988). According to them, accounting based, or measure are more liable in managerial manipulation and differential accounting procedures. While market based is measured on investor evaluation which may not be sufficient. Market based can also be used to produce future economics earning which relatively than past performance. It is a presentation of investor in evaluating the firm's ability. However, the benefits of using market-based measurement is that the value of the company can be estimated. This happens when adopting certain strategies to be socially responsible and conditionally on the existing information as described by Goukasian and Whitney (2008). This also does not mean that one cannot use accounting based in measuring firm financial performance and quite opposite it can be considered as the best proxy in measuring firm financial performance.

Based on Hagel and Brown (2012) in Harvard Business Review, ROA is the best method to measure company performance. The reason is that ROA clearly represents the assets used in business activity. Besides that, it also shows whether company can create appropriate return on the assets rather than merely increase Return on Sales. This is supported by Palmer (2012), whereby they choose ROA as a proxy for financial performance. Higher ROA means the firm can earn a higher return.

Components of Corporate Social Responsibility

Environment

According to Evans and Kantrowitz (2012) environment can be defined as the overall condition of the earth or the healthy condition of people living in the environment. Company which pursue the environmental initiatives are view as economics induce while achieving solid CSR goals. In some of the leading company, environmental initiatives are said to have motivate competitive landscape of the marketplace to improve operational efficiency, reconsideration product design seek out innovative and new technology (Adamu & Yusuff, 2016). Generally, Environmental CSR initiatives such as environmental disclosure, environmental policy, environmental performance, and environmental impact can affect the corporate structure level. The management's mandates will emphasis on internal efforts to incorporate corporate wide policies and agencies that direct corporation towards environmental goals.

Kaplan and Norton (2013) affirm that companies' which search for competitive advantages, market demand, and attain regulatory framework fight to develop environmental

performance. Environmental management has always been related with pedestrian matters such as biodiversity, reduction of pollution, noise and energy consumption and waste management. Corporations today tend to focus on practices that are able to reduce the impact of pollution and waste that could badly destroy environment. Moreover, environmental activities signified company's efforts to protect and preserve natural resources and environment. This includes the initiatives such as renewable energy, reduce air and water pollution, hazardous chemicals, effluents, and waste generation, monitor energy usage, monitor, and reduce greenhouse gas and other emissions and maintain biodiversity. In addition, Kantabutra and Avery (2013) stressed that environment sustainability practice includes plantation, oil and gas mining, biodiversity, and energy efficiency control.

H₀: There is no significant relationship between expenditure on environment with Islamic bank financial performance.

H₁: There is a significant relationship between expenditure on environment with Islamic bank financial performance.

Community

Based on the study by Porter and Kramer (2006) community from the business perspectives is considered as the place of conducting and carrying out business operation. It is also known as key stakeholders that is the community within business operation. According to Rotolo and Wilson (2006) communities' activities are where company promote their economic development, such as efforts that company made to improve local infrastructure, social welfare, security, community education and healthcare. The engagement in community development which may comprise of offering and giving sponsorship or donations. Community activities can be incorporating direct or indirect activities. However, community schemes which involve financing and other care implement by local agencies associated to interface between corporation and community or the public impacted by a project, product or investment on a local or global level. Business live within the society which therefore, interdependent relationship should be developed as business influence by the people around it in various means and on the other side the community also depend on them as well.

H₀: There is no significant relationship between expenditure on community with Islamic bank financial performance.

H₁: There is a significant relationship between expenditure on community with Islamic bank financial performance.

Workplace

Fox and Stallworth (2009) in their literature discuss workplace activities in CSR dimensions as a variety of issues which is faced by employee and employers during the business conduct or carrying out business task. This includes the relations of labours, issues of personal and professional conflict, discrimination and harassment and safety and health. Further, Fox and Stallworth (2009) also support that thriving design workplace allowing free communication between departmental areas which lead to enhance distribution of information and networking notwithstanding job boundaries. Employees and their family can be benefited from positive impacts which comes from the sustainable workplace. Despite the fact that, well working environment can motivate and enables employee to produce their best contributions to business success which can positively impact on all stakeholders. Therefore, the simple fact is that employees are really company greatest asset that the company need to invest heavily so that the employee able to explore their best positive return (Adamu & Wan Yusoff, 2016).

H₀: There is no significant relationship between expenditure on workplace with Islamic bank financial performance

H₁: There is a significant relationship between expenditure on workplace with Islamic bank financial performance.

Marketplace

Kantabura and Avery (2013) in their study stated that in less developed country, some companies had implemented voluntarily suppliers score card which encourages suppliers and services provider to disclose on how they measure the effort on reducing the greenhouse omission, grasses, water and energy. Generally, marketplace in CSR context is known as the initiatives taken to focus more on the company's customer service target and how they manage suppliers and service providers. Within this context, company is expected to develop more green products, engage stakeholders, engage in ethical procurement, manage their supply chains, and develop vendors and social branding as well as paying attention to corporate governance. Further, based from Faisal (2010), marketplace also shows on how the business or companies integrate, responsible business conduct into their operation and practice. Nowadays, customer are becoming more demanding not only in term of price and quality on top of more equal, but they are also looking towards brands values and those companies activities they can respect (Adamu & Yusuf, 2016).

H₀: There is no significant relationship between expenditure on marketplace with Islamic bank financial performance

H₁: There is a significant relationship between expenditure on marketplace with Islamic bank financial performance.

Research Design

Sampling Design

By using annual data, the information is gathered for five years starting from 2011 to 2018. The eight listed Islamic banks in Malaysia, banks are included in this study. The list of the Islamic banks selected based on the availability of the CSR data shown in their annual report which are Ambank Islamic Berhad, Bank Islam Malaysia Berhad, Bank Rakyat Berhad, CIMB Islamic Bank Berhad, RHB Islamic Bank Berhad, Hong Leong Islamic Bank Berhad, Maybank Islamic Berhad, Public Bank Islamic Berhad

Empirical Model – Fixed Effect Model

Fixed effects model assumed that there is correlation between unobservable individual effects and ROA determinants. Fixed effect explores the relationship between independent and outcome variable within an entity such as person, company and country. Each entity has its own individual characteristics that may or not influence the predictor variables.

The model for the Fixed Effect Model Model examination is:

$$ROA_{it} = \alpha_{it} + \beta_1 ENV_{it} + \beta_2 COM_{it} + \beta_3 WOR_{it} + \beta_4 MAR_{it} + \epsilon_{it}$$

Where,

ROA = Return on Asset

ENV = Expenditure on Environment

COM = Expenditure on Community

WOR = Expenditure on Workplace

MAR = Expenditure on Marketplace

α = The intercept for equation

ϵ = Error Term

i = Cross-section unit

t = The time of observation.

Data Analysis and Discussion

DV=Return on Asset (ROA)	
Variable	Coefficient (p-value)
ENV	0.019844 (0.0147**)
COM	0.016752 (0.0281**)
WOR	0.017077 (0.0378**)
MAR	0.016227 (0.0421**)
Constant	-0.455929 (0.5457)
Adjusted R-squared	0.185077
F-statistic	2.186017
Probability	(0.045208**)

Based on the table, the coefficient values of the all CSR elements which are environment, community, workplace and marketplace show positive magnitude with the coefficient values of 0.019844, 0.016752, 0.017077 and 0.016227 respectively. All the CSR elements which are environment, community, workplace and marketplace have the probability value of 0.0147, 0.0281, 0.0378 and 0.0421 respectively. These variables are significant towards the Islamic banks' performances in which the probability values are lower than the significant value of $\alpha=1\%$, 5% and 10%. The coefficient values can be summarized that for 1% changes of expenditure on environment, 1% spent on community, 1% expenditure on the workplace and 1% expenditure spent on marketplace elements can impact Return on Assets (ROA) for 0.019%, 0.016%, 0.017% and 0.016% respectively.

To add, the F-statistic yield in the regression is 2.186017 with the probability value of 0.045208, where this value generated is less than the significant value of $\alpha=1\%$, 5% and 10% represented that the model is significant. It could be said that the regression model is appropriate, fit and match with the data sample. From the result, the adjusted R-squared produce is 0.185077. This implies that approximately 18.51% of the variation of Islamic banks' performances is explained by the element of CSR (independent variables) while another 81.49% is explained by the other factors

Results and Discussions

This study aims to fill the gap in the literature by empirically examining the effect of selected independent variables on the performances of Malaysian banks. The summary of finding as below:

	Dependent variable	Return on Asset (ROA)	
	Independent variable	Finding	Magnitude
CSR Expenditure (%)	Environment	Significant	Positive
	Community	Significant	Positive
	Workplace	Insignificant	Positive
	Marketplace	Significant	Positive

Based on the summary tabulation of the findings, this study has discussed on the variables tested with their impact on the banks' performance. It clearly shows that environment, community, and workplace variable give impact on the bank's performance. Meanwhile,

workplace under this study is insignificant towards the bank's performance. The significant variables are elaborated in the following discussion:

Environment

The result from this study found that the CSR expenditure have a positive association with ROA. This study rejects null hypothesis which discover that there is significant relationship between expenditure on environment with firm financial performance. This result supported the stakeholder's theory which says that every business in order to be successful it has to create value to its customers, supplies, employee, community and financiers. This finding also is supported by the research conducted by Kantabutra and Avery (2013) found positive association between environment sustainability with firm financial performance. Similarly, on the study by Yusoff and Adama (2016) which found out that there is a positive relationship between firm which performing CSR through environment activities with the firm financial performance.

Community

Community expenditure is found out to have positive association with firm financial performance. The findings of this study reject null hypothesis as there is significant relationship between expenditure on society with bank financial performance. The findings from this study are similar with the research conducted by Rotolo and Wilson in 2006 which stated that business which that can sustain should actively engage in community activities. This in order to develop mutual understanding and enhance growth. This result is also supported by Yusoff and Adamu (2016) whereby the community activities which conducted by company have positive impacts on firm's performance. Therefore, this study shows that the company which participate in community activities can gain higher income. In others word the expenditure spend by the firm on the community can lead to better company financial performance. In another similar study carried by Roseland (2012), which concluded that to respond to growing community activities can impose considerable cost on companies. This is due to the competitive environment in relation to customers, resource and labour market with a changing trend that favours those companies with good community relationship.

Workplace

This study found that there is significant relationship between the expenditure spent by bank in Malaysia on workplace with the bank financial performance. Therefore, the finding from this study reject the null hypothesis and conclude that there is a significant relationship between expenses spend for better workplace with bank financial performance. This finding on the workplace activities in Malaysia is similar to studies conducted by Roelofsan and Baloch (2009) which found that workplace contentment decreases the job dissatisfaction and employee absenteeism and has higher linked with job satisfaction and also lead to higher productivity. Hence, more employees satisfied with the job the better he or she can contribute towards the company's subsequently profitability and productivity. Based on this fact it is right to conclude that adequate implementation of workplace activities associates with company financial performance because it is directly linked to human capital, portfolio value and operating expenses. CSR in Malaysia was designed to incorporate broader interest of all stakeholders.

Marketplace

This study found that there is significant relationship between the expenditure spent on marketplace activities with the bank financial performance. Therefore, the finding from this study failed to reject the null hypothesis as there is significant relationship between expenditure

on marketplace with bank financial performance. It can be said that an expenditure spent on the marketplace activities can enhance the bank financial performance. The finding is supported by research conducted by Allouche and Laroche (2005) which found that firm financial performance has positively associated with suitably matching supply chain strategy with that of product variety strategy. In line with Malaysia context, the study conducted by Kim, Nam and Stimpert (2003) added that the marketplace improvement enhances firm's financial performance. This is achieved by enhancing the firm brand loyalty, perceived quality and brand image when establishing an explicit brand equity to customer. Hence, marketplace become one of the four essential elements in CSR framework in Malaysia. This in order to pursue firm's economic growth and to ensure business sustainability in Malaysia for years ahead

Conclusion

This study focuses on the relationship between Corporate Social Responsibility (CSR) and banks financial performance specifically in Malaysia. The variable used in order to determine CSR are environment, community, and workplace and marketplace expenditure ratio. Meanwhile, in order to measure the financial bank performance, Return on Asset (ROA) is used in this study. In order to achieve the objectives of this study, the researcher had used panel data analysis which is Fixed Effect Method as the appropriate model for this study. Based on this model, it can be concluded that CSR elements which are environment, community, and marketplace have significant impact on bank's financial performance. This is consistent with Stakeholder Theory which states that the firm's financial performance is also determined by external stakeholder.

Apart from CSR practice having its influence on company's financial performance, this study reveals the elements that are significant to enhance banks. This finding also supported by a vast number of previous studies. Therefore, bank should consider CSR for long term gain as CSR has become more and more common in business practices. In addition, it is important for a policy maker to create business-friendly environment with the suitable set of economic policies which can promote sustainable development. This will not only encourage domestic investment but also build confidence for foreign investors to explore new investment opportunities and extend their existing ventures in the country. The banks' strategy towards discharging activities which related to community responsibility has gain community trust. It shows bank accountability and transparency through a well design of corporate reporting practices which aid in improving bank's image and profitability. Besides that, this study discovered bank through the marketplace element in CSR able to sustain a good relationship with its customer through organizing various programs in different occasions. In this study, workplace which is another element of CSR show insignificant results toward the bank's financial performance. This may be due to high Islamic banks spending on training programs. However, generally based on this study, most CSR elements show significant result and can be deduced that most CSR elements or activities do have impact on bank's financial performance. The result is in line with the value-based intermediation (VBI) in propelling Islamic Finance which is proposed by Central Bank of Malaysia in 2017. Under VBI Islamic banks are encouraged to embody community empowerment and have best conduct besides focusing on the business activities. In deduction, the finding from this study also shows that the expenditure that Islamic bank spend on CSR have a significant impact on the organization financial performance. This is supported as majority of CSR elements measure under this study show significant result.

This current study contained certain limitation. The first limitation is on the data availability issues. Some of the variables are not disclosed in the bank's annual report in

particular on the Corporate Social Responsibility section. Therefore, future study should employ other comprehensive methods of data collection such as interview with the Bank management and finance staffs. The second limitation is that this study focuses on Malaysia only. Specifically, it focuses on the 8 banks. Therefore, the result could only apply within the Malaysian context. Future researchers may increase the sample size and examine a cross-country analysis. Finally, this study only focusses on one industry which is Islamic Bank in Malaysia. The future research may carry comparative study on Islamic Bank and conventional banking. The future researcher may also conduct the survey on different industry as well. This study briefly mentions CSR on Islamic perspectives due to limited sources. Future research suggested to dig deeper from this perspective to enhance their research.

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LECTURER'S PERCEPTION ON THE IMPLEMENTATION OF PROBLEM-BASED LEARNING (PBL) APPROACH IN TEACHING AND LEARNING

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Abstract: *Problem-based learning (PBL) was known as the student-centered pedagogy where it involves the student to experience solving a complex real-world problems and teacher acts as facilitator in crafting trigger materials to promote the learning concepts. This study aims to investigate and identify the academic staffs' perception on the implementation of PBL in classroom in Malaysia. A quantitative study was conducted, and the data was collected through survey questionnaire on 98 lecturers all over Malaysia. The findings from the analysis indicate that lectures in Malaysia has high perception on PBL implementation in the classroom. Overall, the findings enhance the understanding of higher institution lecturers' perception of PBL in terms of the usefulness of PBL as one of dynamic and active approach that transformed dramatically the routine lecture-based learning. Findings also revealed that sufficient training to learners is required in implementing PBL effectively, thus indirectly facilitate the focus of students that lead to the achievement of course learning outcomes.*

Keywords: *Problem-based learning, lecturer, perception, higher education institution*

Introduction

Problem-based learning (PBL) is a student-centered based of teaching and learning approach. PBL application and implementation is not new to the academic environment especially in Malaysian Higher Education Institutions (HEI) (Hashim & Samsudin, 2020). It was first introduced with the medical programmes more than two decades ago as an instructional method in the medical education (Dolmans et al. 2015). There are more than 15 modules of active teaching and learning methods outlined for the HE academicians established by the Akademi Kepimpinan Pengajian Tinggi (AKEPT). Among those 15 modules of active learning, PBL approach is considered one of the popular curriculum innovations in education nowadays (Hashim & Samsudin, 2020). PBL can be defined as a student-centered pedagogy approach that uses complex real-world problems to encourage self-directed learning of students about the topic's concepts and principles in a small group setting (Savery, 2006; Dolmans et al. 2016). During PBL, the teachers or lecturers often act as the facilitator that will monitor and guide the

progress of PBL. As PBL has now becoming an emerging teaching and learning approach in Malaysia (Ramlan et al., 2020), it is applied in almost all courses such as engineering, mathematics, science, social science, literature and a few more to be named. This study is purposely to contribute to the current body of knowledge on the lecturers' perceptions of PBL in Malaysia. The following objectives were addressed in the present study: (i) to identify the level of usefulness and challenges of PBL implementation from lecturer's point of view, and (ii) to identify the level of student's academic achievement, student's social interaction, and student's personal skill from lecturer's point of view.

Literature Review

PBL is a well-known approach in teaching and learning delivery methods that can develop different skills of students. The main purpose of PBL is to equip students with authentic experiences that adopt active learning by incorporating learning and real-life to achieve the specific learning outcomes domain. Despite having numerous workloads in Malaysian higher education institutions, PBL requires the lecturer to allocate extra time to prepare, conduct, and assess students' achievement (Li et al., 2020; Masek & Yamin, 2010). PBL involved many processes and all these processes should be well documented and meet the standard set by the accreditation bodies. The lecturer should be able to give sound and clear instruction to students as well as plays an active role before, during, and after PBL. On top of that, Ramlan et al. (2020) reported that there has moderate awareness of PBL among academic staff in UTHM due to poor formal training provided on PBL as well as knowledge on how to integrate the PBL and lecture in order to achieve course learning outcomes. Students agreed that the PBL approachable to develop their soft skills or generic skills, promote self-regulated and self-directed learning (SDL), and enhance students' enthusiasm and motivation (Mpalanyi et al., 2020).

Despite the advantages of PBL, Dring (2019) stated that PBL alone is not a versatile approach without proper and sufficient supporting materials. Although examination results reveal that the introduction of PBL has improved student academic performance; there were a number of weaknesses observed in the implementation of the PBL sessions such as students not allowed to share the learning objectives to other groups to ensure each group obtains it by themselves due to unsustainable material (Hussain et al., 2019). As for the engineering course, authenticity, sustained inquiry, and public product from design space while aligning to standards and engage and coach are the elements that need to be emphasized through the exploration course (Kaushik, 2020). Various available articles published on PBL implementation. Yet, there is limited work reported on the implementation of PBL from the perception of lecturers' worldwide especially on the students' development and achievement. Most of the articles discussed the output from students' perception (Kaushik, 2020; Parrado-Martinez, & Sanchez-Andujar, 2020; Jabarullah & Hussain, 2019; Al-Drees et al., 2015; Emerald et al., 2013).

Methodology

This study employed a quantitative method in achieving the research objectives. A set of survey questionnaires was prepared which was self-developed and adapted from Mei et al. (2019). Some of the instruments were modified to suit the context of the study. The instrument was divided into three parts. The first part, Part A focuses on the demographic profiles of the respondents and their perception on PBL method in general. There were 13 items in the demographic section. The second part, Part B focuses on the lecturer's perception on the usefulness of PBL approach and challenges in implementing PBL in class with consist 15 items in total. While the third part, Part C focuses on the lecturer's perception on students'

performance with overall 14 items altogether. The Cronbach's coefficient alpha for usefulness of PBL approach is 0.928, challenges of PBL implementation is 0.871, student's academic achievement is 0.903, student's social interaction is 0.937, and student's personal skills is 0.904. As according to Cronbach and Gleser (1959), all of the constructs' Cronbach's α which ranging from 0.871 to 0.937 were suggested as psycho-metrically sound due to high reliability coefficient value and can be used for further research activity. The reliability coefficient of the constructs is depicted in Table 1. All items under Part B and Part C were measured using 5-points Likert scale. This study was conducted to all lecturers of higher education institutions in Malaysia. It was administrated to all academic staffs and none to the students or non-academic staffs. Due to enormous number of populations inclusive public and private universities, higher education institutions and colleges, snowballing sampling technique was employed to reach the large sample. Snowballing works as one sample identified will lead to another sample. The data collection was conducted during Covid-19 pandemic breakout, thus delimited our method of collecting data due to Movement Control Order (MCO) enforcement by the government. Therefore, the survey was distributed through online medium of Google Form by using English as a language medium. It took about one week to complete the data collection with final 102 samples collected. However only 98 returned response were usable for further analysis. Four unusable returned responses were excluded from further analysis because they are incomplete. All 98 usable responses were analyzed using SPSS version 26.0. Based from the study's objectives, which are to identify the perceptions level on PBL among academic staffs of universities, higher education institutions and colleges in Malaysia, descriptive analyses were applied to get the frequency, percentage and mean score. The mean scores were interpreted as low for $1.00 \leq M \leq 2.34$, moderate for $2.35 \leq M \leq 3.67$, and high for $3.68 \leq M \leq 5.00$ (Chua, 2006). The result scores and discussion are presented in the next section. The result scores and discussion are presented in the next section.

Table 1: Reliability analysis.

Construct	No. of Item	Cronbach's α
Usefulness of PBL approach	8	0.928
Challenges of PBL implementation	7	0.871
Student's academic achievement	5	0.903
Student's social interaction	6	0.937
Student's personal skills	3	0.904

Results and Discussion

Descriptive analysis

The demographic variables of the lecturers who voluntarily participated in this study include gender, age, their education background, duration of teaching experiences, their current institutions, current job roles and the teaching areas. According to the information depicted in Table 2, it can be observed that majority of the respondent are female (69.4%, n=68) while the rest (30.6%, n=30) are their male counterparts. This indicates that more than half of the respondents are female. The respondents were majority (62.24%, n=61) aged of 31 to 40 years old, followed by respondents aged 41 to 50 years old (24.49%, n=24), then respondents aged above 50 years old (7.14%, n=7), and lastly lecturers aged 20 to 30 years old are the least response (6.12%, n=6). More than half (68.37%, n=67) of the respondents hold a doctorate degree followed by master's and bachelor's degree (25.51%, n=25; 6.12%, n=6) respectively.

Table 2: Demographic profiles of respondents.

Item	Frequency (n=98)	Percentage (%)
Gender		
Male	30	30.6
Female	68	69.4
Age		
20 to 30 years	6	6.12
31 to 40 years	61	62.24
41 to 50 years	24	24.49
above 50 years	7	7.14
Education background		
Bachelor's degree	6	6.12
Master's degree	25	25.51
PhD	67	68.37
Teaching experience		
3 years and less	29	29.59
4 - 6 years	22	22.45
7 - 9 years	8	8.16
10 - 12 years	16	16.33
More than 12 years	23	23.47
Category of Academic institution		
Public university	63	64.29
Private university	12	12.24
Public higher education institution	9	9.18
Private higher education institution	14	14.29
Job position		
Lecturer	50	51.02
Senior Lecturer	40	40.82
Associate Professor	8	8.16
Teaching area		
Management and business	42	42.86
Science, technology and engineering	40	40.82
Social science, literature and art	9	9.18
Others	7	7.14

Majority of the respondents are from the public institutions (73.47%, n=72), while the remaining (26.53%, n=26) are from the private institutions. 51.02% of the respondents are lecturers (n=50), 40.82% are senior lecturers (n=40), and 8.16% are associate professors (n=8). About more than half of the respondents have less than 10 years teaching experience, whilst the remaining have 10 years and more teaching experience. This indicates that a lot of respondents are well versed with the teaching roles because they have been practicing teaching and learning more than ten years. Figure 1 displays clearly the list of institutions who voluntarily involved in the survey. The 98 respondents are from 22 different institutions which most of the respondents are from Universiti Tun Hussein Onn Malaysia (UTHM) (n=30), Kolej Teknologi Darulnaim (KTD) (n=11), Universiti Utara Malaysia (UUM) (n=9), Universiti Teknologi Malaysia (UTM) (n=8), and equally 7 respondents from Universiti Kuala Lumpur Malaysian Institute of Industrial Technology (UniKL MITEC) and Universiti Putra Malaysia (UPM). These combinations formed about 72% of the whole respondents. The responses gathered from different institutions supplant the researchers with respondent of variety background. To add more, 83.68% of the respondent teaches in science, technology, engineering, management and business. Only 9.18% of respondents teach in social science, literature and art. The remaining 7.14% teaches in technical and vocational, law, multimedia, statistics, and tourism and hospitality. Even though their teaching area background are

exclusively differed from one another, but they all implement the same learning methods for example problem-based learning in classroom teaching. This shows the PBL method is not limited to any area of learning. It can suit all areas of teaching, but it needs to be properly planned and structured to ensure its successful and effective implementation.

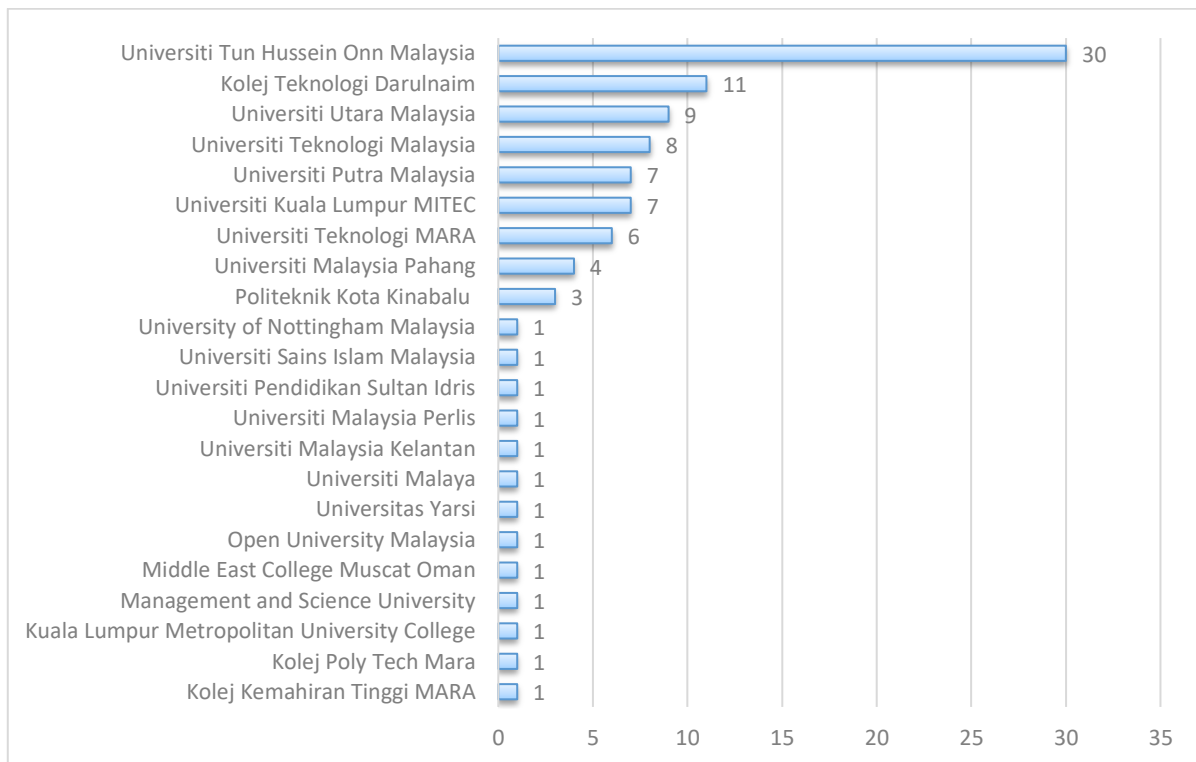


Figure 1: Academic institutions

Respondents were asked whether they have ever heard about PBL before. The result in Figure 2 shows that almost all the respondent which is 98.98% were familiar with the PBL term throughout their teaching period. PBL was considered as a common term to almost all the lecturers. Figure 3 shows that nearly half (42.86%) of the respondents did not received any training on PBL. It signifies that some of them had implemented PBL approach in classes with their own will, effort and method. As shown in Figure 4, 58.16% of the respondents which equals to 57 lecturers have an experience conducting PBL approach in class while another 13 lecturers had no experience of conducting classes using PBL approach at all. The finding is quite interesting where 28.57% (n=28) lecturers answered ‘maybe’ when they were asked whether they had any experience implementing PBL approach in class. It is revealed that this group of lecturers are partly the lecturers who did not have any PBL training at all. They were not sure but believed the method they applied in class is some sort of problem-based approach. Over 60 lecturers have applied the PBL approach in class occasionally (Figure 5). The findings presented lecturers did not apply PBL methods all the times. With years of experiences in teaching and learning, it is believed that lecturers also use other teaching methods such as case-based learning, project-based learning, self-directed learning, and several other methods in addition to problem-based learning. When they were asked (Figure 6) whether they are interested to implement PBL in class, most of them (82.65%, n= 81) answered a ‘yes’. This response proved that lecturers are aware about the advantages from implementing this kind of method in the classroom. PBL is not a new method in teaching, only its implementation steps

that require careful preparation are among the factors that lecturers do not use this method regularly in the classroom.

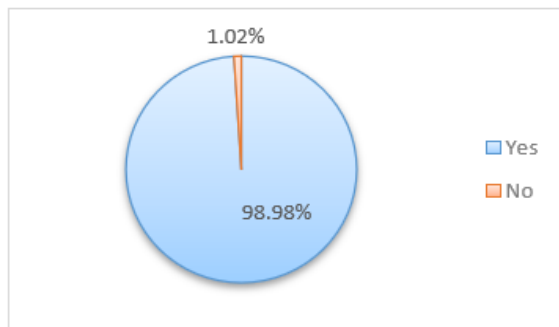


Figure 2: Have you ever heard about PBL?

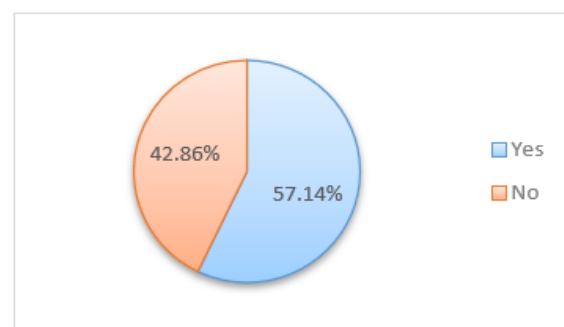


Figure 3: Have you received any training on PBL?

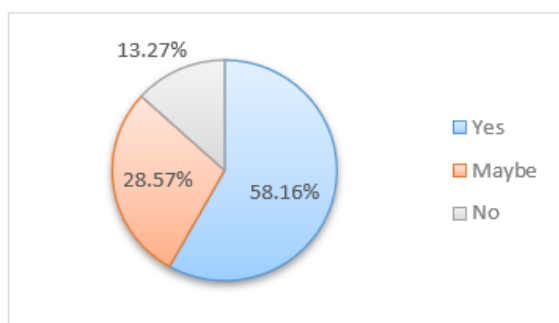


Figure 4: Do you have experience teaching using PBL in class?

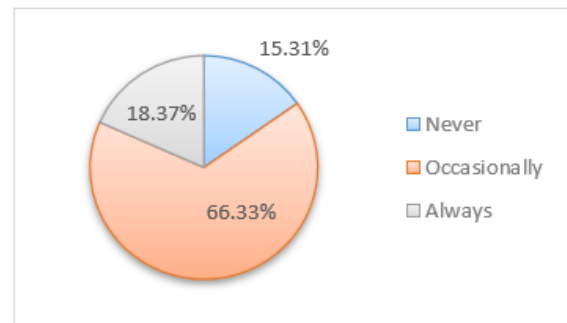


Figure 5: How often do you apply PBL in class?

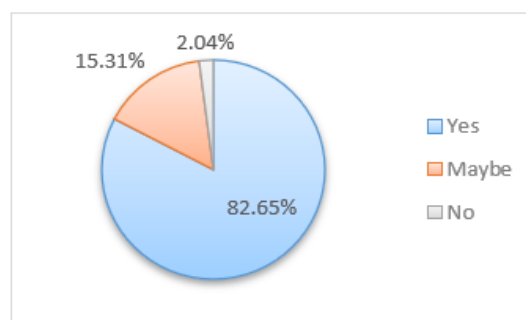


Figure 6: Are you interested to implement PBL in class?

Lecturer's Perception on Usefulness of Problem-Based Learning Approach

Respondents were asked about their views regarding the usefulness of problem-based learning approach. Table 3 reported the highest mean score of perception is item 3 '*PBL is a refreshing change from the routine of day-to-day learning in the classroom*' with the mean value of 4.20. It was followed by item 2 '*PBL is able to bring more out from a learner than the traditional teacher-centered approach*' with the mean value is 4.18. Majority respondents had higher level agreement on the usefulness of PBL as a refreshing change from the routine of day-to-day learning. This is supported by Preeti et al. (2013) who stated that there is need innovation and creativity in learning and assessment such as adoption of PBL as lively learning compared to the traditional passive spoon-feeding technique. Majority respondents also agreed that PBL is very useful to generate more learning output from learner rather than lecturer-based learning

approach. This is because PBL is a method of teaching that emphasis on student-centered learning that related to real life issues or problems which facilitate learners to increase lifelong learning culture (Zakaria et al., 2019; Li & Tsai, 2017; Raiyn & Tilchin, 2015).

Meanwhile, the lowest mean score was recorded for the item 4 '*PBL works for almost all types of subjects, such as engineering, business, design, IT and applied sciences*' with the mean value of 3.90. The least agreement on item 4 probably due to lack of knowledge on PBL concept. On top of that, respondents assumed that PBL are less suitable to be used in certain teaching area. However, some studies have confirmed the suitability of PBL in several subjects such as science and engineering to business and language studies in encouraging students' skills effectively (Hirshfield and Koretsky, 2017; Jusoh et al. 2017).

Table 3: Usefulness of problem-based learning approach.

No.	Item	SD	D	N	A	SA	Mean	SD	Result
1.	PBL is a suitable approach for learning	2 (2.0%)	1 (1.0%)	14 (14.3%)	53 (54.1%)	28 (28.6%)	4.06	0.81	High
2.	PBL is able to bring more out from a learner than the traditional teacher-centered approach	2 (2.0%)	1 (1.0%)	7 (7.1%)	55 (56.1%)	33 (33.7%)	4.18	0.78	High
3.	PBL is a refreshing change from the routine of day-to-day learning in the classroom	2 (2.0%)	1 (1.0%)	8 (8.2%)	51 (52.0%)	36 (36.7%)	4.20	0.80	High
4.	PBL works for almost all types of subjects, such as engineering, business, design, IT and applied sciences	2 (2.0%)	5 (5.1%)	18 (18.4%)	49 (50.0%)	24 (24.5%)	3.90	0.90	High
5.	PBL is able to measure the depth of learning appropriately	1 (1.0%)	3 (3.1%)	20 (20.4%)	44 (44.9%)	30 (30.6%)	4.01	0.86	High
6.	PBL helps a learner to solve daily problems effectively too	2 (2.0%)	3 (3.1%)	8 (8.2%)	57 (58.2%)	28 (28.6%)	4.08	0.82	High
7.	It is more effective to learn as a group than to learn individually	2 (2.0%)	3 (3.1%)	17 (17.3%)	41 (41.8%)	35 (35.7%)	4.06	0.92	High
8.	PBL is a necessary approach in meeting the changing needs of the learning environment	3 (3.1%)	-	13 (13.3%)	56 (57.1%)	26 (26.5%)	4.04	0.82	High
Average Usefulness of PBL							4.07	0.68	High

Lecturer's Perception on Challenges in Problem-Based Learning Implementation

Pertaining to the lecturer's perception on challenges in problem-based learning implementation, the respondents mostly agreed that the learners should be properly trained to handle PBL with the mean value is 4.21. As stressed by Al-Drees et al. (2015), the insufficient and incorrect training on students by tutors may drive to poor performance of PBL execution.

Additionally, Zwaal and Otting (2015) also mentioned that the successful of PBL implementation required the suitable training in management for both students and tutors. Thus, it indicates that the initial proper training becomes the key challenge that need more attention in order to achieve learning goals and ensure PBL implementation successfully.

Most of respondents have least agreement on item 1 '*Age group is not a barrier in PBL*' with the mean score is 3.73. This indicates that age different between senior and junior students during PBL process did not become the main challenge to lecturer in implementing PBL. The finding from the study of Noura (2014) revealed that senior students who aged more than 20 years that had former experience in learning performed more independently in PBL class compared to junior students who aged 16-20 years old. Robinson (2014) also found that junior students were manipulated by senior students and contributed to resilient learning environment during PBL practice. However, Robinson (2014) also added that the different of age group become barrier to PBL implementation in developing critical thinking with group members.

Table 4: Challenges in problem-based learning implementation

No.	Item	SD	D	N	A	SA	Mean	SD	Result
1.	Age group is not a barrier in PBL	3 (3.1%)	11 (11.2%)	22 (22.4%)	35 (35.7%)	27 (27.6%)	3.73	1.08	High
2.	Personal reflection is an important element in PBL to help discover new things about the leaner	1 (1.0%)	3 (3.1%)	12 (12.2%)	48 (49.0%)	34 (34.7%)	4.13	0.82	High
3.	Learners should be properly trained to handle PBL	1 (1.0%)	2 (2.0%)	11 (11.2%)	45 (45.9%)	39 (39.8%)	4.21	0.80	High
4.	PBL requires strong facilitation skills of the teachers	1 (1.0%)	2 (2.0%)	10 (10.2%)	50 (51.0%)	35 (35.7%)	4.18	0.78	High
5.	The best way of learning is through learning from problem	2 (2.0%)	4 (4.1%)	13 (13.3%)	46 (46.9%)	33 (33.7%)	4.06	0.91	High
6.	The power of questioning is the success factor in PBL	2 (2.0%)	2 (2.0%)	16 (16.3%)	48 (49.0%)	30 (30.6%)	4.04	0.86	High
7.	The lack of systematic structure in PBL subject discourages learners to learn	2 (2.0%)	2 (2.0%)	15 (15.3%)	51 (52.0%)	28 (28.6%)	4.03	0.84	High
Average Challenges in PBL							4.06	0.65	High

Lecturer's Perception on Student's Academic Achievement

Table 5 shows the lecturer's perception on student's academic achievement. From the table, it can be seen that there are two similar highest mean score which is 3.85. Those items are item 1 '*I feel that using PBL will achieve course learning outcome*' and item 5 '*Through PBL activities, learning makes my students more focus on the subject matter*'. This study found that majority respondents agreed that PBL can help students to reach course learning outcome. According to Klegeris and Hurren (2011), PBL is an innovative learning approach that involves collaborative process as a whole in achieving students learning goal and their engagement in learning. Besides, respondents also believed that PBL class can increase the students' concentration on related topic. PBL method is a useful teaching technique in improving

students understanding of related concepts or given topic and finally turned students to adopt self-directed learning (Gorghiu et al., 2015; Gunter & Alpat, 2017).

However, respondents also feel slightly agreed on item 3 ‘*My students understand the problem material in the PBL more than they study the material using other method*’ with the mean value is 3.57. This indicates that respondents felt PBL is not only the practice or method that can help student to develop their critical thinking in understanding problem material. Although Prosser (2004) revealed that PBL students performed well or slightly better than students of lecture-based learning, Didem (2016) emphasized that the learners also deal with several difficulties like identifying real problems and finding the solutions during the practice of PBL. Students also found to have difficulty in improving critical thinking skills during PBL class (Zetriuslita, Wahyudin, & Jarnawi, 2017).

Table 5: Descriptive statistics of student’s academic achievement.

No.	Item	SD	D	N	A	SA	Mean	SD	Result
1.	I feel that using PBL will achieve course learning outcome	2 (2.0%)	1 (1.0%)	22 (22.4%)	58 (59.2%)	15 (15.3%)	3.85	0.76	High
2.	I feel that PBL will achieve an individual's goals in the groups	2 (2.0%)	7 (7.1%)	23 (23.5%)	53 (54.1%)	13 (13.3%)	3.69	0.87	High
3.	My students understand the problem material in the PBL more than they study the material using other method	2 (2.0%)	7 (7.1%)	31 (31.6%)	49 (50.0%)	9 (9.2%)	3.57	0.84	Moderate
4.	My students get better result of the course with PBL	1 (1.0%)	6 (6.1%)	37 (37.8%)	42 (42.9%)	12 (12.2%)	3.59	0.82	Moderate
5.	Through PBL activities, learning makes my students more focus on the subject matter	2 (2.0%)	7 (7.1%)	12 (12.2%)	60 (61.2%)	17 (17.3%)	3.85	0.87	High
Average Academic Achievement							3.71	0.71	High

Lecturer’s perception on student’s social interaction

Respondents were asked about their view regarding the perception of lecturer on student’s social interaction based on the implementation of PBL. As illustrated in Table 6, item 4 ‘*PBL gives my students an idea of how to solve the problem through group discussion*’, reported the highest mean value which is 4.13. This result is similar by finding of Al-Drees et al. (2015) who discovered that students gained deep learning through small group discussion and practice of self-directed learning in PBL. This is also supported by Klegeris and Hurren (2011) who stated that the discussion among group member triggered them find the required information and examine the problems further.

A lowest mean score is 3.77 which recorded by item 5 ‘*My students got equal chances to learn in PBL method*’. With regard to the equal opportunity given to students during PBL approach, lecturer should prepare the best possible chance to every student in terms of providing all available methods and learning theories and use whichever is best suited to each student, group, or class (Pagander & Read, 2014).

Table 6: Descriptive statistics of student's social interaction.

No.	Item	SD	D	N	A	SA	Mean	SD	Result
1.	PBL gives my students more confidence during group discussion	2 (2.0%)	2 (2.0%)	26 (26.5%)	46 (46.9%)	22 (22.4%)	3.86	0.86	High
2.	PBL teaches my students how to take care of each other in the group	2 (2.0%)	6 (6.1%)	19 (19.4%)	54 (55.1%)	17 (17.3%)	3.80	0.87	High
3.	My students like to share their knowledge with their group member and get more from another during PBL	2 (2.0%)	4 (4.1%)	24 (24.5%)	43 (43.9%)	25 (25.5%)	3.87	0.92	High
4.	PBL gives my students an idea of how to solve the problem through group discussion	2 (2.0%)	-	14 (14.3%)	49 (50.0%)	33 (33.7%)	4.13	0.81	High
5.	My students got equal chances to learn in PBL method.	2 (2.0%)	6 (6.1%)	22 (22.4%)	51 (52.0%)	17 (17.3%)	3.77	0.88	High
6.	My students can learn how to cooperate and collaborate through PBL	2 (2.0%)	-	16 (16.3%)	48 (49.0%)	32 (32.7%)	4.10	0.82	High
Average Social Interaction							3.92	0.75	High

Lecturer's perception on student's personal skill

Table 7 revealed the lecturer's perception on student's personal skill and discovered that the highest mean score is item 2 'Through PBL, my students can understand the problem matters better by discussing with group members' with the mean value is 4.12. This is line with the study by Klegeris and Hurren (2011) and Al-Drees et al. (2015) as mentioned above. This indicated that the group discussion plays important role to ensure the learning goal can be achieved. Sockalingam et al. (2012) explained the role of a group in PBL method in encouraging students' interest and involvement among members to find and solve the problems whereby will push them to develop teamwork, brainstorming and discussions.

Meanwhile, several respondents had slight agreement on item 3 'My students improved a lot in writing skill through PBL method' with the mean value is 3.70. According to Brown et al. (2016), PBL approach can help students to improve their writing skills and actively participate in learning during PBL. PBL can be one of innovative strategies in teaching writing discussion text in which help students to develop their writing skill (Milah, 2015).

Table 7: Descriptive statistics of student's personal skill.

No.	Item	SD	D	N	A	SA	Mean	SD	Result
1.	PBL improves students' communication skill	2 (2.0%)	1 (1.0%)	13 (13.3%)	51 (52.0%)	31 (31.6%)	4.10	0.82	High
2.	Through PBL, my students can understand the problem matters better by discussing with group members	2 (2.0%)	2 (2.0%)	11 (11.2%)	50 (51.0%)	33 (33.7%)	4.12	0.84	High
3.	My students improved a lot in writing skill through PBL method	2 (2.0%)	3 (3.1%)	35 (35.7%)	40 (40.8%)	18 (18.4%)	3.70	0.88	High
Average Personal Skill							3.98	0.77	High

Conclusion

This study examines the perception of lecturers on the usefulness and challenges of PBL implementation. This study also investigates the perception of lecturers of PBL on student's academic achievement, student's social interaction and student's personal skills. Among ninety-eight lecturers participated in the survey, 98.98% have heard about PBL, but only 57.14% have received training on PBL and 84.70% implemented the approach in the courses that they were involved in PBL. Therefore, it could be assumed that the level of perception of PBL among higher institution lecturers in Malaysia is rather high. This is reflected in their perception of the usefulness, the challenges, perception on student's academic achievement, perception on student's social interaction and perception on student's personal skills that associated with PBL. Overall, the findings enhance the understanding of higher institution lecturers' perception of PBL in terms of the usefulness of PBL as one of dynamic and active approach that transformed dramatically the routine lecture-based learning. Findings also revealed that sufficient training to learners is required in implementing PBL effectively, thus indirectly facilitate the focus of students that lead to the achievement of course learning outcomes. Active group discussion among students also improve critical thinking skills significantly thus improve social interaction and personal skills of students. Factors such as infrastructure availability and class size could restrict PBL, the use of digital and information technologies could help facilitate its implementation. Higher institution and lecturers should therefore explore and use various approaches to address the challenges associated with PBL effectively.

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A LITERATURE REVIEW ON RESEARCH ECOSYSTEM: ENABLING SMES' INNOVATION AND COMMERCIALIZATION THROUGH TAX MECHANISM

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Abstract: *In an effort to foster innovation and commercialization ecosystem in Malaysia, the government has introduced various incentives which included tax exemption, and financial assistance. However, such incentives seem to benefit the large corporations who have had substantial R&D budget to start with. Limited capital and financial constraints in small and medium-sized companies (SMEs) hinder their capabilities fund their own research and development which in turn affect their innovation capabilities. This paper reviews various tax mechanisms used by other countries to facilitate the SMEs' innovation capabilities and how could universities facilitate industries through collaborative R&D efforts. It also compares several initiatives in developed countries and their challenges. It is concluded that SMEs' could collaborate with universities for their R&D activities and get tax reduction at the same time. This means that the SMEs could improve R&D costing and their innovation capabilities. Simultaneously, the university-industry symbiotic linkages could be strengthened which create conducive innovation ecosystem.*

Keywords: *Innovation ecosystem, tax incentives, university, industry, government, triple helix*

Introduction

Innovation has been the subject of debate among technologies and manufacturers for decades (Nor, Bhuiyan, Said, & Alam, 2017). Since 1994, the government have put an effort to look into the innovation activities in the manufacturing sector through the Ministry of Science, Technology and Innovation (MOSTI) and its agency which is the Malaysian Science and Technology Information Centre (MASTIC). MOSTI in currently referred as the Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC). The initiative of the ministry is known as the National Survey of Innovation (NSI) which principally done on a bi-annual or tri-annual basis. The most recent published survey was in 2015 is the NSI-7 which was carried out during 2015 until 2016. The latest survey had included the observation between three different sectors of small, medium, and large companies about the variance of their innovation activities (Ismail & Soehod, 2014). The analyzed data showed that from 1,685 companies surveyed, 72% or 1213 companies were identified as the innovative companies and only 28% or 472 companies are non-innovative. From the 1213 innovative firms, 38% or 469 are manufacturing companies while the rest are from services sector. While, when looking from the manufacturing sector alone, from total of 681 manufacturers, 69% are innovative firms.

93% from 469 firms are dominated by the SMEs. This figure proves the majority of SME manufacturers in Malaysia are still actively surviving and maintaining their business through innovation in the manufacture of computers, electronics, optical, food products and more.

When referring to innovation activity, it is closely related to research and development (R&D). Since 1994, the government have put an effort to support the innovation activities in the manufacturing sector through the Ministry of Science, Technology and Innovation (MOSTI), which has been rebranded into the Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC), and its agency the Malaysia Science and Technology Information Centre (MASTIC). The trend in Malaysia shows that mostly large companies benefited more from the tax incentives offered by the government. For companies that dedicate their future's sustainability to innovation activities such as research and development, it is considered as high-risk investments that incurred spending a large amount of money. Due to limited capital and financial constraints in small and medium-sized companies, not every company has the capacity to fund their own research and development. They are required to resort external funding to support their innovation programs. As such, various mechanisms are introduced to stimulate innovative culture in government's agency as well as private sector. Selected research and development programs are being funded and various grants are introduced to facilitate new product innovation for private sectors. Governments worldwide increasingly rely on tax incentives in addition to direct support measures to promote R&D in firms and encourage innovation and economic growth. Government in several countries seek to promote R&D investment in the economy by granting a preferential tax treatment to eligible R&D expenditure, especially those incurred by firms. As an evidence, as at 2017, 30 out of 35 OECD countries, 21 out of 28 EU countries and a few non-OECD economies provide tax relief on R&D expenditure (OECD, 2018).

A study by Lee and Lee (2007) used firm-level data to reveal that younger firms are more towards innovation than the older firms in small-sized firms. Whereas in medium and large-sized firms, it shows that the older firms are more inclining towards innovation. The determinant factor for innovation has no effect on foreign-owned companies. Small-sized firms with more manpower has more probability to innovate while medium-sized firms that cater for domestic market are expected to be more innovative. Public limited companies that are medium in size are less possibility to innovate. There is a complex relationship between technological characteristics of industry and firms' tendency to innovate. The eagerness of medium-sized firms for innovation has a linear relationship with the higher market concentration. An another study by Lim, Lee, and Nagaraj (2012) empirically tested companies in Malaysia to find the correlation between innovation and performance. Using firm-level data, there is a connection amongst innovation investment, innovation performance and the firm performance through a multi-structural equation model. The gist of the results show that innovation is a crucial determinant factor in the performance of the firms. More investment will be poured following a successful product innovation that uplift the performance of the firm. This in turn will enhance the performance of the innovation program itself due to the sufficient funds. In other occasion, the study reveals that the size of the firms has developed differential effects on innovation input and innovation output. It is apparent that government's non-financial support assists in-house innovation programs and allocation of funds towards innovative endeavors. The firm's performance is also depending on knowledge interaction that revolves around innovation programs. These findings are discussed in the conclusion to come up with a mechanism to enhance the firm's performance in innovation.

Policy makers and scholars in Malaysia are taking responsibility to comprehend the impact of innovation in manufacturing sector in Malaysia since they account for 30 percent of GDP and represents 80 percent of export of the country. The impact is still not being felt

although millions of Malaysian Ringgit have been spent to support innovative products. Recent study shows that the government spent 1.3% of GDP for research programs as compared to other developed countries which spent 1.5% of their GDP for similar purposes. Figure 1 shows the progress of R&D spending in Malaysia by sectors from 2000 until 2016. The figure displays that business enterprise (BE) sector which is the private companies had remained as the largest contributor to spur of R&D activities in Malaysia until the recent assessed year. Business enterprise plays as the major exploiter of the year with the spending of RM10,006 million. The second highest contributor to R&D spending is the higher learning institution (HLI) with the value of RM6,041 million. Whilst, the least contributor to the R&D spending is government research institutes (GRI) worth RM1,627 million and non-governmental organization (NGO) worth RM12 million.

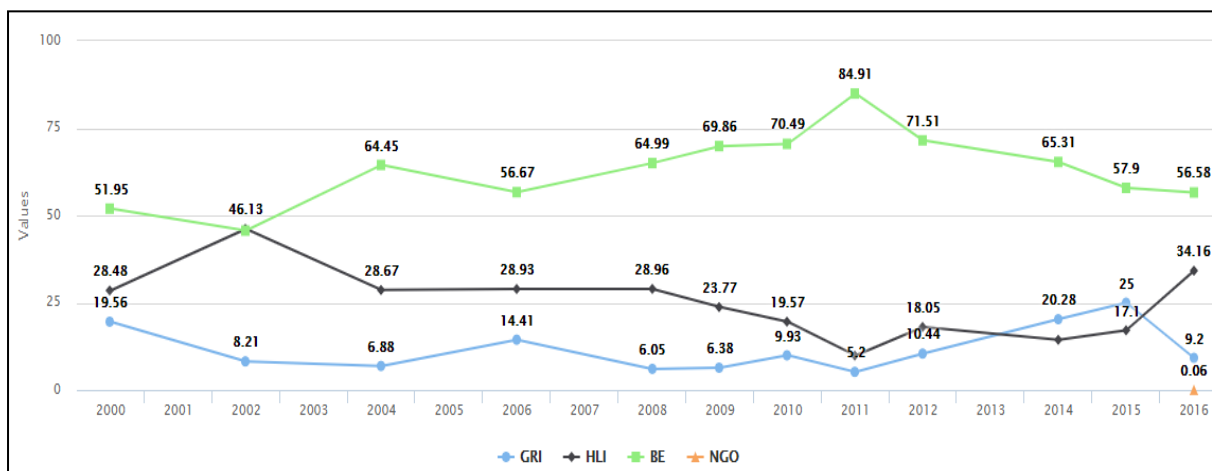


Figure 1: Expenditure on R&D by Sectors 2000-2016 (MASTIC, 2019)

Literature Review

Research ecosystem of University-Industry in Malaysia

Innovation programs can be carried out and improved if there is knowledge sharing amongst universities and the affected industries (Ankrah & Omar, 2015). Studies in this area which cover in different topics are increasing such as government support for innovation (Szczygielski, Grabowski, Pamukcu, & Tandogan, 2017), tax incentives impact on innovation (Crespi, Giuliadori, Giuliadori, & Rodriguez, 2016; Czarnitzki, Hanel, & Rosa, 2011), external collaboration and firm innovation (Findik & Beyhan, 2015). 82 percent signify 7,632 new products while 78 percent represent 4,331 significantly improved products have been developed through closed innovation which means the innovations were done internally by the company itself or company's group (Ismail & Soehod, 2014). Chandran, Sundram, and Santhidran (2014) elaborates the findings in university–industry collaboration in R&D activities. Universities have become the prime link with industries to collaborate in R&D. However, the industries are offered with few tax incentives to participate in the collaboration which leave only the universities run the program. It needs a better policy to maximize the use of universities as the knowledge source to improve innovation performance and the industries that participate should be offered with better tax incentives and other financial reliefs to upgrade the industrial R&D programs (demand side). However, it will not materialize if the industries are unwilling to capitalize on the knowledge conceived by the universities. In view of this, the universities have also the responsibility to improve their R&D management to promote collaboration with the industries and take the initiative to complement the applied R&D in the industries. This is a basic transitional process in national innovation system and

knowledge creation. The policymaker must take into account the steps needed to stimulate commercialization and promote the relevancy of universities in R&D to industries.

Malairaja and Zawdie (2008) studied on companies that have links with universities generate higher productivity, better market share, better product and service quality as well as better cost competitiveness than companies that don't have links with universities. The usefulness of this link is translated as the fundamental in developing science parks where firms are mostly conducting R&D and enjoy the spillover knowledge as a result of having collaboration with local universities. This study has the aim to examine the effectiveness of science parks as an approach to promote university–industry collaboration in Malaysia. The result shows that science park's companies that have collaboration with universities show higher level of interaction than those outside the science parks. The government of Malaysia allocates funds to most of the universities in term of technology procurement, equipment and services which in turn will provide plenty opportunities to local businesses to capitalize on the innovation knowledge capture the technology-based businesses (Malairaja & Zawdie, 2008). The industries on the other hand, take advantage on the feedbacks from the universities to improve their product and services. Research grants from the government however, is an important tool to expedite the collaboration process. It will catalyze the universities-industries interaction. However, perception that university research is not relevant to SMEs is one of the prime reasons. Other reason is the universities and research institutes have very limited relevant services to offer to the related industries and the industries do not consider the collaboration as an important factor in decision making. Another possible reason is that the universities prefer to deal with more established companies for reasons of bigger research grants, prestige and absorptive capacity.

Companies in Malaysia are at their own discretion to minimize tax by using various technique and tactics because in general, companies do not see a real benefit of paying high amount of taxes. But this mentality could be overcome if a mechanism is proposed whereby the company has the benefit of access to better advice and expertise from the universities even though higher taxes are incurred. There should be a system such as in Japan where companies that pay taxes are given entitlement to use a certain percentage which is about 10% of the corporate tax paid as research grant. With this grant, they collaborate with universities to carry out product innovation and solutions that are related to their business. They will exchange technological knowledge from the scratch until they come up with an innovative product that will be ready to be commercialized. This is a continuous cycle because once the products enter the market, the industries will generate revenue. The government will impose tax on this revenue which later part of it will be given back as research grant that would benefit the industries and the universities. As such, innovation of products and services will flourish. This is called Research Ecosystem.

This Research Ecosystem is not yet working very well in Malaysia even though the government has allocated a large sum of funds for R&D activities in the universities primarily because the research conducted by the universities is not industrial driven (requested by the industry). A lot of product innovation and researches are not in line with the needs of the industries and market. Many of the ideas are not viable for commercialization due to the lack of collaboration and understanding between the scholars and the industries that face the changing open market. The system can only work if the universities have been provided with proper industry and market targets while the industries must understand the extent of product innovation that can be carried out by the universities using the available technologies, research and knowledge. It is known that universities are keeping on adding numbers of patterns to their shelves products that may have commercial value but since the links are not exist, the industries are not informed, and the valuable products are buried unnoticed. Although it is a pride for

universities to produce journals and register patterns, the impact to the society and country is minimum due to less commercial activities produced or created by the invention.

Due to less tax cut benefit, some Foreign Multi-National Corporation (MNC) companies have taken advantage of bringing home their profit generated in Malaysia to evade paying high taxes in Malaysia. In view of this, the establishment of Research Ecosystem in Malaysia is promoted as the medium for collaboration between foreign MNCs with local universities using grants from the introduced tax incentives. The policymaker must view this grant as an important instrument because in the long run it will benefit the industries, universities and the nation as a whole. In the era of modern economics as stated by (Czarnitzki et al., 2011), directly or indirectly various policy instruments are employed by the government to foster R&D and innovation in the business sector. Providing direct grants and tax credits are the ways to support private investment in R&D.

R&D Tax Incentives in Malaysia

Previous studies largely limited to manufacturing industries although it has been over 30 years the researches relating to the effect of tax incentives on R&D. Most of the studies are found to be experimental and provide various diversified effects that sometimes dissimilar and unrelated. A few points that can be derived from these studies are different countries have their own different methods of allocating tax incentives on R&D depending on which sectors they need to empower the most (Gokhberg, Kitova, & Roud, 2014). Size of the countries, size of the budgets and the quantity of resources also affect the tax implementation. An agricultural-based country would have a different mechanism than those industrial-based country. Some countries would spend R&D more on product innovation while in some countries the industries might use the grants from the tax incentives optimize the resources.

Tax is a form of main revenue for a country's coffer, not only in Malaysia. Taxes have become a source of information to evaluate the viability and sustainability of a country. Taxing system and financial management could become proof of financial stability of a nation. In Malaysia, the government has introduced several tax cuts and reliefs as well as tax incentives to several sectors such as agriculture, education, tourism and industrial amongst others. Company income tax in Malaysia is imposed on income accruing in or derived from Malaysia except for income of a resident company carrying on a business of air/sea transport, banking or insurance, which is assessable on a world income scope. Income is assessed on a current year basis. According to Inland Revenue Board of Malaysia, the income tax rates for year 2017 reads as follows; The first RM500,000 chargeable income will be tax at 18% and the chargeable income above RM500,000 will be tax at 24% which is subject to reduction of tax rate for increase in chargeable income. The companies must not be part of a group of companies where any of their related companies have a paid-up capital of more than RM2.5 million. Corporate tax rate for resident small and medium-sized enterprises with capitalization under RM2.5 million. If some percentage of the tax could be given back to the companies, the companies would be less burdened on spending R&D on innovation. As a result, more innovative products will come up and increase the revenue of the company which in the end the government will benefit for taxing a bigger sum.

According to Freitas, Castellacci, Fontana, Malerba, and Vezzulli (2017), tax incentive for R&D has benefited more than 20 OECD countries. The firms can apply for direct reductions from the company tax so as to reduce the cost and expand the existing R&D programs (OECD, 2010). Tax incentives on R&D are not the same as R&D subsidies because of their different advantages and disadvantages (Ientile & Mairesse, 2009). Tax incentives provide liberty to the firms in selecting and financing to carry out their R&D programs. Subsidies have a centralized authority where decision making is delegated and not efficient in maximizing profit. Thus, tax

cut in the form of R&D incentive is a proper way to instill freedom of innovation utilizing the available resources to optimize the revenue. This is affirmed by Lim et al. (2012) that results have shown that the firms' allocation of funds on innovation programs are a significant determinant in the performance of the firm in innovation. The higher spending on innovation would generate a better innovation program. Government could use the tax incentive mechanism to inspire innovators in SMEs to have their own R&D departments such as by giving them tax incentives for acquiring R&D equipment.

Tax Incentives, R&D and Innovation

Tax incentive for R&D is considered as a main public policy and instrumental to reach the objective to increase private firm's investment in R&D (Castellacci & Lie, 2015). It has a positive outcome because the bigger the spending on R&D, more tax incentives are gained to lower its marginal cost. This study examines the sectoral dimension where it is found that the tax incentives affect the cross-industry differences by comparing high and low technology industries, but no investigation is done on a conceptual framework in micro-econometric works. It is revealed that in micro-econometric studies tax incentives has a smaller effect on sub-sample high-technology industries but higher in countries that have incremental scheme such as Japan, US and France. Brown, Martinsson, and Petersen (2017) mentioned the cross-industry association between the characteristics of the alternative industry which indicates that innovation programs moving in tandem with External finance but moving in the opposite direction with cash flow and income tax. If the company is having a high cash flow and low external finance, the company is also found to be high in income tax.

On the other hand, there also evidences that tax incentives for R&D have negative differential correlation with R&D funds invested in high and low innovative intensity industries although there are substantial positive reaction as a response to the introduction of R&D tax incentives e.g., (Bloom, Griffith, & Van Reenen, 2002; Hall, 1993) where there is an indication that the effect is much weaker in more innovative sector and R&D only increases in less innovative industries. The result from the level regression shows that the effect of cost minimizing due to tax incentives is limited to industries which are non-high-tech. One of the reasons is that high-tech industries are imposed with lower corporate income tax. The other reason is that although more tax incentives for R&D are introduced, high-tech firms always lag behind. Crespi et al. (2016) indicates that developing countries are taking step in granting tax incentives to enhance the participation of private firms in R&D and innovation though there is no concrete evidence on the effectiveness of the mechanism would reach the objective. This study focuses on Argentina's firm-level investment in innovation. The results recommend that the elasticity of the investment has a positive effect in increasing the companies' efforts in innovation although the effects might vary depending on the innovation investment that is being subsidized, industrial sector, and size of the firm. Furthermore, if the investment in innovation is divided between innovation related capital goods expenditures and R&D only, the results recommend that the elasticity for the R&D component is lower. This dissimilar result on the effect of tax incentives should be considered in future policy design.

Researchers in innovation have indicated that the lower effect of innovation investment is a result of market failures. The first reason is that some firms are unwilling to invest on some innovation that might be copied by their rival although the invention is for the good of the public. The second reason is the uncertainty of the innovation investment whether it would be marketable and profitable as against to other ordinary investments that are tangible. The situation will be aggravated if the funders are of different entities which might be external investors who expect positive return on their investment. As such, some innovators in private sector would run dry on financing the R&D on innovation. This circumstance creates an

innovation gap and needs interference from the government who would help in the form of subsidies and tax incentives to minimize the financial burden of companies undertaking R&D innovation and to build up the companies' effort in innovation. This liquidity constraints always revolve around SMEs or technology intensive sector where the firms' investments in innovation are conquered by R&D.

Tax incentives have been introduced in developed countries since the 1960s. It is a very popular policy for innovation investment. However, the efficiency of these incentives in encouraging innovation in business sector were not emphasized in the early empirical researches on the assumption that R&D spending was inelastic in user cost of capital. Only from the 1990s onwards there were studies that indicated the elasticity which recommends tax incentives have some positive advantage in promoting investment in innovation. However, the findings are related to countries with developed innovation systems. R&D tax incentives are different from direct subsidies because tax incentives only applicable to companies that have invested in particular fields that are exempted by the tax and the investment must be viable to produce positive profit that is taxable. It is considered as a market intervention policy, therefore there is a space for an appropriate evaluation on the effectiveness of tax incentives towards R&D innovation.

Using two waves of Innovation Surveys, the study found that the Argentinean tax incentives has decreased the user cost of capital coefficient for R&D innovation which shows the decision on innovation investment generated a significant effect. It is also found that in low technology sector, the effectiveness is higher. Further, larger firms which have no constraint on liquidity react faster to the tax incentives as against the smaller firms which have limited capital resources. Other literatures carried out studies in Norway by Ientile and Mairesse (2009) and Hægeland and Møen (2007) to examine the relationship and relative efficiency of R&D subsidies and the tax incentives. They found out that the subsidies and tax incentives are complement at firm-level but become substitutes at economy-level. Moreover, the researchers indicate that tax incentives to private firms create more additional R&D than subsidies. Koga (2003) found that tax price elasticity was about -0.68 when estimating it for 904 Japanese manufacturing firms over a period of 10 years (1989-1998) when studying the effectiveness of tax incentives on R&D which suggested that the mechanism was effective in increasing R&D investment.

Practices in Developed Countries

The number of countries implementing tax incentives for R&D are increasing. Tax incentive becomes a popular government policy since the number grows from 12 OECD country members in 1995 to 27 in 2013 including China, Brazil, Russia and India (Gokhberg et al., 2014). The tax incentives and other complimentary methods that are engaged to assist the development of SMEs, start-ups, particular priority R&D areas, economic industries and other sectors of the national innovation system include; tax incentives for companies to reduce their tax depending on how much they spend on R&D or growth; accelerated depreciation of R&D machinery, equipment, buildings, structures and other intangible assets; tax exemption on selected R&D spending including over 100% of the amount; reduced income or social taxes or total tax exemption for the company's staff carrying out R&D or particular categories of staff; and the cut back or exception from companies' income tax for income gained from R&D results. In Japan, the innovation culture is supported by the system involving tax, university and private sectors. Innovation is part of their practices and have succeeded to continuously emphasize the importance of them. Companies that pay taxes are entitled to utilize a certain percentage which is approximately 10% of the corporate tax paid as research grants. This entitlement awards them liberty to engage any universities to provide products or solutions

related to their business activities. Universities are paid using the research grant. The higher the tax, the higher the entitlement given to the company. With this huge fund, many universities can participate in producing innovative products requested by the companies that team up with them. This will enhance the exchange in knowledge of technologies between academic world and industry. Universities will compete as well as collaborate among each other to fulfill the request of the industries. Once a new product was born, the industry is ready to proceed with pre-commercialization and finally commercializing them.

Chandran et al. (2014) studied on the use of Multi National Corporation (MNC) as the tool for technological upgrading is a result of policy differences. In South Korea the policy is designed to assist technological programs. In Taiwan the policy is aiming for creating dynamic local SMEs. Malaysia on the other hand, the policy focuses on offering incentives and better infrastructure with the aim to draw foreign investments where the government focused at collaborating MNCs with local firms. Although the universities are allocated with a large amount of R&D resources, the universities are out of the picture and create a missing link. The local firms gain technological know-how only from the interaction and linkages with MNCs. It is a proof of poor university-industry collaboration. Although interviews on the field shows that universities' perspectives that the vital source of knowledge comes from the industries, however the industries see the otherwise. A few reasons that emerge are cultural differences, weakness of organizational practices in universities and above all is the existing gaps in the nature of R&D observed by universities and industries. Investment in R&D might also reflect the absorptive capacity of the industries in assimilating and identifying the new knowledge. Significantly active companies in R&D programs circulated amongst selected industries only such as manufacturers of electronics, petroleum and transport equipment. But it is still at minimal level if compared to other emerging economies such as China, Taiwan and Korea. Eom and Lee (2010) found in Korea that there is a positive effectiveness of university collaboration only in the sample of innovating firms which means that the impact is significantly visible if the company involved in innovation programs.

Findik and Beyhan (2015) assessed the innovation activities of firms in Turkey for a period between 2006 and 2008 using innovation survey carried out by Turkish Statistical Institute in 2009 to study how collaborations have affected the innovation performance of firms. The findings show that there is a positive correlation between external collaboration and the effect of product innovation where the production process, product and market are enhanced. External collaboration has positive and important impact both perceptions associated with the product-oriented and process-oriented effect of innovation. In the research, it is accentuated that large firms tend to innovate than small firms (Rogers, 2004). This inconsistent result is reinforced by (Ettlie & Rubenstein, 1987) where large firms emphasize more on process innovations which turn into product innovations rather than introducing new products. It is also noted that the introduction of new products needs more external funding as opposed to implementing new processes. On the other hand, Chen and Gupta (2017) results of the study indicate that the increase in the R&D tax incentives rate has a positive effect on the R&D spending of high-tech firms, but not on the non-high tech firms considering tax incentives could not be the only way to achieve the policy target. One of the reasons is that the opportunity for innovation could be the major drive for the tax incentives. The other reason is the incentive structure affects the firms' R&D spending patterns. This study shows that tax incentives that are associated to incremental R&D spending giving opportunity to firms to adjust their spending schedule patterns in order to maximize their tax incentives to the extent if the aggregate spending over that time period is unchanged, the unintentional effect of such timing could be higher than the expected loss of revenue in tax.

Existing Problems in Malaysia Malaysian-based companies

Malaysian SMEs are struggling to invent new and targeted market demand for innovative product even with various supports from the government with only limited SMEs are aware of the benefits of innovation (Nor et al., 2017). The research identifies the barriers that deter the process of innovation by examining innovation and performance of food processing of SMEs in Malaysia. Innovation is achieved through product development (Vermeulen, O'shaughnessy, & De Jong, 2003). Vermeulen et al. (2003) indicated that the focus of previous researches on innovation were more on large firms and left out small firms. However, small companies need to compete with other established companies by offering product and services of better quality to the customer. In view of this, they need to continuously innovate to be constantly improved and bring out innovative product (Simon, Houghton, & Aquino, 2000). Jani and Alam (2011) discovered various factors that hinder food processing based SMEs from conducting R&D innovation. Kaufmann and Tödting (2002) indicated that the SMEs are confronted with innovation problems. The most cited problems are most SMEs hardly interact with knowledge sources outside their business sector (e.g., universities) and they have little interaction with innovation-related resources and external information. Proactive consultancy relating to strategic, organizational, and technological weaknesses are low; which are essentials and often the firms are unaware of such deficiencies (Kaufmann & Tödting, 2002).

Government funding/grant

Lee and Chew-Ging (2007) explains that private sector firms acquire funds for innovation programs from internal or own resources referring to MASTIC's R&D surveys since 1994. R&D in Malaysia views government as an unimportant source of funding. Malaysian SMEs are having hard time sourcing their financial needs either from the government or financial institutions; whereby they are subjected to bureaucratic red tapes, high interest rate or profit charged, complex loan process and ill-informed by financial institutions. Other related problems are human capital, business competitiveness, infrastructure, and government policy (Nor et al., 2017). The study suggested for the Malaysian SMEs to be competitive globally and remain sustainable, they must be provided with abundant financial supports either from the government or from the financial institutions. With this kind of help, they will be able to produce new products with the introduction to new market and discover new supply sources.

Government support in Malaysian research and innovation culture

Despite millions were spent to support innovative products; the impact is not reaching the satisfactory level. In some cases, the initiative to support innovative activities are individual centered. A few ministers are keen to support innovative related activities while some are not giving prime attention. Recent data shows that Malaysian government spent 1.3% of GDP for research activities in comparison to 1.5% of GDP in the developed nation. Lee and Chew-Ging (2007) in their study showed since the mid-1990s National surveys of innovation and R&D have been routinely carried out in Malaysia. These surveys recommend that the proportion of innovating firms in the manufacturing sector is between 21 and 42 per cent. These surveys also indicate that finding sufficient funds is a hard task for innovating firms while micro enterprises and SMEs experience much worse because they are mostly sole-proprietorship or partnership firms with confined access to the capital market. The government however, has reacted to this situation by supporting them in the form of various tax incentives and direct financial grants. Surveys recommend that SMEs and micro enterprises would be the major beneficiaries of financial grants. Large firms prefer the double tax deductions advantage while micro-enterprises and SMEs discover import duty exemptions are more beneficial. In general,

although only a small number of firms that has been given fiscal and financial support by the government, many firms surveyed view government support for innovation and technology to be essential. It is essential to have a favorable government policy that cater for the Malaysian SMEs' innovation, a situation that is lacking and the policy discourage the innovation achievement of Malaysian SMEs. A survey among Malaysian SMEs found that there was insufficient assistance for new product development of local SMEs which represented by 47% agreement among the respondents. Whereas, another indicator showed that about 57% disagreement came from the respondents pertaining the current government policy in assisting SMEs, where there was lacking in financial helps, incentives and grants.

It was reported in recent years that Turkey and Poland had added their grant offering of innovation programs in order to increase their companies' innovation performance. These two countries had known for the equal level of economic improvement (Szczygielski et al., 2017). A 2010 innovation survey data discovered that both countries were benefited more of their innovation performance when they received an assistance in R&D programs from the government as compared to the assistance of physical and human capital from EU-funded grants. The EU-funded grants had been seen inefficient to foster innovation while became a reason that hampered innovation. Policy conclusions for what we call "technology-follower countries with relatively well-developed institutions" are suggested. However, this relates only to the grants allocated by domestic sources (local or national governments), while the role of EU-allocated programs is statistically at minimal or negative. In Turkey, the result could be associated to the small number of surveillances than it does for Poland, which obtained its innovation policy mainly from the European Union's structural programs. However, a lot of that EU support has been paid out on subsidizing the upgrading of physical and human capital in Polish firms. It is affirmed that Poland and Turkey had justified that financial support for R&D programs such as grant from government or local were conducive for them to improve their innovation performance level, which is indicated by three aspects of innovation of products which is new to the market and new to the firm, and innovation of process. According to Lim et al. (2012) the support from the government shows a significant effect on firms' investment in innovation activity, but it depends on the support type. The low number of a statistically significant effect of government financial support may be because of the larger proportion of medium and large sized firms among the receivers of such aids, as always it has been the small sized firms that have positive effect.

Research Ecosystem Model

The research ecosystem proposed in this paper consist of interaction among three main actors; the government, industry, and university. The ecosystem starts when companies pay an imposed tax to the government thus enabling them to receive entitlement for research grants. With the research grants entitlement by the government, the companies will request a university to conduct a research for new products or services according to the companies' requirement. The new products or services are expected to generate new revenues as well as profit for the company where the company play its roles by commercializing the new products. the cycle proceeds with the profit gained being taxed and new entitlement of research grant is available for the company. It will become a new opportunity for the company to produce another new product with the university involvement. The cycle continues where another product is born, getting commercialized, producing profit and taxes paid. This is what is called Research Ecosystem, a system that continuously running non-stop, industrial driven with self-sustaining mechanism benefiting companies, universities and the country as a whole. A clear picture of the proposed research ecosystem is presented in Figure 2.

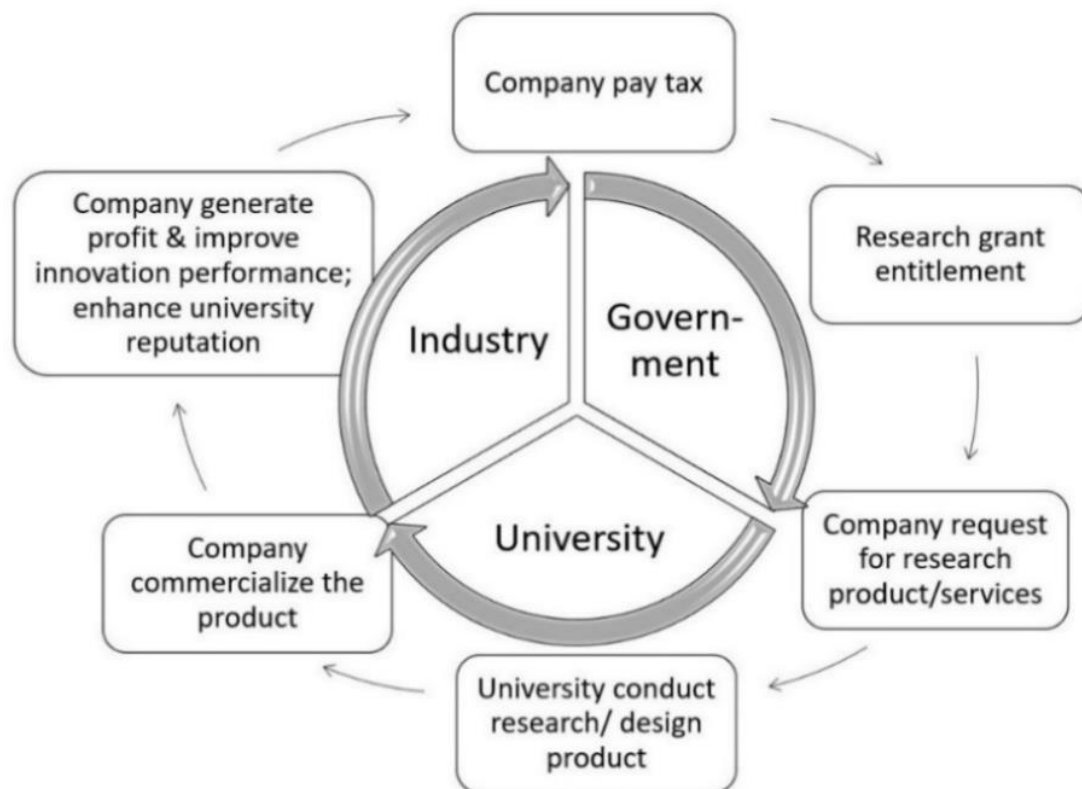


Figure 2: Proposed Research Ecosystem through Tax Mechanism

Challenges

Each improvement initiative is often accompanied by challenges that need to be overcome. The challenges involved include both external and internal aspects. The challenges are an uncertain beneficiary for R&D tax incentives imposition, the different capacity of private sectors and nature of R&D activities, mismatch and poor university-industry relationships, lack of universities and local R&D institutions roles, lack of intermediary roles, and last but not least the vague policy initiatives by the stakeholders.

Uncertain Beneficiary for R&D Tax Incentives Imposition

The questions always linger around who will be benefited more from the tax incentives enforcement. A survey on the R&D tax credits proved that it has an impact on firms' innovation activities and it varies across different industries (Castellacci & Lie, 2015; Freitas et al., 2017). Another instance of large panel firms data was done in the industrialized countries showed that firms in France for example, which have a better chance to receive R&D tax credit and benefited more of additional input effects were the firms that involved in more concentrated market such as science-based and specialized suppliers (Freitas et al., 2017). Moreover, an argument made in earlier studies mentioned that the allocated tax incentive given by the government were benefiting the large companies more than the SMEs (Koga, 2003; Lee & Chew-Ging, 2007). These arguments made it difficult for the country to justify which sectors and stakeholders are getting what advantages from the implementation of innovation tax incentives since all the private sectors have an obvious difference in capacity in terms of technological, human and financial. However, by putting enormous effort, it seems possible to treat all stakeholders equally.

Mismatch and Poor University-Industry Linkages

Iqbal, Khan, Bashir, and Senin (2015) had made an effort to investigate the Malaysia's innovation system and the factors of its failure from two aspects constraints. They were investigating on lack of the national innovation system itself and also the limitations of university and industry research collaboration. Chandran et al. (2014) who also surveyed and interviewed the relevant respondents in Malaysia regarding their alliance activities between the university and industry found that the poor linkage is because of a huge gap between the entities. The study proposed three main reasons that contributed to the weaknesses of national innovation system structure that are disparity of R&D events, the fragility of industrial R&D structure and the absent of intermediary body role. Meanwhile, Iqbal et al. (2015) summarized the lacking of university and industry collaboration are due to the lack of education, limitation in technological competency training and consultancy, intellectual property rights conflict, time and cultural limitations, fund and financial difficulties. The challenge is to reduce the mismatch linkages between university and industry. It is believed if both of the entities are deliberately working on reducing the gap and make and effective efforts, the collaboration activities between the two can achieve success (Chandran et al., 2014). Even so, without a proper government policy and infrastructure, a poor collaboration of university and industry can still be happening.

Different Nature of R&D Activities Between University and Industry

R&D activities involved when the companies are having an innovation attempt whether in a products, processes or services. Chandran et al. (2014) found out there is a gap of R&D activities between university and industry. It actually refers to the nature of R&D activities among these parties itself. Universities had been recognized for its core business, which is beside teaching, they also engage in doing research. However, the kind of research and development involved basically a very fundamental and rudimentary. Whereas, looking from the industry's side, firms are mostly involved with an incremental innovation, a small yet consistent improvement towards any current products, processes or services. This kind of innovation only entails with lower R&D venture. The nature of their absorptive capacity are also different (Chandran, Farha, & Veera, 2008). Private firms are known for their business structure that are capable to absorb as much as relevant technologies into their companies and some of them are very dedicated to performing improvement efforts inside the business. However, universities on the other hand are lacking at so many angles, for example, they do not have the consistent right capital to receive so much knowledge or technologies to make the changes. Furthermore, when look at the angle of R&D collaboration of industries, firms tend to have closer linkages with their external customers such as purchasers, suppliers and also the technical service companies in performing their R&D. Firms need to acquire feedback and support from these external customer for a better input into their R&D. The information comes from these linkages seems to have practical advantages as compared to the knowledge or information shared from the universities, thus making the universities are the least favorable R&D collaborator for the industries.

Limited Roles of Universities and Local R&D Institutions

University and local R&D institutions are part of the triple helix structure of innovation ecosystem between the government, industry and university. These three stakeholders are responsible to play their roles in collaborating to each other to make the innovation ecosystem a success. However, challenges rise when the industries acknowledged the limited roles of universities and local R&D bodies. In a survey on the industries, the two parties were rated as the least significant sources of information for innovation efforts (Koga, 2003; Lee & Chew-

Ging, 2007). Malaysian universities' are bound to provide consultation only (Chandran et al., 2008), while the local R&D bodies are seen to be inefficient in assisting technological capabilities enhancement of the local firms (Malairaja & Zawdie, 2008). Universities are also acknowledged for their lacking in absorptive capacity (Chandran et al., 2014). Other than that, there is also a concern on the privacy issues where, innovation information shared by the private firms to the university are afraid to be disclosed to the competitors. Due to this lacking, it is a challenge to convince the industries to put a trust on the other components of the innovation ecosystem in order to perform all in all R&D, innovations and commercialization thus making the firms to trust more on their chain of supply relationship to provide information for innovation activities (Iqbal et al., 2015).

Lack of Intermediary Roles

The collaboration between university and industry must be strengthened to achieve enhancement of research outputs' commercialization (Malairaja & Zawdie, 2008). However, this relationship has been seen as lacking without any intermediary roles. The collaboration between university and industry was argued to be weak without the interference of intermediary in coordinating and managing the collaboration (Chandran et al., 2008; Chandran et al., 2014). It is suggested that the intermediary body must be the one who is properly appointed so that all research, innovation and commercialization activities between university and industry can be appropriately managed and coordinated (Chandran et al., 2014). Beside commercializing the research output, other activities that have the potential to be conducted such as organizing programs that can assist firms in the university incubator to internationalize their business (Saad & Zawdie, 2005). Link and Rees (1990) claimed that small firms are the one who benefited most from the university-based research linkages since they are more innovative as compare to the large companies. This shows that large companies are possibly undermine the potential of university-based research to be incorporated into their internal R&D activities. The issues discussed raises the question of whether the role of technology transfer office is needed in this matter as the intermediary body between the industry and university. Whether this body can help increase the confidence of all size of private sectors into the linkages with university is still long for a solution. Moreover, the availability of this platform in all universities is still in question.

Vague Policy Initiatives

A rigorous study on the national innovation system proved that the lacking on university and industry collaboration of research significantly influenced the success of national innovation system (Iqbal et al., 2015). It has been long proposed by previous research to come with the solution of innovation ecosystem by fostering the triple helix culture as what have been practiced in many developed and industrialized countries (Chen & Gupta, 2017; Crespi et al., 2016; Gokhberg et al., 2014; Hægeland & Møen, 2007; Saad & Zawdie, 2005). The entities of triple helix involves the government, industry and university (Saad & Zawdie, 2005). These three components are crucial to make their effort towards the success of the proposed innovation ecosystem for the national innovation system. The ambiguity of collaboration effectiveness of university-industry coupled with the lack of initiative by the industry to collaborate make innovation ecosystem accomplishment a major challenge (Chandran et al., 2014). Policy initiative by the government is look to be the most stimulating key to the enforcement of research innovation ecosystem that make use of tax incentive for R&D and innovation activities. However, the challenge is to identify and structure the policy so that it could be concentrated to the sectors and industries that probably have a strong impact on the national economy (Castellacci & Lie, 2015)

Conclusion and Recommendations

The new products are expected to generate new revenues as well as profit for the company. The profit will then be taxed, and new entitlement of research grant is available for the company. It became a new opportunity for the company to produce another new product with the university involvement. Another new product is born; get commercialized, produce profit, pay taxes and the cycle continues. This is what is called Research Ecosystem, a system that continuously running non-stop, industrial driven with self-sustain mechanism benefiting companies, universities and the country as a whole. While we find many positive responses on the enforcement of tax incentives mechanism upon R&D and innovation improvement, thus granting us an idea to propose the same method to be fully enforced in the context of Malaysia. This paper concludes that recent innovations ecosystem in Malaysia does not fully developed which might affect economic performance indicators such as profitability, productivity, and market shares in the medium or in the long run only. Further research would be benefited to have panel data on R&D tax incentives and performance indicators based on objective measures to complement the current imperfect research environment involving the government, industry and the university.

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TOURISM-RELATED BUSINESSES' PERCEPTION OF CRUISE TOURISM: A CASE STUDY IN PENANG, MALAYSIA

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Abstract: *The cruise tourism industry has the potential to generate economic benefits for destination ports from the expenditure of the cruise operators, crews, and passengers. The emergence of large cruise ships with a significant range of onboard services means that cruise companies may benefit more from passenger expenditure than businesses in the local economy at the shore. Consequently, this study seeks to analyse the perceptions of cruise tourism impact on tourism-related businesses in Malaysia. This study focuses on one of the cruise ports in Malaysia as a case study, namely Swettenham Pier Cruise Terminal at George Town, Penang. Qualitative data from semi-structured interviews with tourism-related businesses explore perceptions of cruise tourism development and its impact. The impact of cruise tourism that was discussed, such as benefit the local economy, the emergence of new business, create job opportunity and promote Penang as a tourist destination. Several issues influencing the impacts of cruise tourism have been identified, such as the difficulty in identifying cruise passengers, the location of the business, the role of tour guide, selective marketing materials, and the availability of transportation services. The primary conclusion of this study is that the cruise industry has the chance to develop and be sustainable in Malaysia with careful planning for cruise tourism development and measurement of its impacts is necessary for improvement.*

Keywords: *cruise tourism development, tourism impact, Penang, tourism-related businesses*

Introduction

The modern cruise tourism industry commenced in the 1960s (Rodrigue & Notteboom, 2016) and has developed and diversified noticeably, from small scale adventure and luxury to large scale cruises with vessels equivalent to global floating destinations (Barron & Greenwood, 2006; van Bets, Lamers & van Totenhove, 2016; Wood, 2000). Many studies acknowledge the cruise sector is emerging rapidly (Brida & Aguirre, 2010; Dwyer & Forsyth, 1998; Gibson, 2006; Klein, 2011), and it is also said to be the fastest-growing segment of the tourism industry (Penco & Di Vaio, 2014; United Nations World Tourism Organisation [UNWTO], 2012). Besides, the cruise tourism industry has displayed robust growth in international cruise passenger numbers, rising from 17.8 million in 2009 to 28.2 million in 2018 (Cruise Lines International Association [CLIA], 2019).

The emergence of cruise ships from floating hotels to floating resorts has increased the incentives for the industry to maximise passenger time and expenditure on board (Seidl, Guiliano & Pratt, 2006). This has created direct competition between cruise ship companies and tourism-related businesses in destinations for cruise passenger expenditures (McKee, 1988; McKee & Mamoozadeh, 1994; Seidl et al., 2006). Vaya et al. (2018), claim that cruise

activity acts as a strong catalyst for investment in port facilities, revitalising existing businesses and creating new activities and businesses in destination ports (Bel & Fageda, 2008; Vaya et al., 2018). Although cruise passengers create an economic impact on national economies similar to other types of tourism, the major distinguishing feature is that cruise passengers will spend more money on the cruise itself instead of within the destination port economies (Dwyer & Forsyth, 1998).

In recent years, academics have shown a growing interest in the impacts of cruise tourism development (e.g., Brida & Aguirre, 2008; Dwyer & Forsyth, 1998; Gibson & Bentley, 2007; MacNeill & Wozniak, 2018). However, most previous studies obtained data and information on cruise tourism's economic impacts from cruise passenger surveys (Seidl et al., 2006) rather than from destination surveys. Limited studies have focused on the perception of the local businesses at cruise destination. In addition, Malaysia is one of the countries in South East Asia that has been focussing on developing the cruise tourism industry. Cruise tourism was named as one of the key factors for Malaysia tourism industry in the National Key Economic Areas (NKEA). Under its sixth Entry Point Projects (EPP), the key factor is named Developing Cruise Tourism. Nonetheless, studies on cruise tourism in South East Asia, particularly in Malaysia is rather limited. Therefore, this study aims to analyse the tourism-related businesses' perception of cruise tourism and its impacts. This study concentrates on one of Malaysia's cruise ports as a case study, namely Swettenham Pier Cruise Terminal at George Town, Penang.

Literature Review

The cruise industry has the potential to generate economic benefits in a port state, and these economic benefits occur from five principal sources: (1) Spending by the cruise passengers and crew; (2) The shoreside staffing by the cruise lines for their headquarters, marketing and tour operations; (3) Expenditures by the cruise lines for goods and services necessary for cruise operations; (4) Spending by the cruise lines for port services; (5) Expenditures by cruise lines for maintenance (Brida & Aguirre, 2008). Cruise-related expenditure was categorised into three categories; passenger, operator, and crew expenditure (Dwyer & Forsyth, 1998).

Previous studies claim that cruise activity acts as a strong catalyst that accommodates increasing investment in port infrastructure, revitalising existing businesses and creating new business activities at the port destination (Bel & Fageda, 2008; Vaya et al., 2018). Vaya et al.'s study (2018) found that the growth of the cruise segment at the port of Barcelona since 2000 caused significant investments in the port infrastructure, improving the existing terminals and building new ones dedicated to cruise ships.

The development of the cruise industry causes the advancement of cruise ships in size with more significant facilities, hence it also affects port expansion. One concern is that a large amount of investment capital for infrastructure and maintenance is needed to accommodate the arriving of a large cruise ship into port (Brida & Aguirre, 2008). In addition, a cruise port/city experiences a life cycle comprising different development stages, in a similar way to tourist destinations (Gui & Russo 2011). The stages are: exploration (low number of visitors, lack of access and facilities), development (increase in the number of people discovering the destination, enhanced attractions, and destination amenities), stagnation/maturity (visitor growth close to carrying capacity), and lastly declining or rejuvenation.

Although the development requires vast investment in terminals, and the investment may generate income and opportunity for job creation in destination countries and host communities, however, the amount of money generated for the local economy per cruise tourist is lower than for other types of tourism (Seidl et al., 2006). In addition, Jayawardena (2002)

asserts that although cruise passengers are a large market segment for Caribbean tourism, it is criticised for creating lower than potential income for host destinations.

In contrast, Dwyer and Forsyth (1998) state that although cruise passengers contribute to a national economy like other types of visitors, the significant difference is that they will spend more money on the cruise itself instead of local services. If in the past cruise ships made ports of call and destinations as the core attraction, however, the most recent cruise ships have focused on promoting holiday experience on board by providing all-inclusive resort experiences (Penco & Di Vaio, 2014), and unlimited entertainment without tickets or cover charges (Teye & Leclerc, 1998). Also, the cruise passengers would rather eat on board than in destinations because they have paid for the cruise ship's all-inclusive program (Penco & Di Vaio, 2014).

Nonetheless, development is necessary at a port destination to stay competitive because destination attributes are the most influential aspect in defining overall satisfaction. Cruise passengers rate more developed destinations higher in their perceived quality, similarly cruise passengers spend more money on these ports and travel further from the port area (Teye & Paris, 2011). Overall satisfaction is a direct determinant for the likelihood of future revisits. Past studies revealed that a satisfying trip experience influences the intention to return to a destination (Baker & Crompton, 2000; DiPietro & Peterson, 2017; Pritchard & Howard, 1997).

Cruise industry development has transformed the industry to emphasise the ship itself as a destination, as well as to maximise the time and money passengers spend on board. Somehow this has caused direct competition between cruise companies and local communities for the expenditures of cruise tourists (McKee 1988; McKee & Mamoozadeh, 1994; Seidl et al., 2006). It is indisputable that cruise lines make a significant profit from the expanded cruise tourism industry. Even though cruise lines sell land-based activity provided by locals, it comes with a substantial mark up (Klein, 2003).

Understanding the economic contribution of cruise tourism from the perception of local businesses is crucial. The tourist surveys may unveil the expenses in the port country but not for the port community (Seidl et al., 2006). Although there are numerous studies concerning the impacts of cruise tourism, nonetheless, studies about cruise tourism impact on businesses at the shore are rather limited.

Methodology

The Swettenham Pier Cruise Terminal, Penang, is one of the most favoured stop-over ports of the world's largest cruise vessels. As recorded by CLIA (2017), the Swettenham Pier Cruise Terminal was in Asia's top ten cruise ports with a total of 207 cruise calls in 2017. This has made the cruise terminal in George Town was the number one leading cruise port in Malaysia in 2017. Looking at the advantages of Penang as one of the major tourist destinations in Malaysia with the cruise terminal located within the city of a UNESCO heritage site, it somehow reflects that Penang has the potential to excel as a destination for the cruise industry to emerge. Therefore, further investigation of the destination is necessary.

This study adopted a purposive sampling technique for the qualitative research of semi-structured interviews. In purposive sampling, the process includes identifying and selecting specific individuals or groups that are particularly knowledgeable and expert about or experienced with a phenomenon of interest (Creswell & Clark, 2011). The criteria for selecting the respondents from the population of tourism-related businesses in Penang were; the business involved directly or indirectly with cruise tourism, and the business had to deal with the cruise liner or cruise passengers. Five categories of tourism-related businesses involved in cruise tourism were identified as follows: transport operators, crafts and shops, food and beverage,

tour operators, museums and galleries. Three businesses for each of the business categories were selected, representing its business category for the interviews.

The data collection executed between 11 September 2017 and 14 November 2017. The respondents were approached based on the proximity of the businesses to the cruise terminal and the reachability of the businesses by the cruise passengers. The average length for the interviews was about 31 minutes. Table 1 shows the interviewee and business details. The voice recordings of the semi-structured interviews were transcribed into Microsoft Word, and thematic analysis was used to analyse the data. The thematic analysis helps to identify patterns or themes within qualitative data.

Table 1: The interviewee and business details

Interviewees	Business type	Distance to the cruise port (in kilometer)
Shop 1	Retail shop	At the port
Shop 2	Souvenir shop	1.2
Shop 3	Souvenir shop	1.2
F&B 1	Food & beverage shop	At the port
F&B 2	Restaurant	0.3
F&B 3	Restaurant	0.9
Museum 1	Modern museum	0.35
Museum 2	Modern museum	1.7
Museum 3	Cultural museum	1.3
Transport 1	Transportation service	At the port
Transport 2	Transportation service	At the port
Transport 3	Transportation service	1.2
Tour 1	Tour operator	2.9
Tour 2	Tour operator	6.5
Tour 3	Tour operator	2.9
*distance from Swettenham Cruise Terminal to the businesses estimated by Google Maps		

Source: Author's fieldwork

Results

Perceptions of cruise tourism development

The analysis of the perceptions of cruise tourism development in Penang revealed that predominantly positive response was received from the tourism-related businesses. The positive reactions mentioned, “*cruise tourism development in Penang is getting better from year to year*” [Shop 2], “*it is growing*” [Museum 1 and 2; Tour 3], “*It is developing*” [Museum 3], “*It is good*” [F&B 3; Tour 2], “*It is very good*” [Transport 1; Transport 2], and “*very positive*” [F&B 2]. The development of the cruise tourism industry in Penang was illustrated in the increases in the number of cruise arrivals at the cruise port and the number of cruise passengers in George Town, Penang [Museum 1 and 2; Tour 3].

The respondents also talked about the role of the government in cruise tourism development. According to Tour 2, the government had played a significant role in promoting Penang until it became one of the famous destinations in South East Asia, and this had encouraged the cruise liners to focus on Penang. F&B 1 added that the government's responsibility to promote cruise tourism at the international level and their efforts to introduce Penang and its attractions had increased incoming foreigner visitors. Furthermore, Museum 1, 2, and Transport 1 also asserted that the state tourism bureau had played their roles in promoting Penang. For example, the state tourism bureau has been involving the local businesses by requesting advertisement and marketing materials to be included in the marketing brochures. Besides, some respondents [Museum 1; Museum 2; Transport 2; Tour 3] talked about their

perceptions of the cooperation and collaboration between different levels of government bodies including the state and federal level, that have encouraged the growth of the industry.

In addition, Museum 3 associated cruise tourism development with the expansion of the cruise terminal. This is supported by one of the tour operator businesses that talked about the collaboration between the major international cruise company, Royal Caribbean, with the cruise port. *“I think it is good. We are very happy to hear that Royal Caribbean is willing to expand the port. That is a very good thing because they foresee that Penang is a good destination for cruises”* [Tour 2]. Other than that, transportation businesses at the Swettenham Cruise Terminal [Transport 1; Transport 2] expressed several reasons for the cruise tourism’s development, such as Penang have many attractions to offer to the cruise passengers, especially in the heritage centre of George Town, Penang Hill, the existence of many museums, and the authenticity of local foods.

Perceptions of cruise tourism impact Benefit the Local Economy

The majority of the businesses believed that cruise tourism development impacted the destination, primarily on how it benefited the local economy. As mentioned by Tour 3: *“Of course, it will help Penang’s economy too because when they come out (from the cruise) they have to buy things, for example, souvenirs”*. Also, F&B 2 answered, *“It brings profit to Penang. Thousands of passengers coming through have an impact on the local businesses”*. The interviewees also thought that cruise tourism brought more tourists into Penang (Shop 1; F&B 2; F&B 3, Museum 1 and 2; Museum 3; Tour 3). One of the interviewees (F&B 3) believed that although cruise passengers had a limited time in Penang, because many cruise passengers arrive all at once, thus more spending will occur. This is also supported by other interviewees (Museum 1 and 2; Museum 3; Transport 2; Tour 3) with a general consensus that one of the impacts of cruise tourism was the expenditure of cruise passengers. Conversely, Shop 3 thought the impact of cruise tourism was limited because cruise arrival was infrequent, and sometimes the passengers do not purchase anything in Penang. Shop 3 added, *“Sometimes they did not exchange money for Ringgit Malaysia currency because they are just here for a while. Not all cruise passengers buy something from here; most of the time they are just passing by and window shopping”*.

Furthermore, five businesses from the interviews admitted that they depend on the cruise arrivals, which are Tour 3, and the businesses located at the cruise terminal, such as Shop 1, F&B 1, Transport 1, Transport 2. Cruise passengers are primarily their target customers. For Shop 1, the business depends on the cruise arrivals; their target customers are cruise crews instead of the passengers. While for F&B 1, although the cruise arrival is seasonal, it helps to increase the number of their customers. Meanwhile, for the transportation business, Transport 1 and Transport 2 predominantly cater to cruise passengers wanting a tour. In the same way, Tour 3 said that cruise tourism has a positive impact on their business because they have a direct business relationship with a cruise liner that has five arrivals in a week.

The Emergence of New Businesses

Other than benefiting the existing businesses, some participants believed that the development of cruise tourism also opened up new opportunities, especially for small business [F&B 1; F&B 2; Museum 3]: *“I can see that the crafts and souvenirs industry is expanding rapidly... this has encouraged an increase in business opportunities for locals”* [F&B 1]; *“I think it has definitely created more small businesses... a lot of souvenir shops and small retail outlets; local arts and crafts have flourished”* [F&B 2]. Additionally, Museum 3 added that many new museums were created as a result of the growth of the tourism industry. This could be referred to the growth

of the number of modern museums in Penang. To date of the fieldwork activity was executed, there were about 27 modern museums available in George Town city, which predominantly are privately owned. Thus, this is somehow suggesting that cruise tourism has impacted the local economy.

Creates Job Opportunities

Not only does cruise tourism create business opportunities, but it is also believed to increase employment prospects for local people. This is supported by the following statements: *“Because there are many people who are freelance tour guides, freelance drivers. So the tourism industry has opened a lot of job opportunities for people here. Even the trishaw cyclists makes a profit from this”* [Museum 1 and 2]; also *“There is a positive impact in terms of creating job opportunities for locals, and I have known some Malaysians who work with Star Cruise Superstar Libra as crew”* [F&B 1].

Promotes Penang

Cruise tourism is also a way to introduce Penang to the world. Some of the businesses believed that the arrival of cruises with thousands of passengers is an opportunity to promote Penang. When the interviewees were questioned about the impact of cruise tourism, F&B 1 also mentioned *“promoting our culture and Penang to the world”*, while Museum 1 and 2 said *“introducing Penang”*, and Tour 3 said *“in that sense, it will help tourism in Penang”*. Some interviewees [Museum 1; Museum 2; Tour 2] added that cruise tourism acts as a preview of Penang to the passengers. In addition, the limitation of time to spend onshore might encourage the passengers to return to Penang for a more extended visit.

Other than that, several issues have been identified as factors influencing cruise tourism impacts on businesses in Penang.

Difficulty in Identifying Cruise Passengers

The major problem in determining the cruise tourism impact was the difficulty in distinguishing between cruise tourists and ordinary tourists. First of all, it must be acknowledged that some of the interviewees considered they received a small number of cruise passengers at their businesses (Museum 1; Museum 2; Transport 3; Tour 1). Despite that, they were able to give their perception of cruise passengers. F&B 2 emphasised the difficulty of differentiating between an ordinary tourist and a cruise passenger, making it harder to comment about the cruise passenger as a customer. In contrast, Shop 1 and F&B 3 specified that their customers from cruises were mainly the cruise crews.

The Role of The Tour Guide

Due to the limited time that the cruise passengers have at the shore, passengers also depend on the tour operator or transportation service, such as taxis, to guide and take them on a specific tour or to a particular place. Hence, this determines the businesses that will be reached by the cruise passengers. Museum 1 and 2 mentioned that, *“Some passengers also contracted or bought certain tickets, or who already have an itinerary with certain agencies... Another type of cruise traveller is free-traveller. When they come out of the cruise, a taxi driver will wait for them. They will ask the taxi driver where to go”* [Museum 1 and 2]. This is also supported by Museum 3, who said, *“It depends on the guide”*, as tourist guides were commissioned by particular attractions to bring cruise passengers to their businesses. F&B 3 also mentioned that cruise passengers normally had been taken by the travel agent instead.

Location Issues

Another argument pointed out by the interviewees was that cruise tourism does not have so much impact on local businesses due to the location of the businesses (Shop 2; Shop 3). Shop 2 explained that *“It depends on the businesses' location. Certain locations are affected so much by the cruises because many cruise passengers walk by in the area, while some areas are not affected at all”*. The shops claimed that the passengers rarely went to their shops probably due to the location of the shops being less reachable for the cruise passengers. Both shops are located about one kilometre from the cruise terminal. Nevertheless, Museum 1 and 2 argued that although the museum is near the port, which is less than 500m from the cruise terminal, cruise passengers rarely visit the museum. F&B 3 also mentioned that very seldom cruise passengers visited their business, instead, they received cruise crews, although their location is close (about 900m) to the port.

The Availability of Transportation Services

The owner of Museum 1 and 2 claimed the reason for the limited number of cruise passengers visited the museums because the passengers opted to take transportation services to travel further from the port area: *“Even though our museum is right in front of the port, they will not walk. So what they do is take a taxi. Therefore it depends on the taxi drivers to promote places or attractions to go”* [Museum 1 & Museum 2]. Besides, F&B 3 added that due to the ease of getting transportation services such as Uber and Grab Car, therefore the cruise passengers and crews prefer to use those services to travel to a more distant location such as the shopping malls.

Selective Marketing Materials

Another factor that influences the impact of cruise tourism on tourism-related businesses is selective marketing materials. Museum 3 claimed that the number of cruise passengers visiting the museum declined because the passengers were diverted to other options of activities such as visiting the tropical fruits plantation and shopping tours. Museum 3 also added that the adjustments in the marketing promotion by tour agents caused a drop in the number of passengers visiting the museum. On the other hand, Tour 2 claimed that cruise passengers prefer to follow packages sold on the cruise because it is more convenient for them to purchase.

Discussion and Implication

The findings revealed that there was a consensus among tourism-related businesses that cruise tourism in Penang is developing. The development of the cruise tourism industry in Penang was described in the context of the increase in the number of cruises and passengers arriving at Swettenham Cruise Terminal, Georgetown. This is in line with CLIA (2019) data that shows the number of global ocean cruise passengers increased consistently between 2009 and 2017. The cruise terminal was also the leading cruise port in Malaysia and listed in Asia's top ten cruise ports (CLIA, 2017).

The cruise industry's development is influenced by the government's active efforts to promote the industry locally and globally. The results suggest that the government, which includes the local and federal bodies, was supportive of the industry. Moreover, the interviewees also associated the development of the industry with the expansion of the cruise terminal. The cruise terminal will be expanding with the joint venture of the Royal Caribbean Cruise Line. The development of the cruise industry will be accompanied by the need for investment in terminals for larger ships arriving in greater numbers (Seidl et al., 2006; Vaya et al., 2018). The findings also revealed that George Town as a cruise destination, is experiencing the stage of growth, where the number of cruise vessels and passenger arrivals is increasing.

Besides, a big project of terminal expansion that was in the making signified the lifecycle stage of the cruise destination.

It is believed that the development of cruise tourism has benefitted the local economy. The respondents believed cruise tourism had brought more tourists into Penang, and a large number of passengers' arrivals has contributed to their spending, despite the short time that they have in Penang. Therefore, the expenditure by the passengers will bring profit to the local businesses. More interestingly, the interview findings also demonstrate that the expenditure was not merely by the passengers, but also by the crews. Nonetheless, it is important to acknowledge the issues raised by the respondents that might be influencing the perceptions of cruise tourism impact, such as the difficulty in identifying and distinguishing between an ordinary tourist and a cruise passenger.

The development of the cruise tourism industry in Penang has encouraged the existence of new local businesses. Some interviewees supported this, saying that many small businesses such as retails, souvenirs and art shops, and modern museums have flourished. These activities will act as a strong catalyst that revitalises existing businesses and creates new business activities at the port destination (Vaya et al., 2018; Bel & Fageda, 2008). Besides, cruise tourism is also a way to introduce Penang to the world. The interviewees believed that the cruises, with thousands of passengers, acted as a preview and gave a chance to promote Penang. Cruise tourism could encourage passengers to return to Penang for a more extended visit in the future. Some businesses claimed to have returning cruise passengers who revisit Penang and use their services again.

One interesting finding from the study is that the proximity of the cruise terminal location to the business does not guarantee that a business will be impacted by cruise tourism. It is influenced by the aspects such as where tour guides lead the passengers, the businesses highlighted in the marketing brochures and leaflets, and also the ease of getting public and private transport to commute within the destination. Surprisingly, previous studies showed contradict findings where the cruise passenger prefer to walk around the city (Andriotis & Agiomirgianakis, 2010; Jaakson, 2004). However, it is acknowledged that different locations have different destination attributes that could influence cruise passengers' choices and behaviours. Moreover, the cruise passengers' dependency on the tour guides also raised the question of the extent to which the purchases of the passengers impacted the tourism-related businesses. Previous studies had doubted that even though cruise lines sell land-based activity provided by locals, it comes with a substantial mark up (Klein, 2003; Brida & Aguirre, 2008).

This study has discussed the tourism-related businesses' perceptions of cruise tourism development and its impacts. The results of the study have shown the significance of the roles of destination stakeholders in shaping the cruise tourism in a destination and somehow define the participation of tourism-related businesses in the cruise tourism industry. This shows that tourism-related businesses also play a role in the cruise tourism industry because they accommodate the needs and wants of the cruise passengers at the shore.

Conclusion

The present study suggests that the cruise industry has the chance to develop and be sustainable in Malaysia; however, careful planning for cruise tourism development and measurement of the impacts is necessary for improvement. This attempt needs excellent cooperation between all destination stakeholders, including the government, cruise operators, tourism board, local businesses and community, to carefully plan for the development. The results of the study reveal the important roles of the destination stakeholders in developing the cruise tourism industry that benefitted the businesses at the cruise port destination. The tourism-related businesses believed that the destination stakeholders involving both public and private sectors

have a role to play and work closely to support cruise tourism in Penang until it becomes one of the famous tourist destinations in South East Asia, indirectly enticing cruise liners and passengers to visit George Town, Penang.

This study has several limitations to be outlined. Firstly, the premise of the study had an exploratory focus on cruise tourism in Penang, Malaysia. The findings cannot be easily generalised to other locations that might have different destination attributes, geography, social, economic or political background. Secondly, the exploratory focus of the study was not possible to validate the weight of each of the discussed cruise tourism impacts.

Nonetheless, this current study works as an initial benchmark for future studies on cruise tourism in South East Asia, particularly Malaysia. The research findings have opened up new avenues of work that could be done and suggest several recommendations, such as future research could explore the development stage of the cruise tourism industry in Penang, which includes the stage of cruise port development. Other than acquiring the perceptions of impacts, future research should measure the impact of cruise tourism from economic calculations to provide an actual economic impact.

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PREDICTING FINANCIAL DISTRESS IN THE MALAYSIAN MARKET: HAZARD MODEL VERSUS THE LOGIT MODEL

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Abstract: *The increasing numbers of financially distressed firms in the Malaysian market demonstrate the importance of predicting financial distress among firms in Malaysia. Using firm financial ratios, this study focuses on predicting financial distress using hazard model and logistic regression (logit model) based on the Malaysian market. This study used listed firms on the Malaysian stock market from 2000 to 2018 to create two sets of data comprising the main sample and holdout sample in order to compare the predictability between hazard and logit models. The results clearly show that the hazard model is better compared to the logit model in predicting financial distress for the Malaysian market since more variables were found to be significant in addition to the model being more consistent in terms of accuracy.*

Keywords: *Predicting; Financial Distress; Hazard Model; Logit Model*

Introduction

According to Bursa Malaysia record in 2018, there has been an increase in the number of firms falling under the Practice Note 17 (PN17) status. The number increased from 21 firms in 2017 to 24 firms in the middle of 2018. Although these numbers are relatively small compared to the total number of firms in the market, stakeholders' position and firms' bankruptcy risk level may be affected if this increasing trend continues. Thus, a better understanding of financial distress and bankruptcy risk is imperative.

The term "bankrupt" is defined as the inability to repay debt or also known as insolvency (Sathye, Bartle, Vincent, & Boffey, 2003). Since debt is an obligation, bankruptcy risk could be defined as the probability that a firm is unable to meet its obligations. Thus, financial distress shows the likelihood of the firm to become insolvent due to the inability to serve its debt obligations. Sathye et al. (2003) explained that debt obligations include the loan principal, interest charge, and other accrued payments. Hence, a firm is in financial distress if it cannot meet its current obligations, where the firm's value is less than the value of its liabilities.

Altman (1968) introduced the Z-score, which was developed using MDA, and this model has been used by many researchers like Blum (1974) and Wilson and Sharda (1994) to develop a financial distress prediction model. Meanwhile, some other researchers including Ming and Akhtar (2014), Noor, Iskandar, and Omar (2012), and Pindado, Rodrigues, and de la Torre (2008) used the logit model to develop a financial distress model as introduced by Ohlson (1980), who developed the O-score to predict financial distress.

However, some research works have highlighted several problems with both MDA and the logit model. MDA was found to violate the assumption of normality and group dispersion, which may cause bias to the test of significance and estimated error rates (Ohlson, 1980). Meanwhile Shumway (2001) and Hillegeist, Keating, Cram, and Lundstedt (2004) argued that the logit model a few econometric problems. Hence, the results obtained from the logit model subject to biased, inefficient, and inconsistent. Shumway (2001) then attempted to overcome the problems encountered by the logit model by introducing the hazard model for the prediction of financial distress.

Hence, if the problems that are inherent in MDA and logit in predicting financial distress are considered as serious problems, then the accuracy of the models developed based on both models is questionable. Thus, a study on financial distress prediction models needs to be explored to generate the best model for predicting financial distress that fulfils all econometric assumptions and is able to generate results with high accuracy.

Based on the above, this study used financial ratios to develop financial distress prediction models and to compare the reliability between logit and hazard models in predicting financial distress based on the Malaysian market, because both models generate probabilities that could be compared easily. However, this study did not include the MDA model in the comparison because Lo (1986), which compared the predictability of MDA and logit models, highlighted that the comparison must meet one condition which is the data should satisfy the normal distribution assumption or otherwise, the generated results would be inaccurate. This study used the Malaysian market as its population since most of the previous studies focused on developed markets instead of an emerging market like Malaysia. This study tried to avoid using any prediction models developed by previous studies for developed or other countries since Md-Zeni and Ameer (2010) stated that those models might not be suitable for developing countries due to differences in political and market regulations under which firms operate.

Although some previous studies had developed prediction models based on the Malaysian market, only a few studies made comparisons between the models (Abdullah, Halim, Ahmad, & Md-rus, 2008; Abdullah & Halim, 2005; Noor et al., 2012). However, to the best of the author's knowledge, this study is among a few that compared the reliability between hazard and logit models based on the Malaysian market and the first study to compare both models using data from all firms listed on Malaysia stock exchange between 2000 and 2018. Most of the previous studies focused on only a few industries or used a pairing approach between financially distressed and non-financially distressed firms based on a certain criterion, resulting in small sample sizes. In contrast, this study used all the listed firms in Malaysia during the studied period, resulting in a large sample size. Thus, the outcomes of this study are expected to be beneficial for financial institutions, policymakers, and investors. This study highlights the importance of developing accurate financial distress prediction models based on the Malaysian market as these models might affect credit decisions, credit policies, and investment decisions.

Literature Review

Financial Distress Prediction Models

Many models have been developed by researchers involving the use of machine learning techniques and statistical techniques to predict financial distress. Beaver (1966) and Altman (1968) are pioneers of the models for financial distress prediction. Altman (1968) employed multiple discriminant analysis (MDA) using financial ratios to predict financial distress for 33 failed and 33 non-failed firms. The results showed that the ratios used were highly significant in predicting financial distress. Based on the results of that study, Altman proposed the Z-score model to predict financial distress by using ratios such as profitability, liquidity, solvency, and

cash flow. Thus, it was found that the combination of prediction models and financial ratios could predict firms' potential failure before the failure occurred.

However, Ohlson (1980) highlighted some inherent issues with MDA. MDA was found to violate the assumption of normality and group dispersion, which may result in bias in the test of significance and estimated error rates. This is the main reason why the researchers after Altman started using other models and shifted their attention away from MDA. Due to these issues, Ohlson (1980) introduced the logit model, which does not have the same assumption as MDA. The logit model was found to be suitable to be used for predicting firms' failure. However, a comparison between MDA and logit models by Lo (1986) showed that the MDA model had higher predictability power compared to the logit model. Nevertheless, this result was based on the condition that the MDA model's data satisfied the normal distribution assumption. According to Shumway (2001) and Hillegeist et al. (2004), the logit model has econometric problems, which could lead to the result become biased, inefficient, and inconsistent.

Due to the weaknesses of the logit model, Shumway (2001) used the hazard model to predict financial distress. Shumway (2001) found that three market and two accounting ratios produced the best result in predicting financial distress. Using a similar sample as Shumway (2001) but covering the period of 1962 to 2002, Beaver et al. (2005) found a similar result that supported the earlier study by Shumway.

In Malaysia, several studies have been conducted to compare the models that predict financial distress for Malaysian firms. In a study that compared MDA with hazard and logit models, Abdullah, Halim, Ahmad, and Md-rus, (2008) found hazard model has higher overall accuracy rate in the estimation model compared to MDA and logit. However, MDA gives a higher accuracy rate when the estimated equation is applied in the holdout sample. This could be caused by the stepwise rather than enter approach adopted in the hazard model

Determinants of Financial Distress

Nyamboga, Omwario, Muriuki, and Gongera (2014) asserted that liquidity is one of the indicators of the ability of a firm to meet its short-term obligations. Thus, the firm will try to focus on avoiding a low liquidity position because a lack of liquidity will lead to poor creditworthiness, loss of confidence among creditors, or may lead to the closure of the firm. Researchers including Abdullah (2006), Daily and Dalton (1994), Elloumi and Gueyié (2001), Ganesalingam and Kumar (2001), and Youn and Gu (2010) used the current ratio (CR) in developing their financial distress prediction models. CR can be defined as current assets divided by current liabilities (Elloumi & Gueyié, 2001; Foster & Zurada, 2013; Parker, Peters, & Turetsky, 2002; Wang & Li, 2007). This ratio directly measures the ability of a firm to meet its short-term obligations using only current assets. Syahida and Ameer (2011) used CR as one of the predictors in predicting the turnover of financially distressed firms in Malaysia. Their result demonstrates the significance of liquidity, represented by CR, in predicting the turnover of financially distressed firms. Thus, it is evident that liquidity is important in predicting the survival of a firm. Meanwhile, Altman, Haldeman, and Narayanan (1977) suggested using the ratio of working capital to total assets because this ratio was found to be able to capture the effect of the liquidity factor in predicting financial distress.

Following the advice by Altman et al. (1977) against using CR to represent liquidity, Ugurlu and Aksoy (2006) used sales to working capital (SWC). They discovered a positive relationship between SWC and the probability of the firm going bankrupt. However, their result contradicted the finding by Yap, Munuswamy, and Mohamed (2012), which used SWC in their study and found it to be insignificant in predicting financial distress.

Researchers have also used activity ratios in predicting financial distress (e.g., Abdul et al., 2015; Tan & Dihadjo, 2001; Tirapat & Nittayagasetwat, 1999; Wang & Li, 2007). Activity ratios or efficiency ratios, as highlighted by Youn and Gu (2010), are useful in evaluating the productivity of firms based on the available assets.

Ong, Yap, and Khong (2011) used days sales in receivable under the activity ratio as a predictor in the prediction model for the Malaysian market and found it to be significant in predicting firms' failure. This is because the ratio reflects the ability of a firm to collect payments from their credit sales. Ong, Yap, and Khong (2011) explained that the faster the firm is able to collect from their credit sales, the faster the money collected could be used to settle the firm's debts, which would help to reduce the probability of the firm becoming a financially distressed firm.

Profitability indicates the ability of a firm to generate profits and is commonly represented by the profitability ratios (Nyamboga et al., 2014). Various profitability ratios have been used by researchers in predicting firms' financial distress, and one of them is earnings before interest and tax to sales or EBITs (Abdul et al., 2015; Parker et al., 2002; Tan & Dihadjo, 2001; Thai, Goh, Teh, Wong, & Ong, 2014; Ugurlu & Aksoy, 2006). Parker et al. (2002) used this ratio as a proxy to return on assets, which also represents the ability of a firm to recover from financial distress. Parker et al. (2002) believe that this ratio should have a negative relationship with the probability of financial distress.

Some researchers used simple ratios such as net profit margin or NPM (Pindado et al., 2008; Z. Wang & Li, 2007). Yap et al. (2012) found NPM to have a significant negative effect in predicting firms' financial failure. However, researchers such as Youn and Gu (2010) argued that using profitability ratios in predicting financial distress is similar to predicting profitability using a profitability ratio and this approach will affect the accuracy of the prediction model. This argument is only suitable if financial distress is defined as the inability of the firm to generate profits. Thus, Syahida and Ameer (2011) stressed on the importance of the profitability ratios in predicting financial distress or turnover, as profitability ratios were found to be statistically significant in distinguishing firms according to certain criteria such as bankrupt firms and surviving firms.

Leverage plays an essential role in determining a firm's financial position. For long-term creditors, a firm's long-term debt position is crucial since it affects the firm's capital structure (Nyamboga et al., 2014). One of the many leverage ratios is the debt ratio. Lee and Yeh (2004) and Parker et al. (2002) defined the debt ratio as the total debt divided by the total assets. Beaver (1966) and Ohlson (1980) found this ratio to be significant in predicting financial distress. Instead of using the debt ratio, Ugurlu and Aksoy (2006) used the ratio of long-term debt to total debt since it indicates the reliance of the firm on long-term debt as a source of finance. Ugurlu and Aksoy (2006) found that an increase in a firm's long-term debt to total debt ratio significantly decreased the firm's probability of facing financial failure or financial distress. Halim and Aihmad (2005) used shareholders' funds to total liabilities to represent the leverage ratio because this ratio stands for the capital structure of the firm. They found this ratio to be a significant predictor of financial distress. Thus, a firm that relies too much on liabilities would have a high probability of getting into a financial distress situation. Meanwhile, Chen et al. (2013), Fich and Slezak (2008), and Youn and Gu (2010) included financial cost elements as their variables, such as the interest coverage ratio (ICR). This ratio contains wide-ranging information related to earnings, productivity, ability to pay interest, and indebtedness of the firm (Youn & Gu, 2010). Youn and Gu (2010) used the logit model and they discovered a negative coefficient for the interest coverage ratio, indicating that a firm with a high-interest coverage ratio would have a low probability of encountering financial distress.

Methodology

Data

This study focused on firms listed in the Malaysian stock market over the period of 2000–2018. However, firms in financial and properties sectors were excluded from the sample of the study due to the highly volatile ratios that are heavily influenced by the economic condition and the slight difference in the interpretation of ratios (Md-Rus & Abdullah, 2005). Two sets of data were created, namely, the main sample and the holdout sample. For logit model, 1078 firms were used to develop the prediction model and 273 firms were used as the holdout sample. For hazard model, 12353 firm-year observations were used to develop the prediction model and 3963 firm-year observations were used as the holdout sample. This study focused on firms listed in the Malaysian market because listed firms are significant players within this market. The selected firms were later classified into two categories, namely, (1) financially distressed firms and (2) non-financially distressed firms.

This study defined a financially distressed firm as a firm that has been classified by Bursa Malaysia as a financially distressed firm under Practice Note 4 (PN4), PN17, or/and the amended PN17, and a firm with a deficit in the adjusted shareholders' equity on a consolidated basis. Firms that did not fall under these criteria were classified as non-financially distressed firms. Unlike Ong, Yap, and Kong (2011) and Abdullah et al. (2008), this study did not match the number of non-financially distressed firms against the number of financially distressed firms in order to avoid sample bias, as highlighted by Sori, Hamid, Nassir, and Mohamad (2001).

Annual financial reports for both groups of firms were obtained from the Bloomberg terminal. Financial information was used to calculate the financial ratios for each firm for each year. These ratios —liquidity, profitability, leverage, and efficiency ratios — formed the independent variables or predictors in developing the financial distress prediction models.

Financial Distress Prediction Models

This study used two statistical approaches to predict financial distress, namely, (1) the logistic regression model or known as the logit model and (2) the hazard model.

According to Shumway (2001), the logistic model is a statistical technique that is appropriate when the independent variables are metric variables and the dependent variable is a non-metric (categorical nominal) variable. This is because the logistic analysis aims to identify the best fitting model to explain the relationship between the predictors or explanatory variables and the dependent variable using the most parsimonious yet reasonable model based on statistics. This study adopted the logit prediction model by Ohlson (1980) and Abdullah and Halim (2005), based on the following equation:

$$Z_i = \beta' x_i + u_i \quad (1)$$

where:

Z_i = non-distressed if $Z_i > 0$, Z_i ranges from $-\infty$ to $+\infty$

Z_i = distressed, otherwise

x_i = Firms' financial ratios

u_i = error term

Non-distressed firms' probability and likelihood function could simply be defined as follows:

$$P_i = \frac{1}{1+e^{-z_i}} \quad (2)$$

where:

$$Z_i = \beta' x_i + u_i$$

In detail, it is written as follows:

$$P_i = E(Y = 2 / x_i) = \frac{1}{1+e^{-(\beta' x_i + u_i)}} \quad (3)$$

Equation (3) represents the cumulative logistic distribution function. Equation (1) is used to estimate the weight of each financial ratio of the selected firms. Based on equation (3), if P_i represents the probability of non-distress, then $(1 - P_i)$ represents the probability of distress. Thus,

$$1 - P_i = E(Y = 2 / x_i) = \frac{1}{1+e^{(\beta' x_i + u_i)}} \quad (4)$$

The optimal weight, β , could be estimated where the likelihood value is maximised. In order to obtain the probability of distress, β is substituted into the cumulative probability function (equation 4). Based on the calculated probability from the logit model, firms with a probability of less than 0.5 were classified as non-distressed firms. In contrast, firms with a probability of more than 0.5 were classified as distressed firms.

Further, the hazard model was used to assess how well each predictor variable explains the actual probability of distress in the sample used. It is expressed by the following equation:

$$\Phi_{i,t} = \frac{e^{a(t) + \beta X_{i,t}}}{1 + e^{a(t) + \beta X_{i,t}}} \quad (5)$$

where X represents a vector of the predictor variables used to predict distress, $a(t)$ is a time-varying covariate, β is the coefficient of the predictor variables, and $\Phi_{i,t}$ is the hazard model. The main reason that this study used this model is that it is suitable for analysis that includes binary, time-series, and cross-sectional observations like financial distress data. Although the estimation of the hazard model is similar to the logit model in terms of the same likelihood function and the same asymptotic variance-covariance matrix, the hazard model uses time-varying covariates and firm-year observations. These help to eliminate sample selection bias; thus, the generated results will be more efficient coefficient estimates as all data are used (Abdullah et al., 2008; Md-Rus, 2011).

In this analysis (the hazard model), the firm that failed in year t is coded as 1 and 0 otherwise. If a firm failed in year 7, the firm is coded as 1 only for year 7 while for the previous six years, it is coded as 0, indicating that the firm was in good condition in those years. However, an adjustment was made to the logit model's statistical test because the hazard model used firm-year data. The test statistics obtained from the estimation were divided by the average number of firm-year per firm. This is because the test statistics obtained from the logit model were based on the number of firms in the data.

The independent variables of both models consisted of the financial ratios, namely, liquidity, activity, profitability, and leverage ratios. The liquidity ratios were represented by two ratios, which are current ratio (CR) and sales to working capital (SWC). Days sales in receivable (DSC) represented the activity ratio. This study used earnings before interest and

tax to sales (EBITS) and net profit margin (NPM) to represent profitability in predicting financial distress. Meanwhile, debt ratio (DR), long-term debt to total debt ratio (LDTD), shareholders' funds to total debt (SFTD), and interest coverage ratio (ICR) were used to represent the leverage ratios. Lastly, this study compared both models in terms of accuracy and consistency in predicting financial distress based on the main sample and the holdout sample.

Results and Discussion

Tables 1 shows the correlation analyses for all the variables used in the study under the hazard model and logit model, respectively. A correlation analysis examines the strength of correlation among variables. Table 1 shows that the correlations among most of the independent variables were less than 0.8, showing moderate or weak correlations among them. These results indicate that there was no multicollinearity issue among the selected independent variables.

Table 1: Correlation Matrix

	CR	SWC	DSC	EBITS	NPM	DR	LDTD	SFTD	ICR
CR	1								
SWC	-0.0043	1							
DSC	0.0125	-0.0008	1						
EBITS	0.013	0.0031	-0.009	1					
NPM	0.0113	0.0005	-0.0062	0.105	1				
DR	-0.1127	-0.0284	-0.0012	-0.1535	-0.0182	1			
LDTD	0.041	0.0005	-0.0048	0.0526	-0.0091	0.0199	1		
SFTD	0.7673	-0.0062	0.0114	-0.0004	0.0096	-0.1202	-0.08	1	
ICR	0.0302	-0.0007	-0.0014	0.0193	0.0016	-0.0122	-0.0127	0.0174	1

NOTE: CR represents the current ratio, SWC represents sales to working capital, DSC represents days sales in the accounts receivable, EBITS represents earnings before interest and tax to sales, NPM represents net profit margin, DR represents the debt ratio, LDTD represents long-term debt to total debt, SFTD represents shareholders' funds to total debt, and ICR represents the interest coverage ratio.

This study then proceeded with the regression analysis based on the hazard and logit models. The results in Table 2 show that CR and SWC were negatively significant in predicting financial distress based on hazard model, which is similar to the findings of Altman et al. (1977), Chiaramonte and Casu (2016), Parker et al. (2002), and Rashid and Abbas (2011). These results indicate that as firms' liquidity increases, the ability to meet their short-term obligations with current assets will increase and hence, reduce the firms' probability of getting financially distressed. However, both CR and SWC were found to be insignificant in predicting financial distress in the logit model, thus contradicting the hazard model's results. This situation could be due to the inability of the logit model to capture the effect of CR and SWC in predicting financial distress.

As shown in Table 2, both models used DSC to represent the activity ratio. The results for the hazard model show that this variable was positively significant in predicting financial distress, which is in line with Ong et al. (2011). Thus, the faster firms collect payments from their credit sale, the lower will be the probability of getting into financial distress since more revenues are collected within a shorter period, which can be used to cover the debts. However, the results of the logit model show that DSC was negatively significant in predicting financial distress, which contradicts the findings of Parker et al. (2012) and Ong et al. (2011). Despite the mixed results generated by the models, these findings show that the activity ratio is one of the important ratios for predicting financial distress.

Table 2: Regression Results

	Hazard Model			Logit Model		
	Coefficient	χ^2	P-value	Coefficient	χ^2	P-value
CONST	-53.341	24.552	0.0000***	-5.987	85.627	0.0000***
CR	-3.449	18.356	0.0000***	-0.114	0.832	0.3618
SWC	-0.004	16.000	0.0001***	0.001	0.111	0.7389
DSC	0.001	100.000	0.0000***	-0.003	9.000	0.0027***
EBITS	0.328	12.439	0.0004***	-1.605	19.230	0.0000***
NPM	-0.227	5.8317	0.0157**	-0.815	13.238	0.0003***
DR	54.102	23.317	0.0000***	7.751	77.0538	0.0000***
LDTD	-0.759	0.3175	0.5731	-2.061	4.405	0.0358**
SFTD	1.010	25.2494	0.0000***	0.053	0.292	0.5886
ICR	-0.001	25.000	0.0000***	0.00009	0.090	0.7642

NOTE: The χ^2 test or Wald Chi-square represent χ^2 distribution with one degree of freedom test that use to test predictive significance of each individual predictor variable. As for hazard model, this study adjusted χ^2 value by dividing the χ^2 value with average number of firm-year per year (11.3) since many years observations for same firm. CR represents the current ratio, SWC represents sales to working capital, DSC represents days sales in the accounts receivable, EBITs represents earnings before interest and tax to sales, NPM represents net profit margin, DR represents the debt ratio, LDTD represents long-term debt to total debt, SFTD represents shareholders' funds to total debt, and ICR represents the interest coverage ratio. The star symbol (*) on the p -value represents statistical significance at a certain level; *** statistically significant at the 1% level, ** statistically significant at the 5% level, and * statistically significant at the 10% level.

Table 2 also shows the results for the profitability ratios. The hazard model obtained mixed results for EBITs and NPM. EBITs was found to be positively significant, indicating that as firms' EBITs increases, the probability of getting into financial distress will also increase. This is because firms with high EBITs have the potential to obtain more debts or loans, which would increase the probability of getting financially distressed if the firms failed to manage their debts.

Meanwhile, the hazard model showed that NPM was negatively significant in predicting financial distress, which is similar to the results of the logit model which showed that both profitability ratios were negatively significant in predicting financial distress. These significant results are similar to Juniarti (2013), Ong et al. (2011), Polemis and Gounopoulos (2012), and Thai et al. (2014). These results indicate that a high ability to generate profits will help firms to reduce their financial distress risk. Despite the mixed results obtained from both models, the results still show the importance of profitability ratios in predicting financial distress.

Besides, Table 2 shows that the DR values were positively significant for both models, which are in line with the theoretical argument that a firm with a high debt level has a high probability of facing financial distress. These results are similar to Alifiah and Tahir (2018), Lee and Yeh (2004), Sori et al. (2001), and Tinoco and Wilson (2013), which found that over-financing of assets using debts could lead to financial distress.

For other variables, this study obtained mixed results under both models. Table 2 shows that ICR was negatively significant in predicting financial distress in the hazard model, which is similar to the results of Fich and Slezak (2008) and Youn and Gu (2010). Firms need to maintain and increase this ratio to avoid defaulting on their interest payments, which could lead to severe financial distress (Youn & Gu, 2010). However, the results of the logit model in Table 4 show that ICR was positively insignificant in predicting financial distress, which contradicts the hazard model's results and the previous studies of Fich and Slezak (2008) and Youn and Gu (2010).

Another leverage ratio that was positively significant in predicting financial distress in the hazard model is SFTD, which contradicts the results of Abdullah and Halim (2005), Gilbert,

Menon, and Schwartz (1990), and Ugurlu and Aksoy (2006). This study's result can be explained as a firm that depends too much on equity or shareholders' funds might have to pay a high tax, which will reduce the firm's profitability and might lead to financial distress. However, in the logit model the result showed that SFTD was insignificant. The contradicted results between the hazard and the logit model showed that the average yearly data used in the logit model did not capture the effect of SFTD in predicting financial distress.

Lastly, LTTD was found to be insignificant in predicting financial distress in the hazard model which is similar to Vuran (2009) but contradicts Ugurlu and Aksoy (2006). The possible reason for this phenomenon is the proportion of long-term debt does not provide vital information for the prediction of financial distress since shareholders' capital fully funds some firms while other firms might have minimal long-term debts. However, LTTD was found to be negative and significant in predicting financial distress based on the logit model. This result is similar to Ugurlu and Aksoy (2006) who stressed that when long-term to total debt ratio is too low, it might suggest that a firm is relying more on short-term financing compared to long-term financing. This situation will create liquidity problem which will increase the probability of financial distress problem.

Table 3. Accuracy Analysis for the Main Sample

		Hazard Model			Logit Model				
		Predicted			Predicted				
		0	1	Percentage Correct (%)			0	1	Percentage correct (%)
Actual	0	12245	3	99.97	Actual	0	845	8	99.06
	1	6	99	94.28		1	45	84	65.51
Overall Accuracy		99.92			Overall Accuracy		94.60		

This study then proceeded to examine the accuracy rate of each model in order to check the models' reliability. Based on Table 3, the hazard model had an overall accuracy rate of 99.92 per cent for the whole sample. The model was able to predict financially distressed firms correctly 94.28 per cent of the time and predict non-financially distressed firms correctly 99.97 per cent of the time. The accuracy rate is considered high and is in line with Md-Rus (2011), Shumway (2001), and Wang and Wu (2017). The classification accuracy of the logit model is also presented in Table 3, which shows that the logit model was able to accurately predict non-financially distressed firms at the 99.06 per cent accuracy level. However, the ability of the logit model to accurately predict financially distressed firms is considered moderate because it had only 65.51 per cent accuracy level. Overall, the model had an accuracy rate of 94.60 per cent in predicting all cases within the sample used. Thus, these results show that the hazard model had a better accuracy level compared to the logit model in all aspects, which is similar to the results of Abdullah et al. (2008).

Conclusion and Recommendations

This study focused on developing financial distress prediction models for the Malaysian market and comparing the logit model against the hazard model in predicting financial distress using financial ratios. The results demonstrated that all the selected ratios except long-term debt to total debt were significant in the hazard model. Meanwhile, days sales in receivable, earnings before interest and tax to sale, net profit margin, debt ratio, and long-term debt to total debt ratio were significant in predicting financial distress based on the logit model. These two different sets of results are due to the nature of the data used for both models, where the hazard model used panel data based on annual financial ratios for each firm in each year while the

logit model used average annual financial ratios for each firm. In terms of accuracy, this study found the hazard model to be more accurate compared to the logit model in predicting financial distress and non-financial distress cases. Based on all these results, the hazard model has been shown to exhibit superior performance compared to the logit model in predicting financial distress in the Malaysian market.

Lastly, this study suggests the inclusion of more predictors such as cash flow ratios, market ratios, corporate governance variables, and macroeconomic variables into the model in order to obtain a comprehensive model that considers all aspects in predicting financial distress. Future research should try to compare as many models as possible in order to generate the best model specific for the Malaysian market that could accurately predict financial distress and could be applied for all market players.

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KESAHAN KANDUNGAN ITEM SOAL SELIDIK KEMAHIRAN KEPIMPINAN WANITA PEMBUAT KEPUTUSAN

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Abstrak: Peranan wanita sebagai pembuat keputusan di peringkat sektor awam masih rendah. Keadaan ini menunjukkan bahawa Dasar 30 peratus wanita pembuat keputusan masih lagi tidak tercapai walaupun telah memasuki tahun 2021. Kemahiran kepimpinan merupakan salah satu faktor yang menyumbang kepada kekurangan wakil wanita di bahagian pembuat keputusan. Justeru, bagi memenuhi Dasar 30 peratus wanita pembuat keputusan, kajian secara empirikal berkenaan pengukuran tahap kemahiran kepimpinan dalam kalangan penjawat awam wanita Gred 48 dan ke atas perlu dijalankan. Satu set soalan selidik yang mengandungi item-item yang mengukur tiga subdimensi kemahiran kepimpinan iaitu (i) kemahiran teknikal, (ii) kemahiran interpersonal dan (iii) kemahiran konseptual telah dibina. Proses kesahan kandungan seterusnya perlu dijalankan supaya item-item yang dibina mengukur dimensi yang ingin diukur. Oleh itu, kajian ini mengaplikasikan kaedah Fuzzy Delphi (FDM) untuk mendapatkan kesepakatan pakar dalam menentukan item-item yang relevan bagi mengukur dimensi kemahiran kepimpinan wanita pembuat keputusan. Seramai 14 orang panel pakar telah terlibat dalam kajian ini dan semua data yang dikumpul dianalisis menggunakan kaedah FDM. Hasil analisis menunjukkan sebanyak 25 item telah dapat memenuhi kesemua syarat iaitu nilai threshold (d) ≤ 0.2 , nilai α -cut ≥ 0.5 dan peratus kesepakatan melebihi 75%. Hasil kajian ini diharapkan dapat menyumbang kepada inovasi kaedah FDM dalam menilai kesahan kandungan bagi pembinaan item yang mengukur dimensi terutamanya kemahiran kepimpinan wanita.

Kata Kunci: Kepimpinan Wanita, Kemahiran kepimpinan, Kaedah Fuzzy Delphi (FDM), Kesahan Kandungan, Kesepakatan Pakar.

Abstract: The role of women as decision-makers in the public sector is still very low. This proves that the policy of 30% women representation in decision-making positions has not been achieved even in 2021. One of the factors for the lack of women as decision-makers is leadership skills. To fulfil the policy of 30% women representation in decision-making positions, an empirical research should be carried out to measure the level of leadership skills among female government officers who hold positions of Grade 48 and above. A research instrument was developed to measure three subdimensions of leadership skills; (i) technical skill, (ii) interpersonal skill, (iii) conceptual skill. The items underwent a content validity process to ensure that they will measure what needs to be measured. Hence, this study applied the Fuzzy Delphi Method (FDM) to obtain experts' consensus regarding the items that are relevant in measuring the dimensions of leadership skills of women as decision-makers. 14 experts were involved in this research and all the data collected were analysed using the FDM. Results of the analysis showed that 25 items fulfilled the required conditions which are threshold (d) ≤ 0.2 , the value α -cut ≥ 0.5 and over 75% expert consensus. It is hoped that the

research results will lead to the innovation of the FDM in determining the content validity of the items developed to measure the dimensions of leaderships skills mainly among women.

Keywords: *Women leadership, Leadership skills, Fuzzy Delphi Method (FDM), Content validity, Expert consensus.*

Pengenalan

Senario terkini dalam sektor kepimpinan di Malaysia terutamanya di peringkat pengurusan tertinggi organisasi menunjukkan peratusan bilangan wanita telah melebihi 30%. Berdasarkan Jadual 1, sejumlah 737,560 (67.80%) kakitangan awam wanita di seluruh Malaysia yang berkhidmat di bahagian pengurusan dan profesional (Gred 1-54) bagi tahun 2019. Walau bagaimanapun, di bahagian lapisan pengurusan tertinggi (Gred Jusa C dan ke atas), hanya 1511 (37.3%) pegawai wanita yang menduduki bahagian tersebut daripada jumlah jawatan sebanyak 4052 (Kementerian Wanita & Pembangunan Masyarakat (KWPM), 2020). Situasi ini menimbulkan tanda tanya mengapa bilangan penjawat awam wanita semakin berkurangan apabila tiba di peringkat pengurusan tertinggi sedangkan majoriti kakitangan awam adalah dimonopoli oleh wanita. Terkini, bagi memenuhi agenda kelima Matlamat Pembangunan Mampan (SDG) iaitu kesamarataan gender yang dikemukakan oleh Pertubuhan Bangsa-Bangsa Bersatu (PBB) bagi tahun 2030 (United Nations, 2015), maka sebuah dasar 30% wanita di peringkat pembuat keputusan telah dikemukakan menerusi Belanjawan 2018 (Kementerian Kewangan, 2018). Walaubagaimanapun, strategi pemerksaan wanita tersebut dilihat agak sukar dicapai apabila sehingga kini bilangan wakil wanita di peringkat pembuat keputusan atau pembuat dasar bagi sektor awam seperti di kementerian adalah rendah. Sebagai contoh analisis statistik senarai ahli mesyuarat ketua setiausaha dan ketua perkhidmatan persekutuan menunjukkan hanya 8 (17%) daripada 45 jawatan adalah terdiri daripada wanita (Jabatan Perdana Menteri, 2021).

Jadual 1: Bilangan Penjawat Awam di Malaysia 2020

Tahun	Pengurusan tertinggi (Grade Jusa C dan ke atas)				Pengurusan & Profesional (Gred 41-54)				Sokongan (Gred 1-40)			
	Lelaki	Wanita	Jumlah	Wanita (%)	Lelaki	Wanita	Jumlah	Wanita (%)	Lelaki	Wanita	Jumlah	Wanita (%)
2020	2,541	1,511	4,052	37.3	174,555	343,206	517,761	66.3	349,168	394,354	743,522	53.0

Sumber: Kementerian Wanita & Pembangunan Masyarakat (KWPM), 2020

Kajian Literatur

Sekitar abad ke-20. Akan tetapi, bilangan wanita yang memegang peranan sebagai pembuat keputusan masih rendah berbanding lelaki (Griffiths, 2018; OECD, 2020). Situasi ini memberikan petanda bahawa terdapat faktor yang menjadi halangan kepada wanita sehingga peluang untuk dipilih sebagai pembuat keputusan adalah terhad (Hilal, 2015).

Berdasarkan analisis literatur yang dijalankan, wanita kebanyakannya lemah dan kurang memiliki kemahiran serta pengetahuan yang diperlukan dalam memimpin sebuah organisasi (KPMG, 2015). Menurut Katz (1955), kemahiran kepimpinan merupakan salah satu aspek penting dalam menentukan keberkesanan sesuatu kepimpinan. Hasil kajian yang dijalankan ke atas pemimpin wanita di Amerika menunjukkan wanita memiliki kemahiran kepimpinan yang rendah berbanding lelaki dari aspek kemahiran teknikal dan kemahiran konseptual (Conlin, 2016). Malah hasil kajian berkenaan kemahiran kepimpinan menunjukkan kemahiran mendengar dan kemahiran berfikir secara kritikal merupakan kemahiran yang terpenting dan perlu dimiliki oleh setiap pemimpin (Conlin, 2016). Kajian berkenaan kemahiran kepimpinan berdasarkan gender juga telah dijalankan di Afghan menunjukkan

terdapat perbezaan yang signifikan terhadap kemahiran kepimpinan antara lelaki dan wanita. Ternyata lelaki memiliki skor yang lebih tinggi berbanding wanita dalam aspek kemahiran teknikal dan kemahiran insan (Mujtaba & Kaifi, 2010). Katz (1955) berpendapat bahawa dua kemahiran yang paling penting dan perlu dikuasai oleh pemimpin di peringkat pembuat keputusan adalah kemahiran manusia atau kemahiran interpersonal dan kemahiran konseptual. Interpersonal boleh didefinisikan sebagai keupayaan memahami orang lain sehingga dapat membantu dari aspek interaksi, kerjasama, bimbingan dan pengurusan komunikasi yang baik (Gardener, 1983) Kemahiran interpersonal perlu dikuasai oleh pembuat keputusan kerana mereka perlu berinteraksi sesama ahli organisasi bagi mendapatkan kerjasama untuk mencapai visi organisasi.

Berdasarkan kupasan lepas, sebuah kajian berkenaan kemahiran kepimpinan dalam kalangan penjawat awam wanita perlu dijalankan. Tujuan kajian ini dijalankan adalah untuk mengenal pasti tahap kemahiran penjawat awam wanita berdasarkan kemahiran teknikal, kemahiran interpersonal dan kemahiran konseptual. Dengan ini, usaha pengukuhan bagi aspek kemahiran kepimpinan dalam kalangan penjawat awam wanita dapat dilaksanakan oleh pihak-pihak yang bertanggung jawab. Sehubungan itu, satu set soal selidik perlu dibangunkan di mana soal selidik tersebut merangkumi aspek kemahiran kepimpinan yang diperlukan oleh seorang wanita pembuat keputusan bersesuaian dengan norma serta budaya kerja penjawat awam wanita di Malaysia. Justeru, dalam proses membangunkan soal selidik tersebut, kaedah *Fuzzy Delphi* (FDM) digunakan kerana FDM merupakan salah satu kaedah yang terbaik untuk memperoleh kesepakatan pakar bagi mengenal pasti elemen yang boleh disertakan dalam sebuah soal selidik. Dalam kajian ini, analisis FDM diaplikasikan bagi memperoleh kesepakatan panel pakar ke atas item-item yang mengukur dimensi kemahiran kepimpinan penjawat awam wanita serta mengenal pasti kedudukan setiap elemen dalam dimensi kemahiran kepimpinan yang diperlukan oleh seorang wanita pembuat keputusan mengikut peratus kesepakatan panel pakar.

Metodologi

Kajian yang mengaplikasikan kaedah *Fuzzy Delphi* (FDM) ini merupakan sebuah kajian kuantitatif bagi mendapatkan kesepakatan pakar terhadap item-item kemahiran kepimpinan wanita pembuat keputusan dan menentukan kedudukan susunan item-item dalam dimensi kemahiran kepimpinan wanita pembuat keputusan. FDM merupakan kaedah pengukuran yang telah diubahsuai daripada teknik Delphi (Mohd Ridhuan & Nurulrabihah, 2020). Kaedah yang dipelopori oleh Kaufman dan Gupta pada tahun 1988 ini merupakan gabungan set penomboran kabur dan kaedah Delphi itu sendiri (Murray, Pipino & Gigch, 1985). Oleh yang demikian, kaedah ini bukanlah sebuah pendekatan baharu kerana kaedah ini juga berdasarkan pada kaedah Delphi klasik di mana responden kajian merupakan pakar yang memiliki kepakaran dalam bidang yang dikaji.

Dalam kajian ini, proses pembinaan soal selidik dilaksanakan melalui gabungan beberapa kaedah iaitu (i) tinjauan literatur dan (ii) temu bual. Powell (2003) menegaskan bahawa kaedah Delphi ini merupakan sebuah kaedah yang fleksibel bagi mendapatkan kesepakatan pakar. Fasa analisis keperluan kajian telah dijalankan melalui kaedah gabungan analisis pemetaan kajian literatur dan temu bual bagi penentuan dimensi kemahiran kepimpinan yang diperlukan oleh seorang pemimpin wanita mengikut konteks dan keperluan budaya dan norma di Malaysia. Sebanyak tiga subdimensi dan 25 item telah dibangunkan bagi soal selidik tersebut. Subdimensi yang mewakili kemahiran kepimpinan wanita pembuat keputusan adalah (i) kemahiran teknikal (ii) kemahiran interpersonal dan (iii) kemahiran konseptual. Jadual 2 menerangkan tentang perincian item soal selidik yang dibina daripada hasil analisis sistematik kajian literatur dan temu bual berkenaan kemahiran kepimpinan wanita pembuat keputusan.

Jadual 2: Bilangan Item bagi Dimensi Kemahiran Kepimpinan

Dimensi	Sub-dimensi	Bilangan Item
Kemahiran	Teknikal	5
	Interpersonal	14
	Konseptual	6
	Jumlah Keseluruhan Item	25

Seramai 14 orang pakar bidang yang terlibat dalam kajian ini. Bilangan sampel antara 10 hingga 50 adalah mencukupi bagi kajian delphi mengikut Jones dan Twiss (1978). Namun sekiranya keseragaman pakar adalah tinggi maka bilangan sampel pakar antara 10 hingga 15 orang adalah mencukupi (Adler & Ziglio, 1996).

Analisis Data Menggunakan Kaedah Fuzzy Delphi

Analisis menggunakan kaedah *Fuzzy Delphi* dilakukan melalui dua peringkat. Pada peringkat pertama, setiap item instrumen disertakan skala Likert beserta ruangan kosong diebrikan kepada setiap pakar. Ruangan tersebut disertakan untuk memudahkan pakar menulis dan menyatakan pandangan serta cadangan bagi penambahbaikan item. Peringkat kedua pula dilaksanakan apabila penyelidik telah memperoleh kesemua soal selidik daripada pakar. Seterusnya, Program Excel digunakan setelah data skala Likert diperoleh supaya proses penjadualan yang lebih terurus dan sistematik dengan mengikut langkah-langkah yang dikemukakan oleh Mohd Ridhuan et al. (2017). Langkah-langkah tersebut akan dibincangkan dengan lebih terperinci seperti yang berikut.

Langkah 1: Kaedah *Fuzzy Delphi* dilaksanakan apabila penyelidik telah memperoleh persetujuan daripada sekumpulan pakar untuk terlibat dalam kajian ini akan menyumbang buah fikiran, memberi ulasan untuk penambahbaikan item yang telah dibina oleh penyelidik. Penyelidik seterusnya meminta pakar untuk menyatakan aras persetujuan terhadap setiap item dengan memilih skala Likert lima mata seperti yang ditunjukkan dalam Jadual 3. Seterusnya, apabila para pakar selesai menanda aras persetujuan, mereka diminta untuk memberikan pendapat dan kritikan bagi menambah baik item di ruangan soal selidik yang telah disediakan. Setiap pandangan dan cadangan pakar turut diambil perhatian bagi menambah baik item.

Jadual 3: Skala Fuzzy Lima Poin

Aras Persetujuan	Skala Fuzzy	Skala Likert
Sangat tidak setuju	0.0, 0.0, 0.2	1
Tidak setuju	0.0, 0.2, 0.4	2
Sederhana setuju	0.2, 0.4, 0.6	3
Setuju	0.4, 0.6, 0.8	4
Sangat setuju	0.6, 0.8, 1.0	5

Sumber: (Mohd. Ridhuan et al. 2014)

Langkah 2: Kesemua pemboleh ubah linguistik ditukarkan kepada penomboran segitiga fuzzy (*triangular fuzzy number*) seperti yang ditunjukkan dalam Jadual 2. Susunan *Triangular Fuzzy Number* adalah m_1 , m_2 dan m_3 di mana nilai m_1 mewakili nilai minimum, nilai m_2 mewakili nilai munasabah dan nilai m_3 mewakili nilai maksimum. Penggunaan *Triangular Fuzzy Number* adalah untuk menghasilkan skala Fuzzy yang bertujuan untuk menterjemahkan pemboleh ubah linguistik kepada nombor fuzzy. Bilangan aras persetujuan bagi skala Fuzzy adalah dalam bilangan ganjil dan skala Fuzzy yang lebih tinggi dapat menghasilkan data yang lebih jitu.

Langkah 3: Seterusnya, proses menjadualkan data dilakukan bagi mendapatkan nilai (n_1, n_2, n_3) serta nilai purata Fuzzy (m_1, m_2, m_3) untuk memperoleh nilai *threshold*, peratus kesepakatan pakar, *defuzzication* dan *ranking item*. Kesepakatan pakar bagi setiap item diperoleh apabila nilai *threshold* yang terhasil mestilah tidak melebihi 0.2 dan peratus kesepakatan pakar pula perlu melebihi nilai 75%. Selain itu, nilai *defuzzication* bagi setiap item pula perlu melebihi nilai α -cut = 0.5. Nilai *threshold* diperoleh daripada pengiraan jarak di antara dua nombor *Fuzzy* dengan menggunakan formula seperti yang berikut:

$$d(\bar{m}, \bar{n}) = \sqrt{\frac{1}{3}[(m_1 - n_1)^2 + (m_2 - n_2)^2 + (m_3 - n_3)^2]}.$$

Nilai *threshold* merupakan nilai bagi d dan nilainya adalah ≤ 0.2 . Ini bererti bahawa kesemua pakar telah mencapai kesepakatan terhadap item yang dibina oleh penyelidik. Berdasarkan (Cheng & Lin (2002), jika nilai *threshold* yang diperoleh melebihi 0.2, maka pusingan kedua perlu dijalankan serta keputusan harus dibuat sama ada item tersebut dikekalkan atau digugurkan.

Langkah 4: Proses penentuan kesepakatan pakar ditentukan apabila nilai peratusan kesepakatan pakar adalah melebihi atau bersamaan dengan 75% bagi keseluruhan dimensi atau bagi setiap item. Berdasarkan Murray & Hammons, (1995); Chu & Hwang, (2008), setiap item dikatakan telah memperoleh kesepakatan pakar sekiranya jumlah peratusan yang diterima adalah 75% dan ke atas.

Langkah 5: Agregat penilaian *fuzzy* dengan menggunakan rumus berikut:

$$A = \begin{matrix} + \\ + \\ A_1 \\ + \\ A_2 \\ \vdots \\ + \\ A_m \end{matrix} \quad A_i = r_{i1} \otimes w_1 \oplus r_{i2} \otimes w_2 \oplus \dots \oplus r_{in} \otimes w_n'$$

$i = 1, \dots, m$

Langkah 6: Proses *defuzzification*. Langkah terakhir dalam analisis kaedah *Fuzzy Delphi* ialah proses penentuan kedudukan bagi setiap item. Dalam proses ini, nilai α -cut bersamaan dengan nilai median bagi '0' dan '1', dimana α -cut = $(0+1)/2 = 0.5$. Sekiranya nilai A iaitu nilai yang terhasil adalah kurang daripada nilai α -cut = 0.5, item akan ditolak namun jika nilai A yang terhasil adalah melebihi nilai α -cut = 0.5, maka item tersebut diterima atau dikatakan telah mendapat kesepakatan pakar (Tang & Wu, 2010; Bodjanova, 2006).

Dapatan Kajian Dan Perbincangan

Jadual 4 menunjukkan dapatan analisis kesepakatan pakar bagi setiap 25 item mengikut subdimensi yang telah ditetapkan. Data ini terdiri daripada nilai *threshold* (d) bagi setiap item, nilai *threshold* (d) subdimensi dan kedudukan item berdasarkan persetujuan dalam kalangan pakar. Jadual 5 pula menunjukkan kedudukan keutamaan bagi subdimensi mengikut peratus kesepakatan pakar

Jadual 4: Analisis item bagi setiap subdimensi kemahiran kepimpinan wanita pembuat keputusan

Bil	Item/Elemen	Syarat Triangular Fuzzy Numbers		Syarat Defuzzification Process			Skor Fuzzy (A)	Kesepakatan Pakar
		Nilai Threshold, d	Peratus Kesepakatan Kumpulan Pakar, %	m1	m2	m3		
1.	KT87	0.156	92.9%	0.529	0.729	0.929	0.729	Terima
2.	KT88	0.156	92.9%	0.529	0.729	0.929	0.729	Terima
3.	KT89	0.171	92.9%	0.529	0.729	0.929	0.729	Terima
4.	KT90	0.175	92.9%	0.486	0.686	0.886	0.686	Terima
5.	KT91	0.175	92.9%	0.486	0.686	0.886	0.686	Terima
6.	KIK92	0.171	85.7%	0.529	0.729	0.929	0.729	Terima
7.	KIK93	0.187	85.7%	0.514	0.714	0.914	0.714	Terima
8.	KIK94	0.156	92.9%	0.529	0.729	0.929	0.729	Terima
9.	KIK95	0.175	92.9%	0.500	0.700	0.900	0.700	Terima
10.	KIK96	0.200	85.7%	0.486	0.686	0.886	0.686	Terima
11.	KIK97	0.196	85.7%	0.471	0.671	0.871	0.671	Terima
12.	KIK98	0.196	85.7%	0.471	0.671	0.871	0.671	Terima
13.	KIK99	0.137	92.9%	0.543	0.743	0.943	0.743	Terima
14.	KIK100	0.175	92.9%	0.500	0.700	0.900	0.700	Terima
15.	KIK101	0.137	92.9%	0.543	0.743	0.943	0.743	Terima
16.	KIK102	0.196	92.9%	0.500	0.700	0.900	0.700	Terima
17.	KIK103	0.196	85.7%	0.471	0.671	0.871	0.671	Terima
18.	KIK104	0.137	92.9%	0.543	0.743	0.943	0.743	Terima
19.	KIK105	0.196	85.7%	0.471	0.671	0.871	0.671	Terima
20.	KKI106	0.162	78.6%	0.386	0.586	0.786	0.586	Terima
21.	KKI107	0.162	78.6%	0.386	0.586	0.786	0.586	Terima
22.	KKI108	0.162	78.6%	0.386	0.586	0.786	0.586	Terima
23.	KKI109	0.137	92.9%	0.357	0.557	0.757	0.557	Terima
24.	KKI110	0.175	92.9%	0.500	0.700	0.900	0.700	Terima
25.	KKI111	0.175	92.9%	0.500	0.700	0.900	0.700	Terima

Jadual 5: Kedudukan Keutamaan bagi Subdimensi Mengikut Kesepakatan Pakar

Kedudukan	Subdimensi	Peratus Kesepakatan	Skor Fuzzy (A)
1	Kemahiran Teknikal	92.9	0.71
2	Kemahiran Interpersonal	89.3	0.60
3	Kemahiran Konseptual	86.8	0.62

Berdasarkan analisis kesepakatan pakar menggunakan kaedah Fuzzy Delphi, dapat disimpulkan bahawa ketiga-tiga elemen kemahiran kepimpinan bagi wanita pembuat keputusan adalah amat diperlukan dan boleh dijadikan panduan kepada para pembuat polisi atau badan-badan bukan kerajaan dalam menyediakan latihan serta modul bagi mengasah kemahiran penjawat awam wanita sebagai pembuat keputusan. Dapatan kajian ini memberi refleksi tentang perancangan yang perlu dilaksanakan bagi memastikan Dasar 30% wanita pembuat keputusan di Malaysia tercapai menjelang tahun 2030 (United Nations, 2015).

Penutup

Menerusi analisis Kaedah *Fuzzy Delphi* ini, item-item yang telah mendapat kesepakatan pakar telah berjaya diperoleh. Malah hasil dapatan turut menyokong bahawa kemahiran yang dicadangkan memenuhi keperluan wanita pembuat keputusan. Diharap dengan adanya senarai kemahiran kepimpinan wanita tersebut dapat dijadikan panduan kepada pembuat dasar

terutamanya semasa proses penilaian atau pemilihan penjawat wanita bagi mengisi jawatan sebagai pembuat keputusan.

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FAKTOR JANTINA, KAUM DAN HUBUNGANNYA DENGAN MOTIVASI KEPERLUAN DALAM PRESTASI AKADEMIK

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Abstrak: *Kajian ini bertujuan untuk melihat faktor jantina dan kaum di antara motivasi keperluan dengan prestasi pencapaian akademik pelajar sekolah menengah. Kaedah tinjauan melalui soal selidik telah digunakan bagi mendapatkan data. Seramai 400 orang pelajar tingkatan 3 dari lima buah sekolah menengah dari kawasan Skudai, Johor telah dipilih sebagai responden kajian melalui teknik persampelan rawak berstrata. Borang soal selidik David McClelland Motives Questionnaire digunakan sebagai instrumen kajian, borang ini merangkumi tiga domain motivasi iaitu keperluan pencapaian, keperluan afiliasi dan keperluan kuasa. Statistik inferensi ujian-T dan korelasi Pearson telah digunakan untuk menguji hipotesis kajian. Analisis ujian-T menyatakan tidak terdapat perbezaan signifikan antara jantina dan kaum dengan skor motivasi pelajar. Analisis korelasi Pearson menunjukkan terdapat hubungan positif signifikan yang lemah antara skor motivasi dengan min skor prestasi akademik pelajar. Sebagai kesimpulan kajian, motivasi keperluan mempunyai pengaruh terhadap prestasi akademik pelajar. Guru perlu menggunakan gaya pengajaran yang berbagai dan menggalakkan pelajar dari masa ke semasa untuk memotivasikan mereka untuk mencapai kecemerlangan.*

Kata Kunci: *Motivasi McClelland, Kaum, Jantina, Skor Motivasi, Prestasi Akademik*

Pengenalan

Setiap insan mempunyai niat yang dipanggil motif untuk mencapai sesuatu matlamat atau keperluan untuk memenuhi kekurangan dalam dirinya. Mariam dan Zanariah(2015) mendefinisikan motivasi sebagai proses yang berupaya mewujudkan keperluan terhadap matlamat-matlamat dalam diri seseorang manusia. Pelaksanaan proses motivasi akan memberi arah kepada individu tentang kaedah ke arah mencapai matlamat dengan betul dan tepat seterusnya diikuti dengan proses bimbingan bagi memastikan individu dapat kekal iltizam dalam tingkah laku yang berlaku.

Sekolah merupakan institusi pembelajaran yang menghasilkan modal insan berkualiti. Guru seharusnya berusaha untuk membimbing dan menggalakkan murid untuk mencapai kecemerlangan dalam pencapaian akademik. Prestasi akademik pelajar di sekolah menengah kebangsaan masih memerlukan usaha gigih dari pelbagai pihak dan masih mempunyai ruang besar untuk diperbaiki. Ruang kelemahan ini mungkin berkaitan dengan perbezaan tahap motivasi pencapaian di antara murid ketika sesi pembelajaran. Megalah(2015) mendapati bahawa penyesuaian emosi dan motivasi dapat menghasilkan pencapaian akademik yang tinggi. Dengan ini, kajian memberi fokus kepada penyelidikan tentang tahap motivasi pencapaian pelajar di tiga buah sekolah menengah kebangsaan di kawasan Skudai Johor berdasarkan kaum dan jantina.

Teori Motivasi Keperluan McClelland

McClelland(1961) telah mengemukakan keperluan khusus individu seseorang akan diperoleh dan dibentuk dari masa ke semasa melalui pengalaman kehidupan. Beliau menjelaskan motivasi keperluan manusia boleh dibahagikan kepada tiga kategori utama iaitu pencapaian, afiliasi dan kuasa. Keberkesanan dan motivasi individu dalam mencapai sesuatu kerja dipengaruhi oleh ketiga-tiga motivasi keperluan ini. Kelakuan setiap insan didorong oleh sekurang-kurangnya satu daripada motivasi keperluan pencapaian, afiliasi dan kuasa, tanpa mengira umur, jantina, dan kaum. Ronald(1990) menyatakan individu boleh memiliki domain motivasi keperluan yang berbeza pada masa yang sama bergantung kepada pengalaman hidup dan pandangan etos. Individu memiliki ciri-ciri motivasi yang berbeza bergantung kepada motivasi keperluan dominan mereka. Individu yang mengutamakan motivasi pencapaian lebih cenderung kepada tugas yang berisiko sederhana di mana elemen keputusan dan maklum balas merupakan perkara penting dalam persepsi mereka. Individu yang dominan dalam motivasi afiliasi akan lebih efektif jika meletakkan mereka dalam kumpulan. Manakala individu dominan motivasi kuasa dapat menghasilkan impak positif jika diberi status dan pengiktirafan dengan kerap. Jadual 1 menunjukkan model motivasi keperluan McClelland.

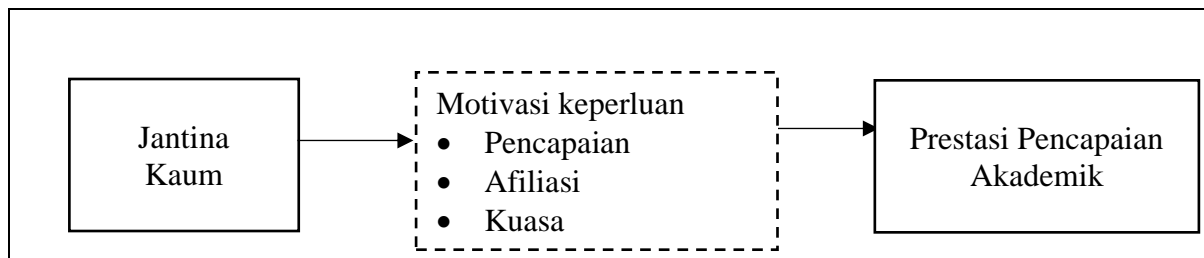
Jadual 1: Jenis Motivasi Keperluan McClelland dan Ciri Motivasi Keperluan

Jenis Motivasi Keperluan	Ciri Motivasi Keperluan
Pencapaian	<ul style="list-style-type: none"> - Mempunyai keperluan yang kuat untuk menetapkan dan mencapai matlamat yang mencabar. - Mengambil risiko yang terkawal untuk mencapai matlamat - Suka menerima maklum balas atas perkembangan dan pencapaian mereka. - Suka bekerja sendiri
Afiliasi	<ul style="list-style-type: none"> - Ingin tergolong dalam kumpulan - Ingin disukai ramai, akan mengikut apa sahaja yang kumpulan hendak buat. - Lebih cenderung kaedah bekerjasama berbanding persaingan individu - Tidak suka risiko tinggi dan ketidakpastian
Kuasa	<ul style="list-style-type: none"> - Ingin mengawal dan mempengaruhi orang - Suka menang dalam perbahasan - Menikmati persaingan dan saat menang - Menikmati status dan pengiktirafan

Sumber: McClelland(1961)

Kerangka Konseptual Kajian

Kajian ini menggunakan Model motivasi keperluan McClelland yang merangkumi tiga domain utama iaitu motivasi pencapaian, motivasi afiliasi dan motivasi kuasa. Kajian memberi fokus kepada skor motivasi keperluan murid untuk menilai hubungan motivasi pencapaian dengan kaum dan jantina. Berdasarkan teori motivasi McClelland(1961), pelajar yang bermotivasi keperluan pencapaian mempunyai ciri lebih suka aktiviti mencabar yang telah diambil kira risikonya secara bersendirian. Pelajar yang bermotivasi afiliasi lebih mementingkan semangat kekitaan dan akan mengikut trend dalam kumpulannya. Pelajar yang bermotivasi dominan dalam keperluan kuasa mendapat kepuasan melalui pengaruh terhadap orang, kemenangan serta status dan pengiktirafan.



Rajah 1: Kerangka Konseptual Kajian

Kerangka konsep kajian telah dibina berdasarkan model McClelland yang telah dibincangkan. Model ini telah diubahsuaikan seperti Rajah 1. Pemboleh ubah bebas dalam kerangka konseptual ini ialah faktor jantina dan kaum, manakala pemboleh ubah bersandar ialah skor motivasi keperluan dan prestasi pencapaian akademik. Kerangka konseptual ini menunjukkan bahawa perbezaan tahap motivasi keperluan antara jantina dan kaum memainkan peranan dalam prestasi pencapaian akademik murid. Pelajar yang bermotivasi keperluan memiliki ciri-ciri mengikut domain masing-masing, dengan itu menghasilkan gaya pembelajaran yang berbeza di antara pelajar seterusnya mempengaruhi hasil pencapaian akademik mereka.

Tujuan Kajian

Kajian ini bertujuan bagi mengenal pasti hubungan di antara jantina dan kaum terhadap tahap motivasi dan prestasi pencapaian akademik murid. Di samping itu, kajian juga bermatlamat untuk melihat pengaruh tahap motivasi terhadap prestasi akademik pelajar.

Objektif Kajian

1. Mengetahui profil motivasi pelajar.
2. Mengetahui sama ada perbezaan signifikan di antara tahap motivasi berdasarkan jantina dan kaum.
3. Mengetahui sama ada terdapat hubungan signifikan di antara motivasi dengan prestasi akademik pelajar.

Persoalan Kajian

1. Apakah profil motivasi di kalangan pelajar?
2. Terdapatkah perbezaan yang signifikan di antara motivasi keperluan dengan jantina dan kaum?
3. Terdapatkah hubungan yang signifikan di antara motivasi keperluan pelajar dengan prestasi akademik pelajar?

Hipotesis Kajian

Ho1 Tidak terdapat perbezaan signifikan di antara motivasi keperluan dengan jantina pelajar.

Ho2 Tidak terdapat perbezaan signifikan di antara tahap motivasi keperluan dengan kaum pelajar.

Ho3 Tidak terdapat hubungan signifikan antara motivasi keperluan dengan prestasi akademik pelajar.

Metodologi

Reka Bentuk Kajian

Kajian ini dilaksanakan menggunakan kaedah tinjauan dengan menggunakan borang soal selidik. Kajian tinjauan ini bermatlamat untuk memberikan maklumat deskriptif bagi memberi

penjelasan terhadap suatu gejala atau situasi dan seterusnya membuat penerokaan baharu dalam bidang pengkajian. Kaedah ini boleh menjimatkan masa dan tenaga terutamanya semasa mengumpul data dari sampel yang besar. Instrumen soal selidik digunakan bagi mengurangkan ralat penghitug dan membandingkan jawapan responden. Dua pemboleh ubah dalam kajian ini iaitu jantina dan kaum dibahagikan kepada lelaki dan perempuan serta Cina dan lain-lain masing-masingnya.

Populasi Dan Sampel Kajian

Populasi kajian ini diambil daripada pelajar tingkatan 3 dari 5 buah sekolah menengah kebangsaan di kawasan Skudai, Johor. Kaedah persampelan secara rawak berstrata digunakan untuk memilih 80 responden dari setiap sekolah. Kaedah persampelan ini membolehkan populasi dibahagi kepada bahagian yang lebih kecil untuk menentukan sampel yang diwakili. Persampelan rawak berstrata ini dapat meningkatkan peluang ketepatan data yang dapat mewakili populasi dan seterusnya meninggikan peluang ketepatan keputusan. 40 pelajar lelaki dan 40 perempuan dipilih dari setiap sekolah untuk mengimbangkan nisbah jantina. Sampel responden telah dibahagikan kepada dua kumpulan iaitu kaum cina dan kaum lain-lain.

Instrumen Kajian

Instrumen kajian menggunakan satu set borang soal selidik yang merangkumi dua bahagian iaitu Bahagian A (biodata murid) dan bahagian B inventori soal selidik David McClelland Motives Questionnaire. Instrumen ini boleh dipercayai kerana telah diguna oleh Afidah dan Tan (2005) dalam kajiannya. Soal selidik ini mengandungi 30 soalan dan dibahagi kepada 3 domain, iaitu motivasi pencapaian, motivasi afiliasi dan motivasi kuasa. Kajian rintis telah dijalankan menggunakan program Stistical Package For Sosial Sciences (SPSS) versi 25. Hasil analisis bagi Alpha Cronbach (α) purata bagi nilai kebolehpercayaan item-item borang soal selidik motivasi ialah 0.761.

Prosedur Menganalisis Data

Data yang diperolehi telah dimasukkan ke dalam perisian Statistical package for social science (SPSS) versi 25 untuk mendapatkan data deskriptif dan menganalisis data. Kajian melibatkan data deskriptif seperti domain motivasi oleh David McClelland. Skala Likert skor tiga tahap 0-2 (Rendah), 3-7 (sederhana) dan 8-10 (tinggi) digunakan untuk menganalisis min domain motivasi. Anova sehala dan korelasi Pearson digunakan untuk demografi subjek.

Statistik inferensi digunakan untuk menguji hipotesis kajian. Aras keyakinan 95 peratus ($p < 0.05$) digunakan untuk menentukan aras signifikan statistik. Ujian-t tidak bersandar digunakan untuk membandingkan perbezaan di antara pemboleh ubah yang hendak dikaji. Korelasi Pearson digunakan untuk menganalisis dan mengukur kekuatan hubungan di antara motivasi dengan prestasi pencapaian murid. Pekali korelasi ini mempunyai magnitud julat -1 hingga +1. Magnitud pada koefisien korelasi menunjukkan kekuatan hubungan linear yang wujud antara dua pemboleh ubah. Tanda (+) dan (-) menunjukkan arah hubungan itu negatif atau positif.

Dapatan Kajian

Profil Pelajar

Seramai 400 pelajar tingkatan 3 telah dipilih secara rawak berstrata sebagai responden dalam kajian ini. Daripada 400 pelajar ini, lelaki dan perempuan masing-masing mencatatkan 200 orang responden. Walaubagaimanapun, usaha untuk mengimbangkan nisbah responden dari aspek kaum terhad kepada faktor sekolah yang tidak dapat dielakkan. Sampel responden yang terkumpul termasuk 205 responden pelajar kaum cina dan 195 responden pelajar kaum lain.

Tujuan pengimbangan nisbah responden dengan cara ini adalah untuk meningkatkan kesahan kajian bagi mewakili tahap motivasi pelajar tingkatan 3 di kawasan Skudai, Johor dengan prestasi akademik mereka. Profil responden mengikut jantina dan kaum ditunjukkan dalam Jadual 2 berikut.

Jadual 2: Profil Responden Kajian

Profil	Kekerapan	Peratus(%)
Jantina		
Lelaki	200	50.0%
Perempuan	200	50.0%
Kaum		
Cina	205	51.25%
Lain-lain	195	48.75%

Analisis Keseluruhan Jenis Motivasi Keperluan Pelajar

Jadual 3 menunjukkan skor min dan sisihan piawai motivasi keperluan pelajar mengikut domain. Domain motivasi untuk motivasi pencapaian menunjukkan nilai skor min yang lebih besar berbanding dengan domain motivasi keperluan yang lain. Motivasi afiliasi menunjukkan min skor yang sederhana, manakala motivasi kuasa menunjukkan min skor yang terendah. Skor min masing-masing untuk domain motivasi pencapaian ialah (M=8.52, SP=1.006), motivasi afiliasi (M=7.85, SP=1.110), motivasi kuasa (M=5.19, SP=1.179). Analisis ini menunjukkan bahawa kebanyakan pelajar yang terlibat dalam kajian ini mempunyai min skor tinggi dalam domain motivasi pencapaian. Ini bermaksud pelajar lebih cenderung kepada hasil dan maklum balas dalam usaha mencapai suatu matlamat. Pada keseluruhannya, kajian telah menunjukkan pelajar memiliki motivasi dalaman yang sederhana dalam domain motivasi pencapaian dan motivasi afiliasi.

Jadual 3: Skor Min Dan Sisihan Piawai Motivasi Keperluan Pelajar

Jenis Motivasi	N	Min	Sisihan Piawai
Motivasi pencapaian	400	8.52	1.006
Motivasi afiliasi	400	7.85	1.110
Motivasi kuasa	400	5.19	1.179

Ho1: Tidak terdapat perbezaan signifikan di antara motivasi dengan jantina pelajar.

Ujian-t digunakan untuk menguji hipotesis nul 1, aras keyakinan $\alpha=0.05$. Jadual 4 di bawah menunjukkan dapatan analisis ujian-t. Keputusan ujian-t telah menunjukkan skor min motivasi lelaki ialah 7.17, adalah lebih rendah berbanding dengan skor min motivasi perempuan, iaitu 7.20. Perbezaan ini tidak signifikan memandangkan $t = -0.480$, iaitu lebih rendah daripada $t=1.966$ ($p > 0.05$). Oleh itu, hipotesis nul 1 diterima, tidak terdapat perbezaan signifikan antara motivasi berdasarkan jantina lelaki dan perempuan. $t(398) = -0.480$; $p > 0.05$. [95% CI = -0.169 hingga 0.103]

Jadual 4: Min Dan Sisihan Piawai Motivasi Berdasarkan Jantina Murid.

Jantina	N	Min	Sisihan Piawai	t
Lelaki	200	7.17	.713	-0.480
Perempuan	200	7.20	.670	

Ho2: Tidak terdapat perbezaan signifikan di antara tahap motivasi dengan kaum pelajar.

Hipotesis nul 2 juga diuji dengan alat ujian yang sama iaitu ujian-t tidak bersandar. Jadual 5 di bawah menunjukkan keputusan kajian untuk mengenal pasti perbezaan di antara motivasi dengan kaum pelajar. Min tahap motivasi kaum Cina(7.20) dan kaum Lain(7.18) tidak menunjukkan perbezaan signifikan sedangkan skor min dua kaum ini hampir serupa. Hipotesis nul 2 diterima. Kajian mendapati bahawa tidak terdapat perbezaan signifikan tahap motivasi antara kaum cina dan kaum lain dengan $t(398) = 0.251$; $p > 0.05$. [95% CI = -0.119 hingga 0.153]

Jadual 5: Min Dan Sisihan Piawai Tahap Motivasi Berdasarkan Kaum Pelajar.

Kaum	N	Min	Sisihan Piawai	t
Cina	205	7.20	.690	0.251
Lain-lain	195	7.18	.694	

Ho3 Tidak terdapat hubungan signifikan antara motivasi dengan prestasi akademik pelajar.

Jadual 6 menunjukkan hubungan korelasi di antara purata markah subjek dengan skor motivasi. Kajian mendapati bahawa pekali korelasi Pearson menunjukkan wujudnya hubungan positif yang sangat lemah dan signifikan antara purata markah subjek dan skor motivasi. [$r(398) = 0.205$, $p < 0.01$]. Daripada dapatan kajian ini, kesimpulan yang boleh dibina adalah tahap motivasi pelajar memberi pengaruh kecil terhadap prestasi akademik pelajar.

Jadual 5: Ujian Korelasi Pearson Bagi Hubungan Antara Skor Motivasi dengan Purata Markah Subjek.

Jadual 6: Keputusan Ujian Korelasi Pearson Untuk Hubungan Di Antara Purata Markah Subjek Dengan Skor Motivasi

Pemboleh ubah	Nilai r
Purata markah subjek Skor motivasi	0.205

Perbincangan

Motivasi Keperluan Berdasarkan Jantina

Dapatan kajian menunjukkan tiada perbezaan signifikan di antara motivasi keperluan dengan pelajar lelaki dan perempuan. Hasil kajian diyakinkan dengan kajian Siti dan rakan-rakan(2019), mereka telah menjalankan kajian terhadap motivasi pelajar institut pengajian tinggi dalam mempelajari bahasa asing dan didapati tiada perbezaan yang signifikan di antara motivasi jantina lelaki dan perempuan. Pelajar lelaki dan perempuan mempunyai skor motivasi yang sama dan mendapat kepuasan melalui pencapaian luaran. Ikhwan, Ong dan Sadiyah(2011) juga mendapati tiada perbezaan signifikan antara jantina dengan prestasi akademik di mana 84 perempuan dan 101 lelaki sebagai responden kajian mereka. Begitu juga dengan hasil kajian Ang dan Salmiza(2014), mereka turut menjalankan kajian faktor jantina dengan tahap motivasi ke atas 78 pelajar lelaki dan 114 pelajar perempuan tingkatan empat. Kajian lepas dan hasil kajian ini menunjukkan bahawa jantina tidak dapat menentukan tahap motivasi seseorang pelajar.

Selain itu, Uzir, Rohaidah dan Sharil(2018) mendapati bahawa pelajar tingkatan satu mempunyai motivasi yang tinggi dalam mempelajari Bahasa Melayu, pelajar yang bermotivasi tinggi didorong dengan kesedaran diri untuk lulus dalam mata pelajaran subjek. Hakikat kelulusan subjek seterusnya akan memberi kepuasan kepada pelajar dalam bentuk motivasi keperluan untuk terus menjana kecemerlangan dalam subjek.

Akan tetapi, skor motivasi yang tinggi tidak dapat membuktikan komitmen pembelajaran yang sama dalam pelajar lelaki dan perempuan. Rohaini, Hazri dan Nordin(2010) mendapati bahawa pelajar perempuan memiliki komitmen yang lebih tinggi berbanding lelaki dalam pembelajaran. Ini bermaksud pelajar yang sama tahap motivasinya tidak semestinya menghasilkan pelajar yang berprestasi sama. Motivasi memainkan peranan sebagai “pemandu arah” dan dorongan dalaman individu untuk melakukan atau mencapai sesuatu tujuan. Perempuan mempunyai komitmen yang lebih tinggi dalam menyempurnakan matlamat berbanding dengan lelaki. Hal ini juga disokong oleh Baskaran dan Arulnathan(2017), mereka telah membuat kajian mengenai hubungan komitmen pelajar dengan prestasi akademik pelajar, dapatan mereka menyatakan tiada hubungan yang signifikan antara dua pemboleh ubah perkara ini.

Motivasi Keperluan Berdasarkan Kaum

Dapatan kajian ini menunjukkan tiada perbezaan yang signifikan antara motivasi dengan kaum. Teoh(2005) mendapati pelajar kaum Cina mempunyai motivasi yang tinggi dalam pembelajaran subjek Melayu. Nancy dan Zambri(2017) juga menjalankan kajian terhadap motivasi pembelajaran terhadap 242 orang kaum Melanau dalam Bahasa Melayu, hasilnya ialah pelajar kaum Melanau juga bermotivasi tinggi dalam pembelajaran. Di samping itu, Khairul dan Ruzanna(2017) juga menjalankan kajian motivasi ke atas 56 murid Bajau dalam pembelajaran Bahasa Melayu, dapatannya sama dengan kajian Nancy dan Zambri(2017). Ganesan dan kawan(2021) pula menjalankan kajian tahap motivasi ke atas pelajar kaum India dalam pembelajaran Bahasa Melayu. Dari kajian-kajian lepas ini, boleh dilihat kebanyakan kaum di Malaysia mempunyai skor motivasi yang tinggi dalam pelajaran subjek Melayu. Dengan menggabungkan dapatan lepas dengan dapatan kajian ini, boleh dirumuskan bahawa tiada perbezaan signifikan tahap motivasi kepada pelajar yang berbilang kaum di Malaysia.

Faktor kaum terhadap tahap motivasi berkemungkinan dipengaruhi oleh faktor persekitaran, gaya pembelajaran, dan juga budaya keluarga. Kecerdasan emosi pelajar boleh mempengaruhi motivasi dalaman pelajar. Pelajar perlu mempelajari cara untuk mengenali perasaan sendiri serta reaksi dan perasaan orang lain. Keluarga merupakan tempat utama kepada seseorang untuk memahami pelbagai perasaan dan belajar mengawal emosinya. Ibu bapa merupakan contoh kepada anak untuk mengasah kecerdasan emosi dan belajar cara menghadapi perkara dan masalah. Ibu bapa memainkan peranan dalam memberi matlamat dan galakkan kepada anak untuk mencapai sesuatu bersesuaian dengan teori motivasi keperluan McClelland(1961). Persekitaran yang kondusif dan pembelajaran berkumpulan juga boleh menggalakkan motivasi seseorang individu berdasarkan domain motivasi afiliasi. Oleh itu, guru di sekolah seharusnya mewujudkan suasana dan gaya pembelajaran yang bersesuaian untuk menggalakkan penglibatan dan komitmen pelajar.

Hubungan Motivasi Keperluan Dengan Prestasi Pembelajaran.

Hasil kajian menunjukkan terdapat hubungan yang lemah di antara motivasi keperluan dengan prestasi pembelajaran pelajar. Smith dan Spurling(2001) menyatakan tahap motivasi yang ditunjukkan oleh seseorang individu menggambarkan pengalaman sosial dan ekonomi mereka secara umum dan pengalaman keluarga secara khusus. Individu yang mencapai kecemerlangan atau kejayaan dalam kehidupannya selalunya memiliki tahap motivasi yang tinggi. Hal demikian kerana individu ini jelas dengan matlamat sendiri dan bermotif tinggi dalam usaha untuk mencapai matlamatnya. Hamdu dan Lisa(2011) telah menjalankan kajian pengaruh motivasi terhadap prestasi pelajaran pelajar, hasil dapatannya menunjukkan nilai korelasi $r=0.48$ antara pelajar berprestasi tinggi dengan tahap motivasi mereka. Dapatan tersebut

menunjukkan hubungan motivasi dengan prestasi pembelajaran yang lebih kuat berbanding dengan kajian ini.

Motivasi merupakan salah satu faktor dan memainkan peranan penting dalam meningkatkan prestasi akademik pelajar. Prestasi akademik pelajar juga dipengaruhi oleh faktor lain. Menurut teori keperluan Maslow, keperluan manusia boleh dibahagi kepada dua jenis iaitu motivasi keperluan kekurangan dan motivasi keperluan untuk berkembang. Latar persekitaran dan sosioekonomi pelajar yang berbeza akan menghasilkan keperluan yang berbeza dalam pelajar. Mary(1998) mencadangkan kesediaan kognitif pelajar semasa pembelajaran dipengaruhi oleh dua faktor iaitu guru mempunyai kawalan terhadap seluruh aktiviti dan kepercayaan atau keyakinan pelajar terhadap pembelajaran dalam konteks motivasi keperluan. Beliau mendakwa kaedah pengajaran yang berpusatkan guru akan mengehendkan motivasi intrinsik dan ekstrinsik pelajar untuk melibatkan diri secara mendalam dalam pembelajaran. Oleh itu, guru perlu memperbagaikan aktiviti pembelajaran dan menambahkan gaya pembelajaran yang berpusatkan murid untuk memaksimumkan penglibatan serta komitmen pelajar.

Kesimpulan

Motivasi keperluan merupakan salah satu faktor penting yang tidak boleh dielakkan oleh pendidik dalam proses pengajaran dan pembelajaran di sekolah. Sebagai implikasi kajian, guru seharusnya memperbagaikan kaedah pengajaran dan memberi bimbingan kepada pelajar yang lemah agar pelajar tidak kehilangan motivasi dalam pembelajarannya. Pendidikan cramming iaitu pengajaran berpusatkan guru seharusnya ditukarkan kepada pembelajaran yang berpusatkan murid bagi menggalakkan minat dan memperkukuhkan motivasi pelajar. Gaya pembelajaran yang kreatif secara tidak langsungnya dapat memupuk motivasi pembelajaran di kalangan pelajar. Pelajar perlu memahami matlamat dan objektif pembelajaran sendiri semasa pengajaran dan pembelajaran berlaku, supaya pembelajaran pengetahuan dan kemahiran bukan sekadar berhenti di tahap menghafal, tetapi juga dapat diaplikasikan dalam kehidupan harian. Ibu bapa juga perlu memberikan kerjasama dalam mewujudkan dan menggalakkan motivasi murid. Galakkan dan pujian perlu diberikan bersesuaian dengan capaian pelajar sebagai peneguhan positif semasa mendidik anak.

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HUBUNGAN DI ANTARA AMALAN PEMBUATAN MAMPAN DAN PRESTASI MAMPAN DALAM SEKTOR PEMBUATAN

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Abstrak: Pelaksanaan amalan pembuatan mampam telah membawa banyak keuntungan dan manfaat bukan sahaja kepada industri pembuatan itu sendiri malah kepada persekitaran. Antara manfaat tersebut ialah meningkatkan produktiviti, membawa imej yang baik, menghasilkan produk mesra alam. Walaubagaimanapun, masih terdapat banyak organisasi pembuatan yang masih tidak melaksanakan amalan pembuatan mampam oleh faktor kos yang tinggi dan budaya organisasi yang tidak menerima amalan tersebut. Justeru, kajian ini bertujuan mengenalpasti hubungan di antara amalan pembuatan mampam (SMP) dan prestasi mampam organisasi pembuatan. Data dikumpulkan berdasarkan kaedah kuantitatif dengan menggunakan borang soal selidik. Kajian ini menggunakan kaedah persampelan rawak mudah dan SPSS digunakan untuk menganalisis data deskriptif dan korelasi. Sampel sebanyak 51 syarikat pembuatan di Johor digunakan untuk analisis bagi kajian yang akan dijalankan. Amalan pengeluaran bersih dan hubungan pekerja menunjukkan hubungan yang signifikan dengan prestasi mampam. Amalan eko efisiensi menunjukkan tiada hubungan terhadap kemampuan ekonomi, namun terdapat hubungan yang signifikan terhadap kemampuan persekitaran dan kemampuan sosial. Faedah daripada kajian ini ialah organisasi pembuatan dapat melihat beberapa SMP yang bertindak sebagai pemacu untuk meningkatkan prestasi mampam organisasi kerana manfaat jangka panjang yang ditawarkannya.

Keywords: Amalan pembuatan mampam, prestasi mampam, sektor pembuatan

Pengenalan

Industri pembuatan merupakan sektor yang menyumbang kepada perkembangan ekonomi sesebuah negara terutamanya kepada negara membangun (Abdul-Rashid, Sakundarini, Ariffin, & Ramayah, 2017a). Di Malaysia, sektor pembuatan merupakan sektor kedua terbesar yang menyumbang kepada jumlah eksport dan pendapatan negara selepas sektor perkhidmatan. Kepentingan industri pembuatan dalam ekonomi Malaysia dan negara-negara lain dapat diukur dari nilai tambah industri tersebut mengikut peratus keluaran dalam negara kasar (KDNK). Pada tahun 2017, industri pembuatan telah menunjukkan peningkatan dengan menyumbang sebanyak 22.27% kepada KDNK daripada tahun sebelum sebanyak 22.22% (The Global Economy, 2019). Hal ini kerana, sektor pembuatan memainkan peranan penting dalam ekonomi global dengan membekalkan barangan dan perkhidmatan. Namun begitu, industri pembuatan adalah merupakan penyumbang utama yang memberi kesan kepada persekitaran seperti sisa kimia, penjanaan sisa, penggunaan tenaga dan pelepasan karbon (Gutowski, 2004). Pencemaran akibat dari aktiviti pembuatan bukan sahaja memberi impak kepada persekitaran malah turut mempengaruhi prestasi sesebuah organisasi tersebut. Hal ini kerana, permintaan terhadap bahan mentah dan produk mampam semakin meningkat seiring dengan pencemaran yang berlaku. Bagi memastikan sesebuah organisasi itu mampu berdaya saing, maka organisasi tersebut hendaklah menitikberatkan aspek kemampuan dalam aktiviti pembuatan.

Dari tahun ke tahun, produk pembuatan Malaysia terus mendapat sambutan dari dalam mahupun luar negara. Hal ini dilihat melalui peningkatan output industri berorientasikan eksport pada 2017 iaitu 6.5% diterajui oleh peningkatan dalam kitaran elektronik global dan disokong oleh permintaan tinggi bagi produk berasaskan sumber (Kementerian Kewangan Malaysia, 2018). Peningkatan dalam eksport telah memberangsangkan peningkatan ekonomi Malaysia seterusnya meningkatkan pendapatan negara. Sumbangan positif industri pembuatan kepada pembangunan terutamanya dalam aspek KDNK dan peluang pekerjaan telah dapat dilihat dengan jelas, namun berdasarkan bukti statistik industri pembuatan juga turut menyumbang kesan buruk kepada alam sekitar (Adebambo, Ashari, & Nordin, 2015). Dalam usaha menuju kearah industri 4.0, industri pembuatan Malaysia hendaklah cakna terhadap aspek kemampuan persekitaran, ekonomi dan sosial. Saban tahun, populasi dalam sesebuah negara semakin meningkat seiring kepesatan dalam membangunkan negara tersebut. Hal ini telah meningkatkan kadar permintaan terhadap sesuatu keperluan adalah tinggi. Menurut Islam dan Karim (2011), kesan globalisasi dan peningkatan populasi manusia telah meningkatkan permintaan untuk produk dan perkhidmatan yang lebih baik. Oleh itu, industri pembuatan hendaklah memberi perhatian terhadap aspek persekitaran, ekonomi dan sosial semasa menjalankan aktiviti pembuatan supaya dapat terus berdaya saing dalam pasaran seterusnya menuju ke arah Industri 4.0.

Sepanjang dekad yang lalu, pelbagai inisiatif alam sekitar telah diperkenalkan dan dilaksanakan oleh penyelidik dan pengamal ke atas industri pembuatan. Antara inisiatif tersebut ialah pengenalan amalan pembuatan hijau, amalan pembuatan mampan, pencegahan pencemaran, pengawasan produk dan pengeluaran bersih (Abdul Rashid et al., 2017a). Hal ini kerana, industri pembuatan kini lebih memberi perhatian bagaimana operasi dan aktiviti yang dijalankan dapat memberi kesan positif kepada alam sekitar (Hassan, Nordin, & Ashari, 2015). Amalan pembuatan mampan atau *sustainable manufacturing practices* (SMP) adalah salah satu inisiatif alam sekitar yang penting yang diamalkan oleh industri pembuatan untuk memelihara alam sekitar dan meningkatkan kualiti hidup semasa menjalankan aktiviti pengilangan (Abdul Rashid, Sakundarini, Ariffin, & Ramayah, 2017b). Konsep pembuatan mampan, disesuaikan dengan konsep pembangunan mampan, dengan mengetengahkan pendekatan holistik untuk meningkatkan prestasi kemampuan (Abdul Rashid et al., 2017a). Pembuatan mampan telah muncul sebagai salah satu inisiatif yang paling penting untuk meningkatkan bukan sahaja pencapaian alam sekitar, tetapi juga pencapaian ekonomi dan sosial (Abdul-Rashid et al., 2017a). Hal ini disokong oleh Ashby, Leat, dan Hudson-Smith (2012), yang menyatakan bahawa kemampuan hanya boleh dicapai apabila organisasi bekerja untuk ketiga-tiga dimensi "Triple Bottom Line" (3BL) dimana dimensi tersebut ialah persekitaran, ekonomi dan sosial. Tambahan lagi, industri pembuatan merupakan penyumbang sebahagian besar daripada penggunaan sumber dunia dan pembaziran sisa (Roni, Jabar, Mohamad, & Yusof, 2014). Kini, masalah alam sekitar seperti pencemaran air, udara, tanah dan bunyi bukan lagi sesuatu yang asing dalam masyarakat dan telah mendapat perhatian ramai pihak. Penjagaan dan pemuliharaan alam sekitar merupakan amalan yang penting bagi memastikan sumber alam semula jadi dapat digunakan oleh generasi akan datang. Kerajaan telah lama memperkenalkan Akta Kualiti Alam Sekeliling 1974 yang memberi tumpuan kepada isu-isu pencemaran domestik. Namun, isu berkenaan seolah-olah tiada penghujungnya. Pencemaran udara, air dan tanah terus berlaku dari semasa ke semasa.

Sehingga kini, peningkatan dalam aktiviti pembuatan telah meningkatkan risiko kerosakan alam sekitar (Abdul-Rashid et al., 2017a). Sebagai contoh, pada 7 Mac 2019 telah berlaku pencemaran di Sungai Kim Kim dengan sisa toksik yang dibuang oleh pihak industri pembuatan yang tidak bertanggungjawab (Tuah, 2019). Hal ini tidak boleh diambil ringan kerana, ia bukan sahaja menjejaskan kualiti alam sekitar, malah kesihatan dan aktiviti 6,000

penduduk sekitar turut terjejas. Oleh itu, inisiatif perlu diambil dalam menangani isu pencemaran alam sekitar untuk meningkatkan kualiti hidup pada masa kini dan generasi akan datang. Dari aspek persekitaran, industri pembuatan telah mengalami cabaran dalam mereka bentuk produk, perkhidmatan dan proses penghantaran yang kurang meninggalkan jejak karbon, pada masa yang sama, kekal kompetitif di pasaran global (Gunasekaran & Gallear, 2012). Hal ini kerana, aktiviti dalam industri pembuatan telah menyebabkan berlaku beberapa pencemaran kepada alam sekitar seperti pemanasan global, pelepasan karbon, pencemaran air dan pembaziran sisa. Dari aspek sosial pula, industri pembuatan mengalami cabaran dalam menerapkan amalan pembuatan mampan di dalam organisasi dimana terdapat budaya organisasi yang tidak menyokong inisiatif tersebut (Lam, 2011). Hal ini kerana, inisiatif yang ingin dijalankan dianggap membebankan bagi sesetengah organisasi dimana terdapat banyak prosedur dan peraturan yang perlu dipatuhi. Seterusnya dari aspek ekonomi, industri pembuatan sering menghadapi masalah seperti persaingan harga antara pembekal dan kos yang tinggi untuk mempraktikkan pembuatan mampan (Lam, 2011). Perkara ini dilihat menjadi masalah yang besar kepada industri kecil dan sederhana (IKS) kerana organisasi tersebut mempunyai kekangan kewangan berbanding organisasi yang lebih besar yang mempunyai keuntungan yang besar.

Walaupun terdapat beberapa kajian mengenai SMP telah dijalankan, namun masih terdapat beberapa jurang yang masih perlu diterokai lagi. Keputusan yang tidak konsisten mengenai peranan penting SMP dalam meningkatkan prestasi mampan masih menimbulkan perdebatan berterusan (Hami, Muhamad, & Ebrahim, 2016). Terdapat kajian lepas menyatakan terdapat hubungan positif di antara SMP dan prestasi mampan, dan terdapat juga kajian menyatakan sebaliknya. Oleh itu, kajian ini bertujuan untuk mengkaji amalan pembuatan mampan yang dapat diamalkan di dalam organisasi pembuatan di sekitar negeri Johor. Selain itu, kajian ini bertujuan untuk mengenal pasti hubungan antara amalan pembuatan mampan dan prestasi mampan dalam sesebuah organisasi pembuatan.

Sorotan Literatur

Industri Pembuatan dan IKS di Malaysia

Di Malaysia, 98.5% pertubuhan perniagaan adalah IKS yang meliputi keseluruhan saiz dan sektor perniagaan (SME Corp. Malaysia, 2019). Industri kecil dan sederhana (IKS) memainkan peranan penting dalam ekonomi Malaysia dan dianggap sebagai tulang belakang pembangunan perindustrian di negara ini. Hal ini kerana IKS di Malaysia dilihat memberi sumbangan yang besar kepada KDNK negara dan menunjukkan peningkatan saban tahun. Pada tahun 2018, IKS mencatatkan sumbangan sebanyak RM 521.7 billion bersamaan 38.3% kepada KDNK, ini menunjukkan peningkatan dari tahun sebelum di mana mencatatkan sebanyak RM 491.6 billion atau 37.8% dalam Banci Ekonomi 2016: Profil PKS, 2015 (Jabatan Perangkaan Malaysia (2015). Selain itu, dengan pendedahan dan kemahiran yang diperolehi, kini banyak usahawan telah meningkatkan keupayaan syarikat mereka untuk menembusi pasaran eksport. Hal ini dapat dilihat daripada peningkatan eksport IKS ke luar negara yang mencatatkan sebanyak RM 171.9 billion atau 17.3% pada tahun 2018 daripada tahun sebelum sebanyak RM 166.2 billion. IKS di Malaysia dikategorikan kepada sektor perkhidmatan yang merupakan sektor yang terbesar diikuti oleh sektor pembuatan, pembinaan, pertanian dan perlombongan dan kuari. Sektor pembuatan dalam IKS merupakan antara penyumbang sebahagian besar kepada pembangunan ekonomi negara. Hal ini dimana aktiviti syarikat bersaiz kecil dan sederhana diterajui oleh sektor perkhidmatan, yang menyumbang 62.4% dan sektor pembuatan sebanyak 20.1% manakala sektor pertanian menyumbang 10.1% dan sektor pembinaan menyumbang 5.9% kepada KDNK IKS (Hun, 2019). Hal ini menunjukkan sektor pembuatan merupakan penyumbang kedua terbesar di dalam KDNK IKS itu sendiri. Perkara ini didorong

oleh pertumbuhan sektor pembuatan tersebut yang meningkat kepada 5.8% pada tahun 2018 daripada tahun sebelumnya. Sub-sektor petroleum, kimia, getah dan produk plastik merupakan peneraju pertumbuhan sektor pembuatan ketika itu. Selain itu, eksport sektor pembuatan turut meningkat sebanyak 5.1% pada tahun 2018 yang merupakan penyumbang terbesar daripada jumlah eksport keseluruhan sebanyak RM171.9 bilion.

Di samping sumbangan besar IKS terhadap KDNK dan eksport negara, terdapat banyak IKS di seluruh dunia mempunyai pengetahuan yang sedikit tentang pengurusan alam sekitar dan tidak memahami konsep pengurusan alam sekitar (Musa & Chinniah, 2016). Oleh itu, sangat sukar bagi IKS untuk melihat hubungan jelas antara pelaksanaan sistem pengurusan alam sekitar (EMS) dan faedah yang akan diperolehi (Weerasiri & Zhengang, 2012). Walaupun penyelidikan terdahulu lebih cenderung untuk memberi tumpuan kepada syarikat-syarikat besar terhadap kesan ke atas alam sekitar, namun IKS juga turut dilihat memberi kesan yang besar terhadap alam sekitar dan boleh mengatasi gabungan kesan alam sekitar syarikat-syarikat besar (Hillary, 2000). Justeru, perhatian yang lebih perlu diberikan kepada sektor IKS dalam memastikan aspek alam sekitar terus dititikberatkan oleh IKS. Oleh itu, beberapa usaha kerajaan telah dilakukan untuk memupuk IKS di negara ini meneroka pembangunan teknologi hijau menerusi Program Transformasi Ekonomi (ETP). Selain itu, kerajaan juga menggalakkan penerapan teknologi hijau seperti yang diisytiharkan di bawah Bidang Ekonomi Utama Negara (NKEA) (Yacob, Aziz, Makmor, & Zin, 2013). Perkara ini dapat memberikan pendedahan dan kesedaran kepada IKS untuk cakna akan kepentingan mengurangkan kesan terhadap alam sekitar dalam aktiviti perniagaan yang dijalankan.

Prestasi Mampan

Pada masa kini, kayu ukur bagi prestasi dalam industri pembuatan telah beralih dari prestasi yang hanya tertumpu kepada ekonomi seterusnya kepada prestasi kemampanan (Elkington, 2013). Hal ini kerana, kemampanan dalam industri pembuatan semakin mendapat perhatian dari pelbagai pihak sama ada dari luar atau dalam organisasi yang menginginkan kelestarian alam terus dapat dipelihara. Menurut Chaudhri (2011), seperti yang diketengahkan dalam teori pihak berkepentingan, organisasi perlu berkhidmat kepada kepentingan pelbagai pihak, yang ditakrifkan sebagai individu atau kumpulan yang boleh menjejaskan atau terjejas secara langsung atau tidak langsung oleh organisasi dalam mencapai matlamatnya. Hari ini, kebanyakan syarikat dalam sektor pembuatan telah menerapkan beberapa jenis rangka kerja kemampanan untuk menilai prestasi mereka dari segi kewangan, sosial dan persekitaran, yang dikenali sebagai *Triple Bottom Line* (3BL) (Schulz & Flanigan, 2016). Istilah TBL dicipta pada tahun 1990 oleh perunding perniagaan John Elkington. Menurut Elkington (2013), beliau telah mengusulkan pendekatan *Triple Bottom Line* (TBL) iaitu menyatakan bahawa prestasi organisasi harus diukur berdasarkan aspek ekonomi, persekitaran dan sosial. Hal ini disokong oleh Roni, Jabar, Muhamad, dan Murad (2017), dimana beliau menyatakan bahawa syarikat perkilangan yang mengamalkan kelestarian alam sekitar perlu menitik beratkan kesan TBL dalam menjalankan aktiviti pembuatan. Tambahan lagi, TBL menganggap bahawa kemampanan organisasi hanya boleh dicapai apabila terdapat keseimbangan terhadap elemen ekonomi, persekitaran dan sosial (Ardichvili, 2013).

Persekitaran

Perkara pertama yang harus dipertimbangkan dalam kemampanan ialah kemampanan persekitaran. Kajian lepas menunjukkan bahawa dimensi persekitaran TBL harus memberi tumpuan kepada kesan organisasi terhadap sistem alam semula jadi yang hidup dan tidak hidup seperti ekosistem, tanah, udara dan air (Schulz & Flanigan, 2016). Ia berkaitan dengan penggunaan sumber tenaga yang efisien, mengurangkan pelepasan gas rumah hijau dan

meminimumkan jejak ekologi (Goel, 2010). Dimensi persekitaran harus mewakili pengukuran kesan terhadap sumber asli dan kemampuan jangka panjang organisasi (Slaper & Hall, 2011). Oleh itu, organisasi boleh melaksanakan beberapa perkara seperti kitar semula dan penjanaan semula sumber, reka bentuk semula proses dan produk untuk meminimumkan penggunaan sumber, penggantian sumber yang tidak boleh diperbaharui kepada sumber yang boleh diperbaharui dan penggunaan model ekonomi pekeliling (Glavic^ˇ & Lukman, 2007) dalam usaha untuk mencapai kemampuan persekitaran. Kemampuan persekitaran berkait rapat dengan penggunaan sumber yang cekap dalam usaha memelihara alam sekitar untuk generasi masa hadapan (Wang, Subramanian, Gunasekaran, Abdulrahman, & Liu, 2015). Sesebuah organisasi pembuatan yang dilihat menjaga prestasi kemampuan adalah apabila organisasi tersebut berupaya mengurangkan pencemaran terhadap alam sekitar semasa menjalankan aktiviti pembuatan. Prestasi kemampuan persekitaran sangat bergantung kepada penggunaan sumber tenaga yang cekap dan bersih (Abdul Rashid et al., 2017b). Hal ini kerana, industri perkilangan menggunakan banyak tenaga dan bahan semasa proses pembuatan produk seterusnya mengakibatkan pelepasan karbon dan pelbagai pencemaran alam berlaku. Pelepasan karbon dilihat banyak memberi kesan kepada alam sekitar seperti pemanasan global, pembentukan hujan asid, pencemaran udara dan perubahan dalam corak cuaca. Oleh itu, adalah penting bagi organisasi pembuatan untuk memastikan bahawa sumber yang digunakan semasa pengeluaran boleh diperbaharui dan meminimumkan pelepasan karbon dioksida.

Ekonomi

Dimensi ekonomi di dalam TBL merujuk kepada sikap organisasi untuk mencipta nilai dan untuk mengimbangi kos dan pendapatan dalam pengeluaran dan pengedaran barang dan perkhidmatan (Bansal, 2005). Ia berkaitan dengan keupayaan ekonomi sebagai salah satu subsistem kelestarian untuk bertahan dan berkembang ke masa depan untuk menyokong generasi masa depan (Spangenberg, 2005). Selain itu, laporan rangka kerja perakaunan TBL tidak hanya memberikan penilaian terhadap kos tetap dan kos berubah tetapi juga kos kerosakan kepada persekitaran dan masyarakat (Shezi, 2013). Penerapan penilaian TBL dalam organisasi, dalam langkah-langkah meningkatkan kesejahteraan rakyat serta meminimumkan kerosakan kepada alam sekitar akan cenderung meningkatkan produktiviti, kecekapan dan kepuasan pelanggan yang seterusnya mendorong peningkatan keuntungan dan pulangan kepada para pemegang saham (Suttipun, 2012). Kemampuan ekonomi diukur atas dasar pertumbuhan ekonomi sambil melindungi alam sekitar dan meningkatkan kualiti hidup (Abdul-Rashid et al., 2017b). Menurut David (2013), program pembuatan hijau yang sesuai dapat meminimumkan sisa dalam aktiviti pembuatan secara efektif seterusnya mengurangkan kos ke atas kedua-dua pengurusan sisa dan penggunaan bahan, dan dapat meningkatkan margin keuntungan industri pembuatan. Antara amalan yang dapat menggalakkan kemampuan ekonomi ialah pengeluaran bersih, eko-efisiensi dan pengurusan persekitaran dalaman. Organisasi yang tidak menerapkan amalan tersebut dalam aktiviti pembuatan lebih cenderung untuk melakukan pencemaran dan pembaziran dimana terdapat penggunaan sumber yang tidak cekap dan tidak berkesan. Disamping itu, organisasi yang memberi tumpuan kepada peningkatan prestasi persekitaran dapat menikmati bahagian pasaran yang lebih baik. Semakin tinggi bahagian pasaran, semakin tinggi hasil ekonomi yang dapat diperolehi oleh organisasi seterusnya akan meningkatkan imej dan kedudukan syarikat di pasaran (Rao & Holt, 2005).

Sosial

Dimensi sosial di dalam TBL merujuk kepada pekerja, pelanggan dan masyarakat sekitar. Menurut Fauzi, Svensson, dan Rahman (2010), pekerja adalah tonggak dari kemampuan operasi perniagaan kotemporari, dimana tahap kepuasan pekerja menentukan produktiviti,

kecekapan operasi, kawalan kos, pengurusan kualiti dan kadar kepuasan pelanggan. Bagi meningkatkan kepuasan pekerja, kebanyakan eksekutif perniagaan sering mengutamakan peningkatan kebajikan pekerja, memenuhi keperluan dan permintaan pekerja dan pembangunan mekanisme yang meningkatkan perlakuan yang saksama (Wang & Lin, 2007). Setelah kebajikan pekerja dipenuhi, ia akan memberi kesan positif kepada peningkatan kebajikan pelanggan, dimana kepuasan pekerja yang meningkat akan meningkatkan keupayaan organisasi untuk menawarkan perkhidmatan dan produk berkualiti kepada pelanggan (Ho & Taylor, 2007). Oleh kerana pelanggan juga terdiri daripada masyarakat, maka peningkatan kebajikan pelanggan juga meningkatkan kebajikan masyarakat sekitar. Menurut Abu Bakar (2014), kemampuan sosial merujuk kepada pencapaian sebenar organisasi dalam meningkatkan dan mengekalkan kualiti hidup tanpa mengabaikan aspek persekitaran. Selain itu, kemampuan sosial turut merangkumi amalan yang bermanfaat dan adil kepada pekerja, masyarakat tempatan dan rantau di mana sesebuah organisasi menjalankan perniagaan (Lozano & Huishigh, 2011). Organisasi yang menjaga kemampuan sosial adalah organisasi yang bertanggungjawab kepada kebajikan para pekerja dan memastikan keselamatan produk dan perkhidmatan yang mereka tawarkan. Seterusnya, organisasi yang mengabaikan kebajikan pekerja akan memberi kesan kepada masalah ketidakhadiran pekerja, pemberhentian pekerja dan pekerja yang tidak bermotivasi. Manakala, organisasi yang tidak menitikberatkan keselamatan produk dan perkhidmatan akan menghadapi masalah ketidakpuasan pelanggan yang akan menghilangkan kesetiaan pelanggan.

Amalan Pembuatan Mampan - Sustainable Manufacturing Practice (SMP)

Terdapat pelbagai kajian lepas yang telah mengenalpasti peranan utama amalan pembuatan mampan dalam meningkatkan kemampuan ekonomi, persekitaran dan sosial. Namun, adalah penting untuk memahami bahawa tidak ada definisi tunggal untuk kemampuan, kerana ia adalah suatu proses atau perjalanan, bukan suatu keadaan atau titik akhir (Habidin, Zubir, Fuzi, Latip, & Azman, 2015). Menurut Andrew (2017), Jabatan Perdagangan Amerika Syarikat mendefinisikan pembuatan mampan sebagai penciptaan produk pembuatan yang menggunakan proses yang meminimumkan kesan persekitaran yang negatif, memulihara tenaga dan sumber semula jadi, selamat untuk pekerja, masyarakat, dan pengguna. Manakala, Garetti dan Taisch (2012) mendefinisikan pembuatan mampan sebagai keupayaan untuk menggunakan sumber asli dalam pembuatan secara bijak untuk memenuhi aspek ekonomi, persekitaran dan sosial dan dengan itu, mengekalkan alam sekitar serta meningkatkan kualiti hidup.

Selain itu, amalan pembuatan mampan merujuk kepada model perniagaan yang mencipta nilai yang konsisten dengan pemeliharaan dan pemuliharaan jangka panjang dan juga peningkatan *Triple Bottom Line* (TBL) (Gunasekaran & Spalanzani, 2012). Menurut Habidin et al. (2015), amalan pembuatan mampan merujuk kepada keupayaan untuk mengekalkan prestasi pengeluaran pada tahap optimum dalam jangka masa panjang dengan menggunakan sumber yang sedia ada dengan berkesan. Disamping itu, pembuatan mampan adalah sebahagian daripada pembangunan mampan, rangka kerja yang cuba mengekalkan keseimbangan yang dinamik antara kebimbangan terhadap manusia, kewangan dan persekitaran (Lorek & Spangenberg, 2014).

Seterusnya, pembuatan mampan turut didefinisikan sebagai menyediakan barangan dan perkhidmatan untuk memenuhi kehendak pelanggan dalam masyarakat sambil mempercepatkan pertumbuhan ekonomi dan mengurangkan kerosakan persekitaran (Molamohamadi & Ismail, 2012). Menurut laporan *Environmental Responsibility Report* oleh Apple (2015), definisi pembuatan mampan dikenal sebagai sistem yang mendekati penciptaan dan pengedaran produk dan perkhidmatan yang inovatif, yang meminimumkan sumber input, menghapuskan bahan toksik dan menghasilkan sisa sifar yang mengurangkan kesan gas rumah

hijau (GHG). Disamping itu, pengeluaran mampan turut dikaitkan dengan pengurangan intensiti penggunaan bahan, penggunaan tenaga, pelepasan karbon, dan pembentukan produk sampingan yang tidak diinginkan, atau meningkatkan nilai produk kepada masyarakat serta organisasi (Andrew, 2017). Secara kesimpulannya, amalan pembuatan mampan adalah pendekatan praktikal yang dilaksanakan oleh organisasi pembuatan dalam menjalankan aktiviti syarikat seperti penghasilan barang dan perkhidmatan dengan mengambil kira aspek ekonomi, persekitaran dan sosial. Terdapat tiga amalan pembuatan mampan yang sering dikaji dinyatakan oleh Hami, Muhamad, dan Ebrahim (2016) iaitu pengeluaran bersih, eko-efisiensi dan hubungan pekerja. Oleh itu, kajian ini dijalankan bagi mengkaji hubungan amalan pembuatan mampan dan prestasi mampan dalam organisasi pembuatan di Johor.

Pengeluaran bersih

Pengeluaran bersih merupakan elemen penting yang terdapat dalam amalan pembuatan mampan (SMP) yang boleh dilaksanakan di dalam sesebuah organisasi pembuatan. Menurut Fresner (2002), pengeluaran bersih direka bentuk untuk menunjukkan bahawa pencegahan dan pengurangan sisa dan pelepasan karbon dapat meningkatkan prestasi kemampuan persekitaran, serta prestasi ekonomi organisasi yang terlibat. Selain itu, pengeluaran bersih merupakan kaedah praktikal yang menyokong matlamat kemampuan iaitu dengan melindungi kesihatan manusia dan alam sekitar (Avşar & Demirer, 2008). Antara pendekatan yang terdapat di dalam pengeluaran bersih termasuk kitar semula, pengubahsuaian dalam proses, penambahbaikan operasi, dan pengantian input (Ghorbannezhad, Azizi, Ting, Layeghi, & Ramezani, 2011). Penggunaan bahan dan tenaga pada tahap yang lebih efisien dalam proses penghasilan produk dapat mengurangkan pelepasan karbon dan sisa yang menjadi punca kepada pencemaran. Organisasi turut dapat melaksanakan pengeluaran bersih dengan menggantikan input yang berbahaya kepada yang kurang berbahaya dalam penghasilan produk supaya pengguna boleh mendapatkan produk yang lebih berkualiti dan selamat.

Eko-efisiensi

Eko-efisiensi adalah satu amalan yang digunakan untuk meningkatkan prestasi kemampuan dimana ia memberi fokus untuk menambah nilai ekonomi dan mengurangkan impak terhadap alam sekitar. Menurut Ramli dan Munisamy (2015), eko-efisiensi merujuk kepada keupayaan untuk mencipta lebih banyak barang dan perkhidmatan sambil menggunakan sumber yang sedikit dan mengurangkan impak terhadap alam sekitar. Pengukuran eko-efisiensi adalah pada dasarnya mengukur kecekapan dengan mengintegrasikan output yang tidak diinginkan yang menyumbang secara negatif kepada alam sekitar (Dyckhoff & Allen, 2001). Dalam mengukur eko-efisiensi, kecekapan ekonomi dan ekologi akan dinilai, dimana output yang diinginkan dan tidak diinginkan diambil kira secara serentak (Koskela & Vehmas, 2012). Pelaksanaan amalan eko-efisiensi dalam sesebuah syarikat akan dapat meningkatkan kecekapan operasi termasuk mengurangkan kos dan masa membawa pengeluaran serta meningkatkan kualiti dan produktiviti (Lee, Cha, Lim, & Hur, 2011). Selain itu, amalan eko-efisiensi diiktiraf sebagai strategi penting perniagaan untuk melindungi alam sekitar dengan penggunaan sumber semula jadi yang cekap (Ozturk & Yilmaz, 2016). Perniagaan yang berjaya melaksanakan amalan eko-efisiensi dijangka dapat meningkatkan nisbah keuntungan organisasi serta kebolehpercayaan dan kredibiliti dalam persepsi sosial (Ozturk & Yilmaz, 2016). Oleh itu, pelaksanaan amalan eko-efisiensi adalah penting dan perlu diberi perhatian oleh organisasi pembuatan dimana ia bukan sahaja mengurangkan kesan pencemaran malah meningkatkan kecekapan dan kelebihan daya saing organisasi.

Hubungan pekerja

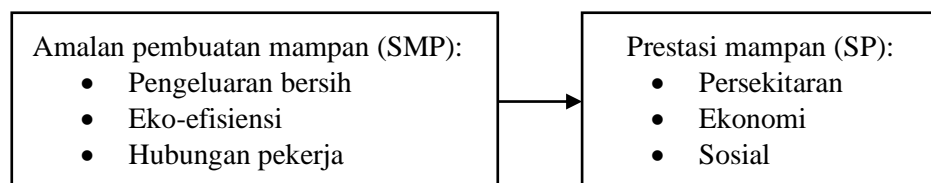
Armstrong (2005) mendefinisikan hubungan pekerja adalah untuk menguruskan hubungan antara majikan dan pekerja dengan objektif yang muktamad untuk mencapai tahap produktiviti yang optimum dari segi barangan dan perkhidmatan, motivasi pekerja merupakan langkah pencegahan untuk menyelesaikan masalah yang menjejaskan persekitaran kerja. Hubungan pekerja dikaitkan dengan mengekalkan hubungan pekerja-majikan, yang menyumbang kepada produktiviti yang memuaskan serta peningkatan semangat dan motivasi pekerja (Sequeira, 2015). Albrecht (2010) menyatakan bahawa apabila pekerja berpuas hati terhadap pekerjaan mereka, mereka lebih cenderung untuk komited dan produktif dalam organisasi. Pekerja yang diberi kepercayaan dan kuasa dalam proses membuat keputusan akan meningkatkan motivasi dan kepuasan pekerja tersebut, seterusnya meningkatkan kualiti servis dan prestasi pekerja (Gittell, Nordenflycht, & Kochan, 2004). Selain itu, hubungan pekerja yang baik juga dapat meningkatkan daya saing melalui sikap dan komitmen positif pekerja (Judge, Thoresen, Bono, & Patton, 2001). Seseorang pekerja yang mempunyai sikap yang positif dan komitmen yang tinggi dapat memberikan perkhidmatan yang terbaik kepada organisasi. Antara perkara yang dapat meningkatkan produktiviti pekerja dan prestasi kerja ialah bayaran gaji yang adil, menjaga perkembangan peribadi pekerja, menjaga keselamatan pekerja dan menyokong keseimbangan kehidupan kerja. Justeru, amalan hubungan pekerja memainkan peranan penting dalam setiap organisasi untuk meningkatkan kepuasan pekerja, memotivasikan pekerja, dan meningkatkan daya saing agar pengurusan organisasi berjalan dengan lancar.

Amalan Pembuatan Mampan Dan Prestasi Mampan

Hami, Muhamad, dan Ebrahim (2016) menggunakan kedua-dua amalan pembuatan mampan dalaman dan luaran untuk mengkaji kesan keatas prestasi mampan dalam firma pembuatan di Malaysia. Kajian menunjukkan amalan pembuatan mampan dalaman secara signifikan meningkatkan kemampanan ekonomi, manakala amalan pembuatan mampan luaran tidak menunjukkan hubungan yang signifikan terhadap kemampanan ekonomi. Menurut kajian dari Roni et al. (2014), dapatan kajian menunjukkan terdapat hubungan signifikan yang positif antara amalan pembuatan mampan dan prestasi organisasi. Prestasi organisasi tersebut diambil kira dari aspek persekitaran, ekonomi dan sosial. Seterusnya terdapat kajian lepas yang menunjukkan hubungan positif di antara amalan pembuatan mampan dan prestasi mampan dalam industri automotif di Malaysia. Habidin, Zubir, Conding, Jaya, dan Hashim (2013) telah menjalankan kajian tentang hubungan SMP dan mengekalkan peningkatan lean (*sustaining lean improvement*) terhadap prestasi mampan dalam industri automotif di Malaysia. Hasil kajian menunjukkan hubungan positif dan signifikan antara amalan pembuatan mampan dan prestasi mampan.

Di samping itu, turut terdapat kajian kes yang dijalankan oleh Rafidah, Alias, Hami, dan Shafie (2018) mengenai pelaksanaan SMP ke atas syarikat pembuatan di Malaysia. Kajian tersebut telah dijalankan ke atas syarikat elektrik dan eletronik yang terletak di Pulau Pinang, Malaysia. Menurut responden yang merupakan pengurus di syarikat tersebut, menyatakan pelaksanaan SMP menawarkan banyak kelebihan atau faedah yang meningkatkan prestasi kemampanan syarikat. Syarikat yang dikaji didapati telah berjaya mengurangkan kos keseluruhan syarikat melalui pelaksanaan SMP. Antara amalan yang dilaksanakan di syarikat tersebut ialah kitar semula bahan atau komponen produk, mengurangkan penggunaan tenaga dan air dalam pengeluaran, dan meningkatkan perkhidmatan pelanggan. Hal ini telah berjaya meningkatkan kemampanan syarikat dalam aktiviti operasi dan perniagaan syarikat berkenaan. Berdasarkan dapatan kajian lalu, kajian ini mengguna pakai kerangka kajian seperti di Rajah 1 bagi mencapai objektif kajian. Kerangka kajian ini diambil daripada penyelidikan oleh Abdul-Rashid et al. (2017b). Hipotesis kajian yang dibina adalah seperti berikut:

- H₁: Pengeluaran bersih mempunyai hubungan signifikan dengan kemampuan ekonomi.
H₂: Pengeluaran bersih mempunyai hubungan signifikan dengan kemampuan persekitaran.
H₃: Pengeluaran bersih mempunyai hubungan signifikan dengan kemampuan sosial.
H₄: Eko-efisiensi mempunyai hubungan signifikan dengan kemampuan ekonomi.
H₅: Eko-efisiensi mempunyai hubungan signifikan dengan kemampuan persekitaran.
H₆: Eko-efisiensi mempunyai hubungan signifikan dengan kemampuan sosial.
H₇: Hubungan pekerja mempunyai hubungan signifikan dengan kemampuan ekonomi.
H₈: Hubungan pekerja mempunyai hubungan signifikan terhadap kemampuan persekitaran.
H₉: Hubungan pekerja mempunyai hubungan signifikan terhadap kemampuan sosial.



Rajah 1: Kerangka Kajian

Metodologi

Kajian ini dilaksanakan dengan menggunakan pendekatan reka bentuk kuantitatif melalui kaedah tinjauan bagi melakukan proses pengumpulan data dan maklumat. Kajian tinjauan adalah salah satu kaedah penyelidikan bukan eksperimental yang popular digunakan dalam pelbagai bidang terutamanya bidang sains sosial (Chua, 2006). Kajian tinjauan bertujuan untuk mengumpul data dan maklumat daripada satu set populasi. Hal ini kerana, kaedah tinjauan merupakan kaedah yang terbaik untuk mengumpul data yang asli daripada populasi yang besar melalui teknik persampelan (Babbie, 2012). Kajian ini telah menggunakan borang soal selidik sebagai instrumen utama. Kaedah tinjauan adalah kaedah dimana borang soal selidik diedarkan kepada responden dalam bentuk bertulis secara emel atau membuat serahan kepada responden tersebut. Unit analisis adalah berdasarkan syarikat iaitu Industri Kecil dan Sederhana (IKS) di sekitar Johor. Individu di dalam syarikat yang memegang jawatan eksekutif dan ke atas merupakan wakil kepada unit analisis kajian ini. Populasi bagi kajian ini diambil dari sumber yang diterbitkan oleh Jabatan Perangkaan Malaysia (DOSM) iaitu Banci Ekonomi 2016: Profil PKS (2015). Menurut Banci Ekonomi 2016 tersebut, terdapat sebanyak 7,787 syarikat pembuatan yang telah berdaftar dibawah SME Corporation Malaysia. Merujuk kepada jadual penentuan saiz sampel yang dikemukakan oleh Krejcie dan Morgan (1970), saiz sampel adalah sebanyak 364. Kajian ini menggunakan borang soal selidik sebagai alat ukur bagi mengumpul data. Set borang soal selidik terbahagi kepada 3 bahagian iaitu bahagian A, B dan C. Bahagian A terdiri daripada soalan meliputi maklumat umum berkenaan responden dan syarikat. Bahagian B mengandungi soalan yang berkaitan dengan amalan pembuatan mampan yang dilaksanakan di dalam syarikat pembuatan. Manakala, bahagian C pula mengandungi soalan berkaitan dengan prestasi mampan sesebuah syarikat pembuatan. Bahagian B dan C diukur dengan menggunakan skala likert 5-mata daripada “1 = sangat tidak setuju” sehingga “5 = sangat setuju”. Kesemua item bagi SMP and prestasi mampan diadaptasi dari kajian Hami et al. (2016). Analisis yang digunakan bagi mencapai objektif kajian adalah analisis diskriptif, analisis kebolehpercayaan, dan analisis korelasi.

Daripada 364 set borang soal selidik yang diedarkan, hanya 51 set borang soal selidik yang dikembalikan memberi nilai kadar maklum balas sebanyak 14.01%. Jadual 1 menunjukkan rumusan penuh profil demografi responden. Majoriti responden bagi kajian ini terdiri daripada syarikat milik Malaysia (66.7%), terdiri daripada syarikat pembuatan produk elektrik dan elektronik (35.3%), merupakan syarikat bersaiz kecil (70.6%), dan telah beroperasi

lebih dari 10 tahun (68.6%). Responden yang memberi maklum balas adalah majoriti merupakan eksekutif (52.9%), bekerja di bahagian operasi dan pengeluaran (29.4%), serta mempunyai pengalaman 5 tahun dan kurang (51.0%).

Jadual 1: Profil demografi responden (n=51 responden)

Perkara	Kekerapan	Peratusan (%)
Jenis pemilikan syarikat		
Syarikat milik Malaysia	34	66.7
Syarikat milik luar negara	16	31.4
Syarikat usahasama	1	2.0
Bidang pembuatan syarikat		
Produk plastik	8	15.7
Produk kelapa sawit	1	2.0
Produk makanan dan minuman	9	17.6
Produk elektrik dan elektronik	18	35.3
Produk tekstil	5	9.8
Lain-lain	10	19.6
Bilangan pekerja		
5 ke 75 pekerja	36	70.6
76 ke 200 pekerja	15	29.4
Tempoh syarikat ditubuhkan		
5 tahun dan kurang	4	7.8
Antara 6 ke 10 tahun	12	23.5
Lebih daripada 10 tahun	35	68.6
Jawatan dalam syarikat		
Pengarah urusan atau keatas	-	-
Pengarah	-	-
Pengurus besar	3	5.9
Pengurus kilang	5	9.8
Pengurus kanan	6	11.8
Pengurus jabatan	10	19.6
Eksekutif	27	52.9
Bidang utama pekerjaan		
Eksekutif korporat atau pengarah urusan	-	-
Operasi atau pengeluaran	15	29.4
Perancangan dan inventori	7	13.7
Pembelian	9	17.6
Kawalan kualiti	12	23.5
Pengurusan rantai bekalan	8	15.7
Bilangan tahun pengalaman		
5 tahun dan kurang	26	51.0
Antara 6 ke 10 tahun	13	25.5
Lebih daripada 10 tahun	12	23.5

Keputusan dan Perbincangan

Analisis Kebolehpercayaan

Bagi mendapatkan nilai kebolehpercayaan dan penentuan konsistensi dalaman sama ada setiap item mengukur pemboleh ubah yang betul, analisis kebolehpercayaan dilakukan dengan mengambil kira nilai alpha Cronbach. Kesemua pemboleh ubah yang diukur mempunyai nilai alpha Cronbach di antara 0.683 sehingga 0.860. Hal ini menunjukkan bahawa instrumen yang digunakan di dalam kajian ini adalah boleh dipercayai dan diterima dengan nilai Alpha Cronbach yang melebihi 0.6 seperti yang ditunjukkan di dalam Jadual 2.

Jadual 2: Analisis kebolehppercayaan

Pembolehubah	Alpha Cronbach, α	Bilangan soalan
Pengeluaran bersih	0.736	6
Eko efisiensi	0.683	6
Hubungan pekerja	0.812	6
Prestasi kemampanan ekonomi	0.827	9
Prestasi kemampanan persekitaran	0.860	7
Prestasi kemampanan sosial	0.794	4

Analisis Diskriptif

Dalam bahagian ini analisis secara skor min digunakan bagi mengklasifikasikan tahap bagi setiap pembolehubah. Penilaian yang dilakukan terbahagi kepada tiga tahap iaitu tahap rendah ($1 \leq M \leq 2.33$), sederhana ($2.34 \leq M \leq 3.67$) dan tinggi ($3.68 \leq M \leq 5.00$) (Konting, 2005). Jadual 3 menunjukkan dapatan analisis diskriptif bagi prestasi mampan. Bagi aspek kemampanan ekonomi, nilai min yang tertinggi ialah item 2 iaitu “*kualiti produk yang bertambah baik*” mencatat nilai min, $M=4.35$ dengan sisihan piawai 0.78 dan seterusnya dikelaskan pada tahap tinggi dalam prestasi mampan. Manakala bagi nilai min yang terendah ialah $M=3.67$ dengan sisihan piawai 0.71 bagi item 7 mengenai “*saham dalam pasaran meningkat dan dikelaskan pada tahap sederhana*”. Bagi aspek prestasi kemampanan persekitaran yang terdiri daripada tujuh item, nilai min tertinggi ialah pada item 5 berkaitan “*sisa pepejal berkurangan*” dengan nilai min, $M=4.25$ dengan sisihan piawai 0.66 dan dikelaskan pada tahap tinggi. Manakala, catatan nilai min terendah ialah bagi item 3 berkenaan “*penggunaan sumber yang tidak boleh diperbaharui berkurangan*” dengan nilai min, $M=3.94$ dan sisihan piawai 0.56 dan dikelaskan pada tahap tinggi. Bagi pemboleh ubah prestasi kemampanan sosial yang terdiri daripada empat item, nilai min yang berada di kedudukan tertinggi ialah item 2 mengenai “*pengambilan dan pengekalan kakitangan yang lebih baik*” dimana nilai min dicatatkan sebanyak $M=4.49$ dengan sisihan piawai 0.61 dan dikelaskan pada tahap tinggi. Manakala, skor min paling rendah ialah bagi item 4 iaitu “*peningkatan pendidikan dan kemahiran pekerja*” sebanyak $M=4.04$ dengan sisihan piawai 0.77 dan dikelaskan pada tahap tinggi.

Secara keseluruhan, prestasi mampan menunjukkan pada tahap tinggi dengan nilai min sebanyak 4.15 dan sisihan piawai 0.53. Kemampanan persekitaran mencatatkan nilai min sebanyak 4.11 dengan sisihan piawai 0.56 dan 0.50. Manakala, kemampanan ekonomi mencatatkan nilai min sebanyak 4.06 dengan sisihan piawai 0.48. Kemampanan sosial pula mencatatkan nilai min sebanyak 4.27 dengan sisihan piawai 0.51 sekaligus menjadikan nilai tertinggi diantara ketiga-tiga faktor. Hal ini menunjukkan prestasi mampan dalam industri kecil dan sederhana di Johor mempunyai kemampanan sosial yang baik. Responden percaya bahawa dengan penerapan SMP dalam organisasi lebih mendorong prestasi sosial dengan pengambilan dan pengekalan kakitangan yang lebih baik berbanding peningkatan pendidikan dan kemahiran pekerja.

Jadual 3: Analisis diskriptif prestasi mampan

Bil	Item	Min	Sisihan piawai	Tahap
1.	Kemampanan ekonomi	4.06	0.48	Tinggi
2.	Kemampanan persekitaran	4.11	0.56	Tinggi
3.	Kemampanan sosial	4.27	0.56	Tinggi

Jadual 4 menunjukkan dapatan analisis diskriptif bagi amalan pembuatan mampan. Bagi pemboleh ubah pengeluaran bersih yang merangkumi enam item, nilai skor min tertinggi ialah sebanyak $M=4.51$ dengan sisihan piawai 0.58 yang merujuk kepada item 6 iaitu “*amalan*

pengemasan yang baik” dan dikelaskan pada tahap tinggi. Manakala, bagi skor min paling rendah ialah $M=3.78$ dengan sisihan piawai 0.64 merujuk kepada *“penggunaan sumber yang tidak boleh diperbaharui berkurangan”* dan dikelaskan pada tahap tinggi. Bagi pemboleh ubah eko-efisiensi yang mengandungi enam item menunjukkan skor min yang tertinggi bagi item 4 sebanyak $M=4.24$ dengan sisihan piawai 0.68 yang merujuk kepada *“pengurusan kualiti alam sekitar yang menyeluruh telah dilaksanakan”*. Manakala, analisis skor min terendah ialah $M=4.12$ dengan sisihan piawai 0.81 bagi item 2 iaitu *“kitar semula bahan dalaman syarikat”*. Bagi hubungan pekerja pula yang merangkumi enam item menunjukkan skor min tertinggi adalah sebanyak $M=4.43$ dengan sisihan piawai 0.58 bagi item 1 mengenai *“pemerhatian yang dijamin oleh peraturan keselamatan industri”* dan dikelaskan pada tahap tinggi. Manakala, skor min terendah adalah sebanyak $M=3.59$ dengan sisihan piawai 0.73 merujuk kepada item 5 iaitu *“melibatkan pekerja dalam pembuatan keputusan penting”* dan dikelaskan pada tahap sederhana.

Keseluruhannya faktor bagi amalan pembuatan mampan dalam industri pembuatan menunjukkan nilai min sebanyak $M=4.10$ dengan sisihan piawai 0.48 dan dikelaskan pada tahap tinggi. Faktor eko-efisiensi mencatatkan nilai min tertinggi dengan nilai sebanyak 4.18 dan sisihan piawai 0.47. Manakala, hubungan pekerja mencatatkan nilai min terendah dengan nilai sebanyak 4.03 dan sisihan piawai 0.50. Hal ini menunjukkan, amalan eko-efisiensi merupakan amalan yang diberi penekanan dalam syarikat pembuatan. Responden bersetuju bahawa amalan eko-efisiensi mewujudkan pengurusan kualiti alam sekitar yang menyeluruh berbanding kitar semula bahan dalaman syarikat.

Jadual 4: Analisis diskriptif amalan pembuatan mampan

Bil	Item	Min	Sisihan piawai	Tahap
1.	Pengeluaran bersih	4.08	0.48	Tinggi
2.	Eko-efisiensi	4.18	0.47	Tinggi
3.	Hubungan pekerja	4.03	0.50	Tinggi

Melalui dapatan analisis diskriptif, dapat dilihat tahap kemampanan sosial adalah merupakan tahap yang paling tinggi di antara ketiga-tiga aspek prestasi mampan. Hal ini disokong oleh Hami et al (2016) yang menyatakan bahawa kemampanan sosial menunjukkan pengaruh yang kuat terhadap SMP diikuti kemampanan persekitaran dan kemampanan ekonomi. Secara umumnya, inisiatif persekitaran yang diaplikasikan di dalam organisasi cenderung untuk mewujudkan persekitaran kerja yang lebih baik, hal ini dimana akan meningkatkan motivasi dan produktiviti seseorang pekerja. Prestasi kemampanan persekitaran turut menunjukkan tahap yang tinggi. Perkara ini menjelaskan IKS di Johor mengambil kira aspek kemampanan persekitaran dalam setiap aktiviti syarikat. Dapatan kajian menunjukkan IKS di Johor bersetuju bahawa kemampanan persekitaran dapat mengurangkan sisa dari aspek pepejal dan air dalam organisasi mereka. Hal ini disokong oleh Adebambo, Ashari, dan Nordin (2015), dimana amalan persekitaran dapat meningkatkan prestasi kemampanan persekitaran sesebuah organisasi dengan mengurangkan perlepasan karbon dan sisa seterusnya dapat menurangkan degradasi alam sekitar. Seterusnya dapatan kajian menunjukkan tahap kemampanan ekonomi adalah pada tahap yang tinggi. Dapatan ini menunjukkan IKS bersetuju bahawa kemampanan ekonomi telah mendorong kepada kualiti produk yang bertambah baik. Dapatan ini disokong oleh Eltayeb, Zailani, dan Ramayah (2011), dimana kemampanan ekonomi menunjukkan kesan langsung amalan hijau dengan peningkatan kualiti produk dan penghantaran pesanan yang lebih baik.

Analisis Korelasi Spearman

Ujian *Kolmogorov-Smirnov* telah digunakan bagi menguji kenormalan data dan hasil analisis menunjukkan semua faktor bagi SMP mencatatkan nilai $p < 0.05$. Manakala, bagi prestasi mampan, terdapat satu faktor yang mencatatkan nilai $p > 0.05$ dan dua faktor mencatatkan nilai $p < 0.05$. Hasil ujian menunjukkan taburan data secara tidak normal. Oleh itu, analisis non-parametrik korelasi *Spearman* digunakan untuk menguji hubungan di antara SMP dan prestasi mampan dalam industri pembuatan. Secara keseluruhan, hasil kajian mendapati kesemua amalan pembuatan mampan mempunyai hubungan yang positif terhadap prestasi mampan dalam industri pembuatan. Terdapat lapan hipotesis yang disokong dalam kajian ini dan hanya satu hipotesis tidak disokong iaitu H₄. Jadual 5 menunjukkan rumusan dapatan analisis korelasi *Spearman*.

Jadual 5: Analisis korelasi Spearman

Pembolehubah	(1)	(2)	(3)	(4)	(5)	(6)
(1) Pengeluaran bersih	1					
(2) Eko efisiensi	.347*	1				
(3) Hubungan pekerja	.490**	.497**	1			
(4) Kemampanan ekonomi	.631**	0.231	.588**	1		
(5) Kemampanan persekitaran	.527**	.691**	.427**	.454**	1	
(6) Kemampanan sosial	.554**	.458**	.708**	.550**	.520**	1

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Analisis korelasi *Spearman* menunjukkan hubungan antara pengeluaran bersih dan kemampanan ekonomi adalah positif sederhana signifikan dengan nilai $r = 0.631$, sig- $p < 0.01$. Hubungan antara pengeluaran bersih dan kemampanan persekitaran juga menunjukkan hubungan yang positif sederhana dan signifikan dengan nilai $r = 0.527$, sig- $p < 0.01$, dan bagi hubungan di antara pengeluaran bersih dan kemampanan sosial iaitu dengan nilai $r = 0.554$. Hubungan positif menunjukkan semakin tinggi amalan pengeluaran bersih sesebuah syarikat, semakin tinggi kemampanan ekonomi syarikat tersebut. Kajian ini dilihat konsisten dengan kajian lepas oleh Severo, Guimaraes, Dorion, dan Nodari (2014), yang menyatakan terdapat hubungan yang positif di antara pengeluaran bersih dan kemampanan ekonomi. Amalan pengeluaran bersih bukan sahaja memberi impak positif kepada prestasi persekitaran malah dapat mewujudkan peluang pasaran baru, mengurangkan kos dan meningkatkan daya saing sesebuah syarikat. Oleh itu, pelaburan dalam mengaplikasikan amalan pengeluaran bersih mampu membuka peluang untuk menjana perniagaan baru dan pasaran baru. Dapatan kajian menunjukkan terdapat hubungan positif signifikan di antara pengeluaran bersih dan kemampanan persekitaran. Dapatan ini konsisten dengan kajian lepas oleh Severo et al. (2012), yang menyatakan dimana amalan pengeluaran bersih mempunyai hubungan yang positif dengan kemampanan persekitaran. Amalan pengeluaran bersih merupakan strategi dalam menjana input yang lebih baik dan mengurangkan penggunaan sumber semulajadi seperti air dan tenaga. Seterusnya, hubungan di antara pengeluaran bersih dan kemampanan sosial menunjukkan hubungan positif signifikan di antara kedua-dua pembolehubah. Hal ini disokong oleh Severo et al. (2012), yang menyatakan terdapat hubungan positif di antara amalan pengeluaran bersih dengan kemampanan sosial. Pelaksanaan pengeluaran bersih akan meningkatkan kebajikan sosial. Pengeluaran bersih didapati dapat meningkatkan kesihatan dan keselamatan pekerja dimana syarikat telah melakukan penggantian bahan-bahan berbahaya dalam penghasilan produk kepada bahan-bahan mesra alam sekitar.

Manakala, bagi hubungan di antara eko efisiensi dan kemampanan ekonomi menunjukkan hubungan positif sangat lemah dan tidak signifikan dengan nilai $r = 0.231$, sig-

$p > 0.01$. Hubungan antara eko efisiensi dan kemampuan persekitaran pula menunjukkan hubungan yang positif sederhana signifikan dengan nilai $r = 0.691$, $\text{sig-p} < 0.01$. Terdapat hubungan positif yang lemah dan signifikan di antara eko efisiensi dan kemampuan sosial dimana nilai $r = 0.458$, $\text{sig-p} < 0.01$. Dapatan kajian menunjukkan tiada hubungan signifikan di antara amalan eko efisiensi dan kemampuan ekonomi. Hal ini selari dengan kajian lepas oleh (Murray, Sinclair, Power, & Gray, 2006) yang menyatakan terdapat kesan yang tidak ketara daripada syarikat yang telah memilih strategi ini ke atas ekonomi syarikat. Pemegang saham melihat pelaburan dalam pengurusan alam sekitar sebagai penjana kos, hal ini akan mengurangkan keuntungan masa depan yang dijangka dalam jangka sederhana ke jangka panjang. Hal ini menunjukkan amalan eko efisiensi tidak meningkatkan kemampuan ekonomi syarikat IKS di Johor. Syarikat dengan tahap pelepasan yang tinggi adalah tidak cekap dalam proses pengeluaran mereka, yang membawa kepada kos yang lebih tinggi, seterusnya menjadikan syarikat kurang berdaya saing dan mendapatkan keuntungan yang lebih rendah. Seterusnya, hubungan di antara amalan eko efisiensi dan kemampuan persekitaran yang menunjukkan hubungan positif signifikan. Hal ini adalah konsisten dengan kajian lepas oleh Aguirre, Fuquene-retamoso, Bruno, Priarone, dan Settineri (2019), menyatakan bahawa terdapat hubungan positif di antara eko efisiensi dan kemampuan persekitaran. Amalan eko efisiensi dapat mengurangkan kesan terhadap alam sekitar dalam setiap aktiviti perniagaan yang dijalankan. Hubungan di antara amalan eko efisiensi dan kemampuan sosial menunjukkan hubungan positif signifikan yang lemah. Hal ini dilihat selari dengan kajian lepas oleh Hong, Kwon, dan Roh (2009) dimana terdapat hubungan positif apabila syarikat mengamalkan amalan eko efisiensi terhadap kepuasan pekerja. Pekerja memainkan peranan penting dalam setiap organisasi dimana tanpa pekerja segala operasi syarikat tidak dapat dilaksanakan. Oleh itu, syarikat perlulah menjaga kebajikan pekerja dengan mengelakkan menggunakan bahan kimia yang berbahaya dalam proses pembuatan dan menggantikannya dengan bahan yang mesra alam.

Seterusnya, hubungan di antara hubungan pekerja dan kemampuan ekonomi adalah positif sederhana signifikan dengan nilai $r = 0.588$, $\text{sig-p} < 0.01$. Terdapat hubungan yang positif lemah dan signifikan bagi hubungan pekerja dan kemampuan persekitaran dengan nilai $r = 0.427$, $\text{sig-p} < 0.01$. Manakala, terdapat hubungan positif kuat signifikan di antara hubungan pekerja dan kemampuan sosial dengan nilai $r = 0.708$, $\text{sig-p} < 0.01$. Dapatan kajian menunjukkan terdapat hubungan positif signifikan yang sederhana di antara hubungan pekerja dan kemampuan ekonomi. Hal ini selari dengan kajian oleh Agyemang dan Ansong (2017), menyatakan terdapat hubungan positif antara hubungan pekerja dan kemampuan ekonomi. Pekerja mempunyai impak terhadap prestasi ekonomi. Kepuasan pekerja terhadap kerja yang dilakukan dapat meningkatkan prestasi mereka, seterusnya mendorong kepada peningkatan produktiviti syarikat dan peningkatan kualiti yang semakin baik. Seterusnya, hubungan positif signifikan yang lemah dapat dilihat di antara hubungan pekerja terhadap kemampuan persekitaran. Hal ini disokong oleh kajian lepas dari Gimenez, Sierra, dan Rodon (2012), bahawa terdapat hubungan yang positif di antara hubungan pekerja terhadap kemampuan persekitaran. Hubungan yang mampan semasa berurusan dengan pekerja dalam organisasi akan dapat meminimumkan kemungkinan kerosakan kepada alam semula jadi. Penglibatan pekerja dalam pembuatan keputusan penting dapat membolehkan penjana idea-idea yang bernas dalam usaha menjalankan aktiviti syarikat dengan mengurangkan kesan terhadap alam sekitar. Akhir sekali, hubungan positif dan signifikan yang kuat di antara hubungan pekerja terhadap kemampuan sosial adalah konsisten dengan kajian lepas oleh Huang, Tan, dan Ding (2012), dimana terdapat hubungan yang positif di antara hubungan pekerja dengan kemampuan sosial. Kerjasama yang baik dengan pekerja dapat meningkatkan reputasi organisasi. Syarikat yang mengambil berat akan pembangunan peribadi pekerja akan meningkatkan pendidikan dan

kemahiran seseorang pekerja, seterusnya memberi impak positif kepada reputasi syarikat seterusnya memberi kepuasan kepada pekerja.

Rumusan

Menerusi kajian ini, syarikat pembuatan dicadangkan untuk melaksanakan Amalan Pembuatan Mampan (SMP) dalam organisasi mereka. Hal ini kerana, telah terbukti bahawa SMP bukan sahaja membawa kebaikan ke atas prestasi syarikat malah kepada pekerja, pembekal dan komuniti. Pelaksanaan ini juga turut dapat memberikan manfaat kepada alam sekitar, dimana pencemaran dan kemusnahan alam sekitar dapat dikurangkan. Walau bagaimanapun, kajian bagi hubungan diantara SMP dan prestasi mampan di lokasi yang berbeza iaitu tidak hanya tertumpu di kawasan Johor sahaja akan dapat meningkatkan generalisasi kajian kepada populasi. Temu bual lanjut bersama pemain industri yang berkaitan dilihat dapat memberikan maklumat yang lebih tepat dan mengukuhkan penemuan dalam kajian ini. Kempen kesedaran ke atas kepentingan mengamalkan SMP turut boleh dilaksanakan oleh pihak kerajaan bagi memberi kesedaran kepada syarikat pembuatan akan kepentingan mengamalkan SMP dalam setiap aktiviti syarikat. SMP memainkan peranan penting dalam sesebuah organisasi pembuatan kerana dibuktikan dapat memberi manfaat bukan sahaja kepada organisasi itu sendiri malah kepada pekerja, pembekal, komuniti dan alam sekitar. Dapatan kajian ini dapat memberi manfaat kepada pihak-pihak tertentu dalam merangka strategi dan pendekatan untuk lebih mampan di dalam pasaran masa hadapan.

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PELAKSANAAN STRUKTUR LATIHAN DALAM PERKHIDMATAN DAN HUBUNGANNYA DENGAN PRESTASI PELAKSANAAN PENGAJARAN DAN PEMBELAJARAN GURU DI SEKOLAH MENENGAH BERPRESTASI TINGGI DI NEGERI SEMBILAN

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Abstract: *Kajian ini bertujuan untuk mengenalpasti hubungan pelaksanaan struktur latihan dalam perkhidmatan dan hubungannya dengan prestasi pelaksanaan pengajaran dan pembelajaran guru di sekolah menengah berprestasi tinggi di Negeri Sembilan. Kajian ini menekankan penggunaan Model Lima Langkah Penstrukturan Latihan (Keeps & Stolovitch 2002) yang terdiri daripada rasional, objektif, aktiviti, penilaian dan maklum balas dalam membangunkan latihan. Kajian ini merupakan kajian deskriptif berbentuk tinjauan di mana instrumen soal selidik telah dibangunkan. Sebanyak lima buah sekolah menengah berprestasi tinggi di Negeri Sembilan telah terlibat dalam kajian ini dan sample kajian terdiri daripada 180 orang guru. Dapatan kajian mendapati pelaksanaan struktur latihan dalam perkhidmatan ($r = 0.849$, $p < 0.01$) mempunyai hubungan yang signifikan dengan prestasi pelaksanaan pengajaran dan pembelajaran guru sekolah menengah berprestasi tinggi di Negeri Sembilan. Selain itu, kajian ini juga akan memberikan beberapa cadangan penambahbaikan program latihan dalam perkhidmatan guru di sekolah, dimana hasil kajian ini diharapkan dapat membantu Kementerian Pendidikan Malaysia dan pihak pengurusan sekolah dalam merangka struktur latihan dalam perkhidmatan yang berkesan untuk memastikan prestasi pelaksanaan pengajaran dan pembelajaran guru dapat ditingkatkan. Kajian ini juga dilihat mampu memberikan implikasi terhadap latihan guru, amalan guru dan dasar latihan sumber manusia KPM. Kesimpulannya, kajian ini membuktikan bahawa latihan dalam perkhidmatan perlu mempunyai struktur yang sistematik dan tersusun bagi memastikan keberkesanan latihan yang dijalankan dan seterusnya meningkatkan prestasi pelaksanaan pengajaran dan pembelajaran guru.*

Keywords: *Latihan; struktur latihan; Latihan dalam perkhidmatan; prestasi pelaksanaan pengajaran dan pembelajaran guru*

Pengenalan

Pembangunan sumber manusia bagi sesebuah organisasi sering kali dikaitkan dengan latihan yang diterima oleh pekerjaannya. Latihan didefinisikan sebagai proses pembelajaran dan pembangunan sistematik yang meningkatkan kecekapan individu, kumpulan dan organisasi (Goldstein & Ford 2002). Menurut Ibrahim (2006), latihan yang dijalankan dalam organisasi dilihat sebagai salah satu proses pembelajaran yang dirangka untuk menambahkan kemahiran, pengetahuan dan prestasi pekerja.

Latihan merupakan salah satu cara untuk mengurangkan jurang yang wujud di antara kecekapan, kemahiran, pengetahuan dan sikap yang dipegang oleh seseorang guru. Guru perlu diberikan latihan bukan sahaja sebelum memasuki perkhidmatan tetapi yang paling penting

adalah semasa dalam perkhidmatan kerana pembangunan profesional guru dilihat sebagai satu proses berterusan untuk mengemaskini dan menaik taraf pengetahuan mengikut arus perubahan (Khan 2010). Program latihan semasa dalam perkhidmatan adalah perlu untuk mengorientasikan semula guru kepada matlamat dan nilai baharu, untuk melatih mereka dalam kaedah pengajaran dan pembelajaran baharu, untuk mempersiapkan mereka dalam menghadapi perubahan kurikulum, dan memberi mereka pengetahuan dan kemahiran untuk mengajar bidang pembelajaran baru (Al-Zoubi et al. 2010). Program latihan untuk guru cenderung untuk meningkatkan kualiti yang dimiliki oleh seseorang guru yang baik dan secara positif mempengaruhi prestasi guru (Dolores 2018). Kajian oleh Ekpoh et al. (2013) menunjukkan bahawa guru yang menghadiri latihan dalam perkhidmatan boleh melaksanakan kerja mereka dengan berkesan yang melibatkan pengetahuan dalam matapelajaran, pengurusan bilik darjah, kaedah pengajaran dan penilaian pelajar.

Latihan dalam perkhidmatan hendaklah di laksanakan mengikut pelan yang menyeluruh dan teratur yang merangkumi matlamat, objektif, strategi, aktiviti, bahan, pelan penilaian dan prosedur penilaian program yang jelas dan teratur antara satu sama lain (Zulkifli 2014). Dalam memastikan bahawa proses penyaluran pengetahuan menjadi realiti, pendekatan yang digunakan dalam penyampaian dalam latihan perkhidmatan harus sesuai dengan keperluan para peserta. Keeps dan Stolovitch (2002) menyatakan bahawa untuk menghasilkan latihan yang berkesan struktur latihan perlu mengandungi rasional, objektif, aktiviti, penilaian dan maklum balas.

Menurut Mohamad Mortadza (2005), latihan dalam perkhidmatan yang diadakan di sekolah telah mendapat kritikan kerana didapati sebahagian pelaksanaannya tidak efektif dan tidak menepati keperluan sebenar serta melibatkan perbelanjaan latihan yang terlalu tinggi. Ketiadaan hubungan antara kandungan latihan dengan situasi sebenar sekolah merupakan punca kepada kegagalan program latihan dan pembangunan guru. Data yang diperoleh daripada PPPM 2013-2025 mendapati bahawa kajian terhadap 125 pengajaran di 41 sekolah di seluruh Malaysia, mendapati 50% pengajaran yang disampaikan oleh guru berada pada tahap yang tidak memuaskan, dan hanya 12% pengajaran disampaikan pada standard yang tinggi, iaitu mengaplikasi banyak amalan terbaik pedagogi.

Kajian mengenai pelaksanaan latihan dalam perkhidmatan dilihat telah mendapat perhatian ramai pengkaji sejak dari dulu lagi, namun begitu, kajian mengenai pelaksanaan struktur latihan dalam perkhidmatan masih tidak mendapat perhatian yang meluas daripada pengkaji dalam mahupun luar negara. Kajian-kajian lepas didapati tidak memberikan penekanan terhadap kepentingan struktur dan kaedah latihan yang berkesan. Merujuk kepada permasalahan kajian yang diutarakan, kajian ini dilihat penting bagi memastikan struktur latihan yang digunakan dalam menjalankan latihan dalam perkhidmatan di peringkat sekolah adalah sistematik dan terancang seterusnya memastikan pembelajaran yang ingin disampaikan dapat di implimentasi oleh guru secara berkesan. Justeru itu kajian ini bertujuan untuk mengenal pasti pelaksanaan struktur latihan dalam perkhidmatan dan hubungannya dengan prestasi pelaksanaan pengajaran dan pembelajaran guru di sekolah menengah berprestasi tinggi di Negeri Sembilan.

Tujuan Kajian

Tujuan kajian ini adalah untuk mengenal pasti pelaksanaan struktur latihan dalam perkhidmatan dan hubungannya dengan prestasi pelaksanaan pengajaran dan pembelajaran guru di sekolah menengah berprestasi tinggi di Negeri Sembilan

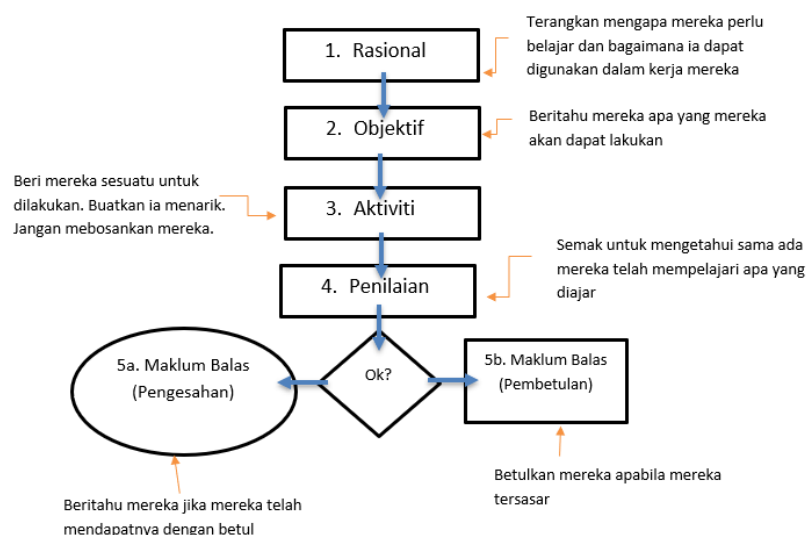
Objektif Kajian

1. Mengenal pasti tahap pelaksanaan struktur latihan dalam perkhidmatan di sekolah menengah berprestasi tinggi di Negeri Sembilan
2. Mengenal pasti tahap prestasi pelaksanaan pengajaran dan pembelajaran guru di sekolah menengah berprestasi tinggi di Negeri Sembilan.
3. Mengenal pasti hubungan antara pelaksanaan struktur latihan dalam perkhidmatan dengan prestasi pelaksanaan pengajaran dan pembelajaran guru.

Kajian Literatur

Pelaksanaan Struktur Latihan dalam Perkhidmatan

Menurut Keeps dan Stolovitch (2002), kunci kepada latihan yang berkesan adalah struktur yang bermakna dan sistematik. Ini seiring dengan kenyataan Swanson dan Holton (2001) yang mendefinisikan latihan sebagai proses yang dijalankan secara sistematik bagi membangunkan pengetahuan dan kepakaran yang berkaitan dengan pekerjaan di dalam sesebuah masyarakat untuk tujuan meningkat prestasi. Manakala Isiaka (2002) dalam kajiannya menyatakan bahawa latihan merupakan satu program yang teratur yang direka bagi meningkatkan kemahiran dan pengetahuan pekerja dan seterusnya meningkatkan prestasi. Ini tidak dinafikan dengan dapatan kajian-kajian lepas juga mendapati latihan mempunyai hubungan yang signifikan terhadap prestasi pekerja. Manusia memerlukan perintah dan struktur dalam arahan. Ini dijelaskan dalam penyelidikan yang dijalankan oleh Keeps dan Stolovitch (2002) mendapati bahawa struktur yang lebih jelas kandungannya, akan memudahkan peserta latihan untuk dapat memahami dan mengekalkan apa yang dipelajari mereka. Kandungan latihan merupakan aspek yang sangat penting dalam menentukan kesesuaian sesebuah latihan dalam perkhidmatan. Kajian ini ingin melihat dengan lebih dekat elemen-elemen penstrukturan latihan yang diperkenalkan oleh Keeps dan Stolovitch (2002), dalam model lima langkah penstrukturan latihan bagi meningkatkan keberkesanan latihan dalam perkhidmatan di sekolah. Model ini menekankan kepada kepentingan pembelajaran berpusatkan pelajar atau peserta latihan dan berasaskan prestasi. Sesebuah latihan itu perlu dirancang dan dibentuk dengan mengambil kira keperluan dan kehendak peserta untuk mencapai matlamat. Model ini menerangkan kepada lima langkah utama dalam penstrukturan latihan, iaitu rasional, objektif, aktiviti, penilaian dan maklum balas.



Rajah 1: Model Lima Langkah Penstrukturan Latihan (Keeps & Stolovitch, 2002)

Source: Erica J. Keeps and Harold Stolovitch. 2002. *Telling Ain't Training*. 2nd Edition. USA. ASTD Workplace Learning & Performance.

Penggunaan kaedah atau pendekatan yang betul harus sesuai dengan objektif, isi kandungan, kemampuan peserta dan kemudahan yang terdapat dalam program latihan. (Kurikulum Pusat Perkembangan, 1992). Menurut Brinkerhoff (2005), kadar pemindahan latihan akan menurun jika latihan yang diberikan tidak praktikal dan tidak sesuai dengan keperluan peserta. Justeru itu, bagi mencapai objektif pembelajaran yang dikehendaki, perancang latihan perlu memastikan matlamat, objektif, kandungan latihan, kemudahan dan peralatan yang digunakan bersesuaian dengan jenis latihan dan keperluan peserta. Menurut Juridico (1993) dalam kajiannya mendapati penggunaan kaedah latihan yang betul adalah penting untuk meningkatkan keberkesanan latihan dan seterusnya dapat meningkatkan prestasi pekerja.

Prestasi Pelaksanaan Pengajaran dan Pembelajaran Guru

Rotundo dan Sackett (2002) menyatakan bahawa prestasi merupakan tingkah laku atau sikap yang menunjukkan seseorang itu berhubungan dengan pekerjaannya dan kebiasaannya merujuk kepada tindakan dan tingkah laku di bawah kawalan seseorang individu yang menyumbang kepada matlamat organisasi. Sebagai seorang guru, prestasi mereka sering diukur pada keupayaan dan kemahiran mereka dalam menenjalikan proses pengajaran dan pembelajaran di kelas. Sistem pendidikan tanpa pengajaran dan pembelajaran adalah mustahil, dan ia merupakan satu aset penting yang perlu dikuasai oleh semua insan bergelar guru. Kemahiran dan pengetahuan guru dalam mengendalikan pengajaran dan pembelajaran di kelas perlu dipertingkatkan dari masa ke semasa selari dengan perkembangan sistem pendidikan pada masa kini. Ini adalah bagi memastikan sistem pendidikan negara bergerak selari dengan kemajuan teknologi global. Menurut Mok Soong (2008) terdapat beberapa aspek dalam pengurusan pengajaran dan pembelajaran dan di antaranya ialah persediaan rancangan kerja, penentuan objektif atau hasil pelajaran, sumber pengajaran dan pembelajaran, rancangan dan pelaksanaan pelajaran dan kaedah penilaian pengajaran dan pembelajaran. Aspek-aspek ini adalah penting dalam memastikan kelancaran pengajaran dan pembelajaran di dalam kelas dan seterusnya memastikan ilmu yang disampaikan kepada pelajar dapat di optimumkan.

Metadologi

Reka Bentuk Kajian

Kajian ini merupakan kajian deskriptif berbentuk tinjauan di mana instrumen soal selidik telah dibangunkan. Kajian berbentuk tinjauan ini sesuai digunakan untuk mengenalpasti persepsi individu terhadap sesuatu perkara dan memperoleh informasi awal berkaitan isu dan permasalahan yang mempunyai hubungan dengan masyarakat (Majid 2009). Manakala menurut Chua (2011), maklumat yang diperolehi daripada kajian tinjauan adalah tepat dan sesuai digunakan untuk menghuraikan pelbagai masalah atau persoalan terutamanya dalam menghuraikan pendapat, kepercayaan, perasaan dan perilaku. Reka bentuk kajian ini dipilih kerana jumlah responden yang ramai dan melibatkan responden di pelbagai tempat. Oleh itu, kaedah ini dilihat lebih mudah dan cepat untuk mendapatkan maklumat yang tepat mengenai persoalan yang ingin dikaji.

Populasi dan Persampelan Kajian

Menurut Sekaran (2003) populasi kajian merujuk kepada keseluruhan kelompok manusia, benda atau peristiwa yang ingin dikaji oleh penyelidik. Dalam kajian yang dijalankan ini, populasi merujuk kepada semua guru yang terdapat di sekolah menengah berprestasi tinggi di Negeri Sembilan. Terdapat lima buah sekolah menengah berprestasi tinggi di Negeri Sembilan yang terdiri daripada 309 orang guru dijadikan sebagai populasi kajian. Populasi kajian ini turut melibatkan guru besar dan guru penolong kanan di SBT tersebut.

Majid (1993) menyatakan bahawa sampel ialah sebahagian individu yang diambil melalui persampelan bagi mewakili sesuatu populasi yang dikaji atau sebahagian individu dalam populasi. Pemilihan size sample kajian ini merujuk kepada Jadual Penentuan Bilangan Sample yang dibangunkan oleh Krejcie dan Morgan (1970), iaitu seramai 169 orang guru diperlukan sebagai sampel bagi kajian ini daripada jumlah populasi sebanyak 309 orang guru.

Dapatan Kajian

Tahap Pelaksanaan Struktur Latihan Dalam Perkhidmatan Di Sekolah Menengah Berprestasi Tinggi Di Negeri Sembilan

Keputusan hasil dapatan kajian ini adalah untuk menjawab objektif kajian pertama iaitu mengenal pasti tahap pelaksanaan struktur latihan dalam perkhidmatan di sekolah menengah berprestasi tinggi di Negeri Sembilan. Bagi memberi gambaran yang lebih jelas, analisis deskriptif seperti yang ditunjukkan dalam Jadual 1 di bawah.

Jadual 1: Min dan Sisihan Piawai Tahap Pelaksanaan Struktur Latihan Dalam Perkhidmatan Di Sekolah Menengah Berprestasi Tinggi

	Min	SP	Tahap
Rasional	4.00	.448	Sederhana tinggi Tinggi
Objektif	4.09	.463	
Aktiviti	3.99	.569	Sederhana tinggi
Penilaian	3.73	.564	Sederhana tinggi
Maklum balas	3.86	.682	Sederhana tinggi
Keseluruhan (Pelaksanaan struktur latihan dalam perkhidmatan)	3.93	.460	Sederhana tinggi

Dalam kajian ini, tahap pelaksanaan struktur latihan dalam perkhidmatan diukur oleh 5 dimensi iaitu rasional, objektif, aktiviti, penilaian dan maklum balas. Daripada Jadual 1 di atas menunjukkan bahawa skor rasional (min = 4.00, SP = 0.448), aktiviti (min = 3.99, SP = 0.569), penilaian (min = 3.73, SP = 0.564) dan maklum balas (min = 3.86, SP = 0.682) adalah berada pada tahap yang sederhana tinggi. Manakala skor yang tinggi pula adalah objektif (min = 4.09, SP = 0.463). Secara keseluruhannya menunjukkan skor tahap pelaksanaan struktur latihan dalam perkhidmatan (min = 3.93, SP = 0.460) dalam kalangan guru sekolah menengah berprestasi tinggi di Negeri Sembilan adalah berada pada tahap yang sederhana tinggi.

Tahap Prestasi Pelaksanaan Pengajaran dan Pembelajaran Di Sekolah Menengah Berprestasi Tinggi Di Negeri Sembilan

Keputusan hasil dapatan kajian ini adalah untuk menjawab objektif kajian kedua iaitu mengenal pasti tahap prestasi pelaksanaan pengajaran dan pembelajaran guru di sekolah menengah berprestasi tinggi di Negeri Sembilan. Bagi memberi gambaran yang lebih jelas, analisis deskriptif seperti yang ditunjukkan dalam Jadual 2 di bawah.

Jadual 2: Min dan Sisihan Piawai Tahap Prestasi Pelaksanaan Pengajaran dan Pembelajaran Guru Di Sekolah Menengah Berprestasi Tinggi

	Min	SP	Tahap
Penyampaian	4.16	.539	Tinggi
Penggunaan sumber pendidikan	4.09	.579	Tinggi
Kemahiran komunikasi	4.13	.592	Tinggi
Teknik penyooalan	4.06	.596	Tinggi
Penglibatan dan penguasaan pembelajaran pelajar	4.08	.554	Tinggi
Keseluruhan (Prestasi Pelaksanaan Pengajaran dan Pembelajaran guru)	4.10	.507	Tinggi

Dalam kajian ini, tahap prestasi pelaksanaan pengajaran dan pembelajaran guru diukur oleh 5 dimensi iaitu penyampaian, penggunaan sumber pendidikan, kemahiran komunikasi, teknik penyediaan dan, penglibatan dan penguasaan pembelajaran pelajar. Daripada Jadual 2 di atas menunjukkan bahawa kesemua skor dimensi prestasi guru iaitu penyampaian (min = 4.16, SP = 0.539), penggunaan sumber pendidikan (min = 4.09, SP = 0.579), kemahiran komunikasi (min = 4.13, SP = 0.592), teknik penyediaan (min = 4.06, SP = 0.596) dan, penglibatan dan penguasaan pembelajaran (min = 4.08, SP = 0.554) adalah berada pada tahap yang tinggi. Secara keseluruhannya menunjukkan skor tahap prestasi pelaksanaan pengajaran dan pembelajaran guru (min = 4.10, SP = 0.507) dalam kalangan guru sekolah menengah berprestasi tinggi di Negeri Sembilan adalah berada pada tahap yang tinggi.

Hubungan Antara Pelaksanaan Struktur Latihan Dalam Perkhidmatan Dengan Prestasi Pelaksanaan Pengajaran Dan Pembelajaran Guru

Jadual 3 menunjukkan pelaksanaan struktur latihan dalam perkhidmatan dari aspek rasional ($r = 0.780$, $p < 0.01$); objektif ($r = 0.832$, $p < 0.01$); aktiviti ($r = 0.703$, $p < 0.01$); penilaian ($r = 0.643$, $p < 0.01$); dan maklum balas ($r = 0.669$, $p < 0.01$) mempunyai hubungan yang signifikan dengan tahap prestasi pelaksanaan pengajaran dan pembelajaran guru. Secara keseluruhannya menunjukkan pelaksanaan struktur latihan dalam perkhidmatan ($r = 0.849$, $p < 0.01$) mempunyai hubungan yang signifikan dengan prestasi pelaksanaan pengajaran dan pembelajaran dalam kalangan guru sekolah menengah berprestasi tinggi di Negeri Sembilan.

Jadual 3: Hubungan Antara Pelaksanaan Struktur Latihan Dalam Perkhidmatan Dengan Prestasi Pelaksanaan Pengajaran dan Pembelajaran Guru

	Prestasi guru	
	r	Sig. P
Rasional	0.780**	.000
Objektif	0.832**	.000
Aktiviti	0.703**	.000
Penilaian	0.643**	.000
Maklum balas	0.669**	.000
Keseluruhan (Pelaksanaan struktur latihan dalam perkhidmatan)	0.849**	.000

Perbincangan

Setiap kaedah dan pendekatan yang digunakan dalam latihan dalam perkhidmatan di sekolah mempunyai kekuatan dan kelemahannya (Zulkifli, 2004). Dapatan kajian yang diperolehi menunjukkan bahawa tahap pelaksanaan struktur latihan dalam perkhidmatan di sekolah menengah berprestasi tinggi di Negeri Sembilan berada pada tahap sederhana tinggi dengan nilai min = 3.93, SP = 0.460. Ini menunjukkan bahawa guru-guru di sekolah menengah berprestasi tinggi di Negeri Sembilan memahami kepentingan struktur latihan dalam perkhidmatan yang tersusun dan sistematik dalam menambahbaik dan meningkatkan pengetahuan serta kemahiran guru. Dapatan ini menyangkal kenyataan Rusliza et al (2017) yang menyatakan pelaksanaan latihan dan pembangunan guru hanya sekadar untuk memenuhi syarat yang ditetapkan oleh pihak atasan serta dasar yang telah dibangunkan. Menurut Stufflebeam (1971) bentuk perubahan yang perlu dilakukan adalah dengan pembangunan dan penambahbaikan berterusan. Ini bagi memastikan pelaksanaan struktur latihan dalam perkhidmatan di sekolah berada pada tahap tertinggi dan seterusnya memastikan program latihan yang dijalankan di sekolah memberi manfaat dan impak yang berterusan kepada semua guru yang terlibat. Penekanan terhadap kepentingan dalam memberi pendedahan awal mengenai rasional sesebuah latihan, objektif latihan dijalankan, aktiviti yang menarik,

penilaian selepas tamat sesi latihan dan maklum balas terhadap perubahan selepas tamat latihan adalah penting dalam memastikan kesinambungan latihan yang dijalankan.

Manakala, bagi melihat tahap prestasi pelaksanaan pengajaran dan pembelajaran guru, dapatan kajian mendapati ($\text{min} = 4.10$, $\text{SP} = 0.507$) dalam kalangan guru sekolah menengah berprestasi tinggi di Negeri Sembilan adalah berada pada tahap yang tinggi. Wan Zah (2000) menyatakan bahawa guru perlu mempunyai kemampuan untuk menyesuaikan pendekatan strategi, kaedah dan teknik pengajaran dan pembelajaran untuk mencapai objektif dan matlamat pengajaran. Pelaksanaan pengajaran dan pembelajaran yang berkesan dan sistematik dilihat sangat penting bagi memastikan proses pembelajaran berada pada tahap optimum. Menurut Azizi dan Syazwani (2010), seseorang pelajar akan dapat mengikuti proses pengajaran dan pembelajaran sama ada di dalam bilik darjah mahu pun di luar bilik darjah dengan selesa dan seronok biasanya bermula daripada gaya pengajaran guru yang menarik.

Bagi menjawab persoalan kajian, adakah terdapat hubungan antara pelaksanaan struktur latihan dalam perkhidmatan dengan prestasi pelaksanaan pengajaran dan pembelajaran guru, dapatan kajian mendapati secara keseluruhannya menunjukkan pelaksanaan struktur latihan dalam perkhidmatan ($r = 0.849$, $p < 0.01$) mempunyai hubungan yang signifikan dengan prestasi pelaksanaan pengajaran dan pembelajaran dalam kalangan guru sekolah menengah berprestasi tinggi di Negeri Sembilan. Hasil kajian ini menguatkan kenyataan Keeps dan Stolovitch (2002) yang mengatakan bahawa latihan yang berkesan dan berjaya memerlukan struktur latihan yang tersusun. Struktur latihan yang jelas dan sistematik ini mampu meningkatkan proses pembelajaran yang disampaikan sewaktu latihan dan seterusnya meningkatkan prestasi guru sejajar dengan matlamat dan objektif latihan. Dapatan kajian ini juga mendapati struktur latihan dalam perkhidmatan yang dilaksanakan di sekolah menengah berprestasi tinggi di Negeri Sembilan mempengaruhi pemindahan latihan secara positif dan berkesan. Peranaan sekolah dalam menjalankan latihan dalam perkhidmatan yang berstruktur mampu meningkatkan prestasi pelaksanaan pengajaran dan pembelajaran guru dari masa ke semasa.

Cadangan dan Implikasi

Hasil kajian menyatakan bahawa pelaksanaan struktur latihan dalam perkhidmatan mempengaruhi prestasi pelaksanaan pengajaran dan pembelajaran guru. Walau bagaimanapun, pihak sekolah harus memastikan latihan dalam perkhidmatan yang dijalankan di sekolah di kelolakan oleh guru-guru atau jawatankuasa yang berpengalaman dan mempunyai kemahiran dalam pengurusan latihan bagi memastikan pelaksanaan latihan dalam perkhidmatan dijalankan dengan kaedah dan struktur yang berkesan. Ini adalah penting bagi memastikan keberkesanan sesebuah latihan dapat dipertingkatkan dan seterusnya matlamat latihan dalam meningkatkan prestasi pengajaran dan pembelajaran guru dapat dicapai.

Kajian ini boleh dijadikan panduan dan rujukan kepada pengurusan latihan dan pentadbiran sekolah dalam menambahbaik pelaksanaan latihan dalam perkhidmatan di sekolah. Kementerian Pendidikan Malaysia (KPM, Taklimat Pelaksanaan Memaksimumkan masa instruksional, 2012) telah memberikan kuasa kepada pihak sekolah untuk merancang latihan dalam perkhidmatan di sekolah masing-masing. Oleh itu, pihak sekolah perlu mengambil peluang ini untuk memantapkan latihan guru dengan kandungan latihan yang lebih menarik, berkaitan dengan pengamalan dalam bilik darjah, pentaksiran baru dan sebagainya. Pihak sekolah perlu memastikan agar kandungan latihan dalam perkhidmatan di sekolah selari dengan kehendak dan perubahan semasa pendidikan. Justeru itu struktur program latihan dalam perkhidmatan perlu diperkukuhkan dengan memberi penekanan kepada 5 aspek penting pelaksanaan latihan iaitu rasional, objektif, aktiviti, penilaian dan maklum balas. Ini adalah

bagi memastikan matlamat latihan dalam meningkatkan prestasi guru dapat dicapai serta proses pemindahan latihan dapat dijalankan dengan berkesan.

Pelaksanaan struktur latihan dalam perkhidmatan di sekolah dilihat mampu memberi implikasi terhadap peningkatan prestasi guru melalui peningkatan pengetahuan, kemahiran dan kebolehan mereka dalam melaksanakan PdP dengan lebih baik dan efektif. Amalan pedagogi guru yang baik dalam melaksanakan PdP akan dapat membantu mengoptimumkan proses pembelajaran pelajar dan seterusnya meningkatkan kemenjadian pelajar.

Akhir sekali, kajian ini juga dilihat akan memberi implikasi kepada dasar latihan sumber manusia KPM. KPM perlu sentiasa membuat pemantauan yang ketat terhadap latihan dalam perkhidmatan yang dikelola oleh pihak sekolah bagi memastikan perancangan latihan dalam perkhidmatan mencapai standard dan kualiti yang telah ditetapkan. KPM juga diseru untuk menetapkan standard perancangan struktur latihan yang boleh dijadikan panduan kepada pihak sekolah untuk merangka latihan yang berkesan dan bersesuaian bagi memastikan prestasi guru dapat ditingkatkan. Proses pengurusan latihan perlu diperincikan dengan mengimpikasi elemen-elemen model lima langkah penstrukturan latihan Keeps dan Stolovitch (2002).

Kesimpulan

Kesimpulannya kajian ini bertujuan untuk mengenal pasti pelaksanaan struktur latihan dalam perkhidmatan dan hubungannya dengan prestasi pelaksanaan pengajaran dan pembelajaran guru di sekolah menengah berprestasi tinggi di Negeri Sembilan. Dapatan kajian ini mendapati pelaksanaan struktur latihan dalam perkhidmatan mempunyai hubungan yang signifikan dengan prestasi pelaksanaan pengajaran dan pembelajaran guru di sekolah menengah berprestasi tinggi di Negeri Sembilan. Kajian ini membuktikan bahawa latihan dalam perkhidmatan perlu mempunyai struktur yang sistematik dan tersusun bagi memastikan keberkesanan latihan yang dijalankan. Prestasi pelaksanaan pengajaran dan pembelajaran guru dapat diperbaiki dan dipertingkatkan dengan latihan yang berkesan dan berfokus kepada objektif prestasi. Kemahiran guru dalam mengendalikan PdP adalah sangat penting dalam memastikan kemenjadian pelajar dapat dipertingkatkan. Latihan dalam perkhidmatan berasaskan sekolah perlu diberikan penekanan dalam memenuhi keperluan dan relevan dengan tugas guru. Kajian ini juga dilihat perlu di perluaskan lagi ke semua peringkat dan jenis sekolah yang terdapat di negara ini.

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PERSEPSI GURU TERHADAP PEMBELAJARAN SAMBIL BERMAIN MENGGUNAKAN GAJET DI PRASEKOLAH

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Abstract: Pembelajaran Abad Ke-21 ini telah dilaksanakan oleh Kementerian Pendidikan Malaysia pada tahun 2014 dimana PAK21 ini pernah menjadi isu yang hangat diperkatakan. Perkara ini disebabkan, bagi memenuhi keperluan pendidikan pada masa kini serta membawa pembaharuan dalam pendidikan di Malaysia. Seperti yang diketahui bahawa, penggunaan gajet dalam pembelajaran merupakan salah satu inisiatif yang baharu dalam dunia pendidikan. Namun tidak dinafikan bahawa tidak semua kecanggihan ini dirasai oleh semua tempat khususnya di kawasan pedalaman. Oleh itu, kajian ini dijalankan untuk mengenal pasti persepsi guru terhadap pembelajaran menggunakan gajet di prasekolah di pedalaman bahagian Kapit Sarawak. Terdapat 3 aspek utama dalam kajian yang dijalankan iaitu persepsi guru terhadap penggunaan gajet dalam proses pengajaran dan pembelajaran di prasekolah di pedalaman Sarawak, persepsi guru mengenai kesan pelaksanaan pengajaran dan pembelajaran menggunakan gajet di dalam prasekolah dan persepsi guru mengenai kekangan-kekangan yang dihadapi oleh guru semasa pelaksanaan pengajaran dan pembelajaran menggunakan gajet di prasekolah di pedalaman Sarawak. Kajian yang berbentuk deskriptif ini melibatkan 40 orang guru daripada sekolah pedalaman di sekitar daerah Song dan Kapit, Sarawak. Instrumen kajian yang digunakan adalah soal selidik berstruktur yang mempunyai 10 item yang menggunakan maklum balas skala Likert 5 poin melalui Google Form. Nilai koefisien kebolehpercayaan, alpha Cronbach bagi soal selidik ini adalah 0.65. Data-data dianalisis bagi mendapatkan nilai peratusan dan frekuensi melalui Pakej Statistik bagi Sains Sosial (SPSS). Hasil kajian ini menunjukkan bahawa guru mempunyai pandangan dan kesan yang positif terhadap penggunaan gajet di prasekolah. Selain itu, penggunaan gajet di prasekolah juga menunjukkan kekangan yang banyak terutamanya melibatkan kemampuan murid serta capaian internet yang kurang memuaskan di pedalaman Sarawak.

Keywords: gajet, pedalaman, prasekolah, pengajaran, pembelajaran

Pengenalan

Pendidikan Prasekolah merupakan pendidikan peringkat awal yang sangat penting. Kanak-kanak telah mendapat pendidikan di sekolah sejak berusia 4 tahun lagi di dalam kelas Prasekolah. Pengalaman pertama dalam mendapat pendidikan di prasekolah adalah sangat penting untuk memberi impak yang bermakna kepada kanak-kanak yang baru memulakan langkah pertama di sekolah. Strategi dan aktiviti yang digunakan oleh guru dalam melaksanakan pengajaran dan pembelajaran adalah sangat penting bagi memberikan kesan yang bermakna kepada kanak-kanak.

Apabila murid menunjukkan minat untuk belajar melalui bermain, banyak instrumen atau aktiviti yang boleh dirancang bersesuaian dengan arus peredaran zaman masa kini. Penggunaan alat multimedia atau alat mudah alih seperti telefon pintar, komputer, tablet dan alat digital yang lain sangat sesuai digunakan dalam menjalankan aktiviti yang bersesuaian dengan minat kanak-kanak masa kini yang lebih gemar menggunakan teknologi. Disebabkan

peredaran zaman yang semakin canggih tidak dinafikan bahawa sistem pendidikan juga merupakan salah satu yang menggunakan kecanggihan ini. (Laili Farhana M. I. et. al. 2015). Oleh yang demikian, dapat dilihat bahawa sistem pendidikan dari tradisional ini telah berubah kepada Pendidikan Abad Ke-21 (PAK21). Pembaharuan yang ada pada Pendidikan Abad Ke-21 ini sangat berlainan pada sebelumnya misalnya dapat dilihat yang mana pendidikan kanak-kanak banyak menggunakan kaedah bermain sambil belajar dengan menggunakan gajet.

Pembelajaran Abad Ke-21 ini telah dilaksanakan oleh Kementerian Pendidikan Malaysia (KPM) pada tahun 2014 dimana PAK21 ini pernah menjadi isu yang hangat diperkatakan. Perkara ini disebabkan, bagi memenuhi keperluan pendidikan pada masa kini serta disamping itu membawa pembaharuan dalam pendidikan di Malaysia. (Irwan F. et. al. 2019). Namun, berdasarkan kajian ini akan lebih memfokuskan kepada persepsi guru terhadap pembelajaran belajar sambil bermain menggunakan gajet di prasekolah pendalaman di Sarawak. Seperti yang diketahui bahawa, penggunaan gajet dalam pembelajaran merupakan salah satu inisiatif yang baharu dalam dunia pendidikan. Namun tidak dinafikan bahawa tidak semua kecanggihan ini dirasai oleh semua tempat khususnya di kawasan pendalaman.

Tinjauan Literatur

Teori Perkembangan Kognitif Piaget

Penggunaan alat teknologi dalam pembelajaran adalah suatu yang tidak asing lagi bagi setiap orang dalam alaf baru yang serba canggih ini. Banyak kajian lepas yang melibatkan penggunaan telefon pintar dan alat teknologi lain yang digunakan di dalam pembelajaran kanak-kanak. Penggunaan telefon pintar juga banyak dilihat telah memberikan impak yang positif dalam pembelajaran kanak-kanak. Antara impak positif yang boleh dilihat termasuklah perkembangan dalam kemahiran komunikasi bahasa, kemahiran sosial, kemahiran kognitif, kemahiran emosional, kemahiran dalam kerjasama berkumpulan dan tidak kurang juga membantu dalam pembelajaran kanak-kanak berkeperluan khas. (Drigas A. et. al. 2016).

Kebanyakan kanak-kanak berumur seawal 1 hingga 3 tahun telah terdedah dengan penggunaan alat teknologi sekiranya ibu bapa mereka berkemampuan membeli kemudahan seperti telefon pintar. Hal ini dapat dilihat kerana penggunaan telefon pintar agak mudah kerana hanya perlu kemahiran asas dalam menggerakkan skrin sesentuh yang turut boleh dilakukan oleh kanak-kanak. Oleh itu, kajian lepas perlu dikenal pasti bagi melihat sejauh mana penggunaan telefon pintar dan alat teknologi mempengaruhi pembelajaran kanak-kanak sekaligus mengaplikasikan penggunaan telefon pintar di dalam pembelajaran di dalam bilik darjah. (Alifa A. N. et al. 2018)

Belajar Sambil Bermain

Persekitaran pembelajaran merupakan satu elemen yang penting bagi mewujudkan pembelajaran yang berkesan. Persekitaran yang kondusif dapat mempengaruhi pelbagai aspek dalam pembelajaran yang berkesan seperti kawalan kelas yang baik, hubungan antara murid dan guru, dan juga keseronokan semasa belajar. Kurikulum Standard Prasekolah Kebangsaan (2017) telah menggariskan bahawa belajar melalui bermain dapat membantu meningkatkan perkembangan murid dalam aspek kognitif, bahasa, fizikal dan sosioemosi. Dengan bermain, murid dapat melakukan penerokaan, penemuan dan pemerolehan pengalaman baru secara langsung dan tidak langsung kerana minat murid untuk belajar meningkat apabila persekitaran pembelajaran menyeronokkan. (Yanti Munirah, 2013).

Terdapat tiga kaedah pembelajaran yang berbeza telah dikaji untuk tajuk pembelajaran awal matematik di dalam pendidikan kanak-kanak. Antara kaedah yang digunakan di dalam kajian pembelajaran awal matematik ialah pembelajaran bermain, pembelajaran berasaskan lembaran kerja dan pembelajaran berasaskan penggunaan buku. Intervensi bagi setiap kaedah

dijalankan dalam tempoh 13 minggu menggunakan topik pembelajaran yang sama. Hasil daripada kajian tersebut telah mendapati bahawa pembelajaran bermain lebih signifikan berbanding penggunaan kaedah penggunaan buku dan penggunaan lembaran kerja. (Jantan R., 2013).

Pembelajaran melalui bermain dalam pembelajaran awal matematik Prasekolah memerlukan modul yang sistematik dan berstruktur. Dengan berpandukan modul oleh Piaget J. (1964) serta teori perkembangan kognitif Piaget dan Viagotsky, kajian ini membentuk satu modul baharu yang menggabungkan aktiviti main kognitif dan aktiviti main koperatif. Kajian ini memfokuskan kepada kefahaman murid Prasekolah terhadap pembelajaran awal matematik di mana kajian ini berjaya menunjukkan bahawa murid prasekolah telah berjaya meneroka hubungan dengan rakan dan guru, membina perasaan seperti gembira dan berdaya saing, serta membina kecekapan kognitif murid yang dapat diukur sepanjang kajian ini. Hasil daripada kajian ini terdapat perbezaan yang dapat dilihat berbanding sebelum penggunaan modul tersebut. Pelaksanaan main kognitif dan main koperatif yang melibatkan kumpulan bukan sahaja dapat menggalakkan perkembangan sosial malah perkembangan kognitif dan sosio emosi juga. Menurut pengkaji, pelaksanaan aktiviti bermain lebih berkesan berbanding menggunakan lembaran kerja. (Zakiah Mohd Ashari et. al., 2016).

Melalui permainan, guru dapat meningkatkan penglibatan murid dalam pembelajaran di samping meningkatkan kemahiran berinteraksi sosial dan tingkah laku semasa belajar. Pembelajaran sambil bermain juga dapat membantu murid menghadapi kebimbangan untuk belajar matematik kerana pembelajaran tidak lagi menjadi bosan dengan hanya menggunakan kad nombor dan lembaran kerja sahaja. Permainan interaktif yang diaplikasikan di dalam pembelajaran matematik dapat membantu memudahkan peningkatan tahap pemahaman murid dalam pembelajaran di sekolah dan di rumah. (Nurdiyana Taspirin et. al., 2018).

Alat Teknologi Atau gajet Yang Mempengaruhi Pembelajaran Dan Pengajaran

Pada zaman teknologi yang serba canggih ini, ibu bapa banyak menggunakan gajet bagi tujuan mengawal anak-anak ketika sibuk bekerja atau ketika berada di luar. Penggunaan gajet yang tidak dikawal tempoh penggunaannya boleh menyebabkan kesan negatif terhadap kesihatan dan perkembangan kanak-kanak. Oleh itu, perkembangan kanak-kanak lebih dipupuk dengan cara perkembangan penerokaan sendiri, persekitaran dan pergaulan dengan orang sekeliling. Namun, terdapat juga kesan positif daripada penggunaan gajet iaitu kanak-kanak dapat membina memori yang lebih kukuh apabila melihat media yang berkonsepkan animasi dan suara. Kesan positif juga dapat dilihat jika jam penggunaan gajet kanak-kanak dikawal oleh ibu bapa atau guru. (Shima Dyana et. al., 2018)

Terdapat tiga kategori yang boleh diketengahkan apabila kanak-kanak melalui fasa perkembangan sosial dan kognitif melalui penggunaan gajet seperti ipad. Antaranya ialah melihat kepada sikap dan pergaulan kanak-kanak yang melibatkan sikap non-sosial, antisosial dan pro-sosial. Sikap pro-sosial merupakan kejayaan bagi sesuatu aktiviti yang melibatkan alat teknologi seperti IPad kerana kanak-kanak dapat melibatkan diri dalam aktiviti kumpulan menggunakan IPad. Dalam aktiviti pro-sosial secara berkumpulan, murid akan lebih bertolak ansur dengan rakan dan melakukan aktiviti menggunakan IPad bersama-sama atau bergilir-gilir. Aktiviti berkumpulan lebih menunjukkan hasil yang bagus dalam pembelajaran apabila dapat memupuk sikap pro-sosial kanak-kanak. (Rachel Ralph & Stephen Petrina, 2018).

Penggunaan buku dalam pembelajaran melibatkan pergerakan statik yang boleh menyebabkan murid bosan dan tidak menarik minat murid untuk belajar. Pembacaan melalui buku amat sukar dikuasai oleh murid kerana terlibat pembacaan buku. Dengan menggunakan aplikasi multimedia dalam pembelajaran bahasa dapat memudahkan murid belajar dengan lebih berkesan dan efektif. Penggunaan aplikasi multimedia menggalakkan murid untuk

mengikuti kelas berbanding penggunaan buku teks yang membosankan murid. (Wong Kok Mun & Bahari Idrus, 2018). Dalam masa yang sama motivasi guru dalam pengajaran dapat ditingkatkan sekiranya guru menggunakan bahan yang dapat meningkatkan motivasi murid untuk belajar. (Vinathan T,A, 2017).

Pembelajaran menggunakan gajet dikatakan dapat meningkat motivasi dan peluang murid untuk belajar serta memberi kesan positif untuk hasil pembelajaran dalam sesuatu mata pelajaran. Aplikasi yang digunakan di dalam penggunaan gajet ini perlulah menarik dan mudah difahami kandungannya oleh kanak-kanak. Bahan pembelajaran di dalam aplikasi gajet juga perlu menekankan aspek pengulangan, penjelasan serta pengembangan konsep bahan agar murid dapat menerima input dengan mudah dan berkesan. Penggunaan gajet secara kolaboratif dapat meningkatkan perkembangan murid dalam belajar apabila murid dapat belajar dan mendapat sokongan antara satu sama lain semasa aktiviti pembelajaran. (Maszuraini Miswan, et. al., 2014).

Penggunaan gajet atau teknologi skrin sentuh dapat membantu dalam pengajaran dan pembelajaran bagi menerangkan konsep pembelajaran dengan lebih jelas dan berkesan. Di samping membantu guru untuk memperluaskan lagi penggunaan bahan dalam pengajaran dan pembelajaran, penggunaan gajet dapat memberi peluang kepada murid untuk mempraktikkan ilmu yang telah dipelajari secara langsung. (Mohd Amerul Akmal et. al. ,2014)

Objektif

Objektif kajian di dalam kajian ini adalah untuk :

- i. Mengetahui persepsi guru mengenai penggunaan gajet dalam proses pengajaran dan pembelajaran.
- ii. Mengetahui persepsi guru mengenai kesan pelaksanaan pembelajaran dan pengajaran menggunakan gajet dalam kelas prasekolah.
- iii. Mengetahui persepsi guru mengenai kekangan-kekangan yang dihadapi oleh guru di kawasan pedalaman Sarawak dalam pelaksanaan pengajaran dan pembelajaran menggunakan gajet.

Metodologi Kajian

Kajian ini menggunakan analisis deskriptif untuk membantu menentukan objektif kajian tercapai. Kaedah kajian yang digunakan melibatkan reka bentuk kajian, populasi dan sampel kajian, instrument kajian, kajian rintis dan kaedah analisis data.

Rekabentuk Kajian

Kajian tinjauan dijalankan dengan menggunakan borang soal selidik sebagai instrumen utama. Soal selidik melalui *Google Form* telah digunakan untuk memperolehi maklumat secara kuantitatif. Penggunaan *Google Form* adalah satu cara yang cepat, tepat dan menjimatkan masa bagi mengumpul data yang dikehendaki.

Populasi Dan Sampel Kajian

Populasi sasaran kajian ini merupakan guru-guru di pedalaman bahagian Kapit, Sarawak yang terdiri daripada dua daerah kecil iaitu Song dan Kapit. Seramai 40 orang daripada 58 jumlah populasi yang diperolehi. Sampel ini terdiri daripada 14 orang lelaki dan 26 orang perempuan.

Instrumen Kajian

Instrumen kajian yang digunakan di dalam kajian ini ialah soal selidik. Soal selidik digunakan untuk mendapatkan maklumat tentang persepsi dan pendapat guru tentang pembelajaran dan pengajaran murid menggunakan gajet. Soal selidik kajian ini dibina dengan merujuk kepada

soal selidik yang digunakan dalam kajian lepas oleh Norahidah Mamat (2001) yang menjalankan kajian terhadap penilaian penggunaan perisian kursus di sekolah bestari di negeri Terengganu serta satu lagi rujukan iaitu set soal selidik yang dibina oleh Mohd Jasmy (2003) yang menjalankan kajian tahap kesediaan penggunaan perisian kursus di kalangan guru Sains dan Matematik. Tahap soalan disesuaikan dengan tahap pemikiran sampel supaya dapat mewujudkan kesahan dan kebolehpercayaan yang tinggi. Soal selidik ini diubahsuai berdasarkan keperluan objektif kajian.

Kajian Rintis

Seramai 10 orang responden telah dipilih oleh pengkaji untuk menjalankan kajian rintis. Kajian rintis ini dijalankan ke atas guru prasekolah di bahagian lain di negeri Sarawak. Pengkaji telah mengukur kebolehpercayaan instrument kajian ini menggunakan ujian pekali Alpha Cronbach dengan menggunakan SPSS. Analisis kebolehpercayaan telah dijalankan terhadap semua item soalan soal selidik kajian ini. Pengkaji mendapati nilai Alpha sebanyak 0.65 melalui analisis menggunakan SPSS. Nilai indeks kebolehpercayaan ini jelas menunjukkan bahawa instrument ini boleh digunapakai untuk kajian sebenar.

Kaedah Analisis Data

Penganalisan data melibatkan proses menganalisis data yang telah diiperolehi melalui soal selidik tersebut. Pengkaji menggunakan kaedah analisis markah mengikut Skala Likert lima mata untuk menganalisis hasil dapatan data semasa kajian dijalankan. Data-data yang diperolehi melalui soal selidik akan di analisis secara deskriptif dengan menggunakan kiraan mudah berdasarkan bilangan jawapan responden yang dijawab mengikut Skala Likert yang ditetapkan. Dalam masa yang sama, hasil dapatan kajian akan dianalisis dengan menggunakan SPSS bagi mendapatkan nilai frekuensi dan peratusan hasil daripada soal selidik kajian ini.

Dapatan Kajian

Berikut merupakan hasil dapatan daripada soal selidik yang telah dianalisis dalam bentuk peratusan dan kekerapan frekuensi berdasar kelima-lima mata skala likert. Hasil daripada dapatan kajian juga telah membuktikan bahawa penggunaan gajet membawa kesan kepada pengajaran dan pembelajaran serta boleh dikatakan memberi kesan juga kepada cara kehidupan murid-murid lebih-lebih lagi pada usia yang muda. Penggunaan gajet dalam sesi pengajaran dan pembelajaran khususnya di kawasan pedalaman di prasekolah boleh diklasifikasikan memberi kesan positif dan juga negatif. Oleh itu, semua pihak perlu peka dan boleh mengambil inisiatif yang sewajarnya dalam memperkasa cara pengajaran dan pembelajaran di kawasan pedalaman di prasekolah.

Persepsi Guru Terhadap Penggunaan Gajet Dalam Proses Pengajaran Dan Pembelajaran Di Prasekolah Di Pedalaman Sarawak.

Persoalan kajian yang pertama adalah mengenai apakah persepsi guru terhadap penggunaan gajet dalam proses pengajaran dan pembelajaran di prasekolah di pedalaman Sarawak di Bahagian Kapit. Berdasarkan kajian yang telah dijalankan, pengkaji mendapati bahawa majoriti responden adalah tidak bersetuju dengan penggunaan gajet sebagai bahan pengajaran dan pembelajaran di sekolah di pedalaman. Seramai 65 peratus guru yang memberi respon sangat tidak setuju dengan penggunaan gajet di sekolah. Skor min yang dicapai dalam item ini adalah pada tahap yang rendah iaitu pada nilai 1.85. Namun begitu, walaupun responden tidak bersetuju dengan penggunaan gajet di sekolah, bagi pernyataan penggunaan gajet adalah lebih berkesan daripada kaedah “chalk and talk” menunjukkan responden setuju bahawa penggunaan gajet adalah lebih berkesan berbanding penggunaan kaedah “chalk and talk” di dalam

pengajaran dan pembelajaran. Seramai 60% responden sangat tidak setuju dengan pernyataan pembelajaran menggunakan gajet lebih berkesan daripada kaedah “chalk and talk”. Nilai skor min adalah pada tahap rendah dengan nilai 2.05 bagi item ini. Bagi pernyataan penggunaan gajet diperlukan oleh murid-murid seawal usia mereka di prasekolah, responden menunjukkan respon yang negatif. Responden menunjukkan respon sangat tidak setuju sebanyak 70%. Majoriti menunjukkan bahawa murid-murid prasekolah tidak memerlukan gajet semata-mata untuk mempelajari sesuatu perkara di dalam pengajaran dan pembelajaran. Nilai min bagi item ini juga menunjukkan tahap yang rendah.

Secara keseluruhannya, persoalan ini terjawab dengan hasil analisis kajian yang menunjukkan guru tidak bersetuju dengan penggunaan gajet di dalam pengajaran dan pembelajaran di prasekolah di pedalaman Sarawak. Hal ini adalah disebabkan penggunaan gajet bukanlah satu keutamaan bagi murid-murid prasekolah terutamanya di pedalaman Sarawak. Penggunaan bahan-bahan mawjud dan juga pembelajaran yang menyeronokkan lebih berkesan digunakan terhadap murid-murid prasekolah. Pendedahan awal terhadap pembelajaran secara mawjud, belajar sambil bermain mampu menarik minat murid untuk terus belajar dan meneroka sendiri perkara baharu. Secara keseluruhannya skor min menunjukkan tahap yang rendah bagi persoalan dengan purata nilai min sebanyak 1.90.

Jadual 1: Analisis Item 1 hingga 3

Bil	Persepsi Guru Terhadap Pembelajaran Belajar Sambil Bermain Menggunakan Gajet di Prasekolah di Pedalaman di Sarawak	STS		TS		TP		S		SS		N	Skor	Mean	TCR (%)	Std.Dev	
		1	2	3	4	5	6	7	8								
1	Gajet seperti telefon pintar, komputer riba dan “tablet” penting di sekolah.	26	65%	4	10%	4	10%	2	5%	4	10%	40	100%	74	1.85	74	1.387
2	Pembelajaran menggunakan gajet lebih berkesan daripada kaedah “chalk and talk”.	24	60%	2	5%	6	15%	4	10%	4	10%	40	100%	82	2.05	82	1.468
3	Penggunaan gajet diperlukan oleh murid-murid seawal usia mereka di prasekolah.	28	70%	2	5%	4	10%	2	5%	4	10%	40	100%	72	1.8	72	1.399

Persepsi Guru Mengenai Kesan Pelaksanaan Pembelajaran Dan Pengajaran Menggunakan Gajet Dalam Kelas Prasekolah.

Persoalan kajian yang kedua adalah mengenai persepsi guru terhadap kesan pelaksanaan pengajaran dan pembelajaran menggunakan gajet di dalam kelas prasekolah. Item yang pertama bagi menjawab persoalan ini ialah mengenai penggunaan gajet mampu merangsang pembelajaran murid-murid prasekolah. Menurut responden kajian ini, kesan pelaksanaan pengajaran dan pembelajaran menggunakan gajet dalam prasekolah tidak mampu merangsang pembelajaran murid-murid prasekolah secara menyeluruh. Hal ini kerana terdapat 60 peratus guru yang sangat tidak setuju terhadap penggunaan gajet mampu merangsang pembelajaran murid-murid prasekolah. Nilai skor min juga menunjukkan tahap yang rendah iaitu pada 2.05. Menerusi Teori Psikososial Erik Erison, beliau menekankan pada tahap ketiga iaitu inisiatif lawan kesalahan di mana pada tahap tersebut kanak-kanak berusia antara tiga hingga enam tahun. Kanak-kanak mula membentuk satu cara berdikari dan ingin meneroka serta mencuba sesuatu yang baru dan mencabar. Inisiatif merupakan trait yang akan membantu individu itu sepanjang hayatnya. Melalui galakan, kanak-kanak akan menyedari potensi mereka sebaliknya jika tidak diberi inisiatif dan terdapat halangan akan mengakibatkan kanak-kanak sering rasa bersalah (Azizi Yahaya & Zainuddin Abu Bakar, 2010). Jelas menunjukkan pada usia ini kanak-kanak lebih cenderung untuk meneroka sesuatu yang baharu. Gajet yang merupakan sesuatu yang fizikalnya tampak menarik akan menarik perhatian murid-murid prasekolah untuk

menggunakan gajet tersebut sebagai satu medium yang menyeronokkan semasa sesi pengajaran dan pembelajaran dijalankan.

Keputusan analisis ini juga turut disokong oleh item kelima iaitu mengenai respon guru terhadap penggunaan gajet mengganggu fokus pembelajaran murid-murid di dalam bilik darjah. Analisis kajian menunjukkan sebanyak 60 peratus guru setuju dengan pernyataan penggunaan gajet dapat mengganggu fokus pembelajaran murid-murid di dalam bilik darjah. Skor min menunjukkan tahap yang tinggi bagi item ini iaitu 3.95.

Secara keseluruhannya, guru prasekolah di pedalaman Sarawak merasakan bahawa penggunaan gajet di dalam pengajaran dan pembelajaran di dalam bilik darjah tidak menunjukkan kesan yang positif kepada murid-murid. Majoriti daripada responden adalah tidak bersetuju dengan penggunaan gajet di dalam pengajaran dan pembelajaran mampu memberi kesan yang positif kepada murid-murid. Secara puratanya persoalan ini mempunyai nilai min pada tahap sederhana iaitu pada skor 3.00.

Jadual 2: Analisis Item 4 hingga 5

Bil	Persepsi Guru Terhadap Pembelajaran Belajar Sambil Bermain Menggunakan Gajet di Prasekolah di Pedalaman di Sarawak	STS		TS		TP		S		SS		N	Skor	Mean	TCR (%)	Std.Dev	
		1	2	3	4	5	6	7	8	9	10						
4	Penggunaan gajet mampu merangsang pembelajaran murid-murid prasekolah.	24	60%	4	10%	4	10%	2	5%	6	15%	40	100%	82	2.05	82	1.538
5	Penggunaan gajet mengganggu fokus pembelajaran murid-murid di dalam bilik darjah.	2	5%	2	5%	2	5%	24	60%	10	25%	40	100%	158	3.95	158	0.999

Persepsi Guru Mengenai Kekangan-Kekangan Yang Dihadapi Oleh Guru Di Kawasan Pedalaman Sarawak Dalam Pelaksanaan Pengajaran Dan Pembelajaran Menggunakan Gajet.

Persoalan kajian yang ketiga merujuk kepada kekangan-kekangan yang dihadapi oleh guru di pedalaman Sarawak yang menggunakan gajet di dalam pelaksanaan pengajaran dan pembelajaran. Antara salah satu kekangan yang dinilai oleh responden ialah kesukaran untuk mendapatkan rangkaian internet di kawasan pedalaman. Kesukaran untuk mendapatkan rangkaian internet bagi kemudahan pembelajaran akan mengganggu proses pengajaran dan pembelajaran dan membantutkan proses pengajaran dan pembelajaran. Item ini dipersetujui oleh responden dengan sebanyak 80 peratus guru sangat setuju dengan kekangan yang dihadapi tersebut. Dalam masa yang sama, analisis bagi penggunaan gajet akan mengurangkan komunikasi dan interaksi di dalam bilik darjah menunjukkan responden bersetuju dengan pernyataan tersebut dengan peratusan sebanyak 75 peratus. Di samping itu, penggunaan gajet yang agak rumit akan melambatkan proses pengajaran dan pembelajaran. Responden memberi respon sangat setuju dengan peratusan sebanyak 80 peratus. Namun begitu, terdapat perbezaan pendapat bagi item 10 bahawa bermain gajet semasa aktiviti pengajaran dan pembelajaran akan menghidupkan suasana pembelajaran seronok dan tidak bosan. Sebanyak 90 peratus responden sangat setuju dengan pernyataan berikut kerana penggunaan gajet untuk bermain dan belajar memberi kesan yang berbeza. Fokus murid untuk bermain menggunakan gajet adalah lebih tinggi.

Oleh itu, secara keseluruhannya, guru-guru di pedalaman sangat setuju dengan semua kekangan di dalam kajian ini. Kekangan-kekangan yang dihadapi oleh guru-guru bagi melaksanakan pengajaran dan pembelajaran di dalam bilik darjah akan mempengaruhi proses pengajaran dan pembelajaran yang berkualiti. Purata bagi skor min bagi persoalan ini menunjukkan pada tahap tinggi iaitu nilai min 4.73.

Hasil dapatan kajian telah merungkai persoalan mengenai pembelajaran menggunakan gajet di kawasan pedalaman di prasekolah di Sarawak. Hasil dapatan kajian juga membantu pengkaji untuk melihat keberkesanan penggunaan gajet dalam sesi pengajaran dan pembelajaran di samping mendapatkan beberapa cara bagi memperbaharui cara pengajaran dan pembelajaran yang lebih berkesan di prasekolah di kawasan pedalaman Sarawak. Hasil daripada dapatan kajian boleh dirangkumkan bahawa penggunaan gajet oleh murid-murid prasekolah di kawasan pedalaman Sarawak memberi kesan positif dan negatif. Keadaan ini bergantung kepada cara kawalan yang diberikan oleh ibu bapa dan guru kepada anak dan murid mereka. Jika dilihat dari sudut positif penggunaan gajet bagi murid-murid prasekolah semestinya menyeronokkan kerana penggunaan gajet ini mempunyai visual dan audio serta warna-warna yang menarik.

Hal ini demikian, menerusi hasil dapatan kajian didapati bahawa terdapat juga kesan negatif penggunaan gajet bagi murid-murid prasekolah di kawasan pedalaman Sarawak. Kecanggihan teknologi pada hari ini jika digunakan secara tidak terkawal juga mampu memberi impak negatif khususnya kepada kanak-kanak seawal usia yang muda. Kesan yang boleh dilihat jika penggunaan gajet digunakan di prasekolah ialah kurangnya komunikasi dan interaksi antara guru dengan murid-murid dan murid dengan murid yang lain. Keadaan berlaku ekoran daripada ketagihan murid-murid pada gajet tersebut. Walaupun penggunaan gajet dikatakan menyeronokkan digunakan semasa pembelajaran namun ini akan membantutkan komunikasi yang sepatutnya dipraktikkan dan dibimbing pada usia muda. Apa yang lebih merumitkan ialah apabila murid-murid lebih memberi fokus kepada gajet mereka sehingga tidak menghiraukan apa yang sedang berlaku di bilik darjah dan juga apa yang sedang diajar oleh guru semasa sesi pengajaran dan pembelajaran. Keadaan ini akan memberi kesan terhadap pembelajaran murid-murid seperti murid-murid mula tidak faham apa yang diajar oleh guru dan terlampau leka dengan gajet sehingga mengabaikan tugas yang diberikan.

Selain itu, kesan negatif penggunaan gajet ini juga dapat dilihat apabila murid-murid memasuki laman web yang tidak berfaedah. Pada usia ini, kanak-kanak terdedah dengan sesuatu yang baharu dalam hidup mereka dan mereka mengambil langkah untuk menerokai perkara baharu tersebut. Sikap ingin tahu juga akan mendorong mereka untuk mencuba sesuatu yang belum pernah dilihat sebelum ini. Sebagai contoh, penggunaan gajet yang tidak terkawal akan menyebabkan mereka lalai sehingga mereka tujuan sebenar gajet tersebut untuk pembelajaran disalahgunakan oleh murid-murid ini seperti bermain “games”, aplikasi yang tidak berfaedah dan yang lebih merisaukan ialah melawati laman web pornografi.

Konklusinya, belajar sambil menggunakan gajet merupakan cara pembelajaran yang mampu menarik minat murid-murid di prasekolah namun penggunaannya perlu dikawal oleh guru-guru supaya tidak melarat sehingga melalaikan. Walau bagaimanapun, penggunaan gajet di prasekolah di kawasan pedalaman Sarawak boleh dikatakan tidak begitu berkesan kerana masalah kurangnya kelajuan rangkaian internet dan juga mungkin segelintir ibu bapa tidak mampu untuk membeli gajet kepada anak-anak mereka dan kegunaan hanya tertakluk kepada ibu bapa sahaja. Keadaan ini akan menyukarkan dan melambatkan sesi pengajaran dan pembelajaran kerana guru dan murid terpaksa mendapatkan rangkaian internet yang agak laju. Oleh itu, bagi menghidupkan suasana pembelajaran yang menarik, guru boleh menggunakan cara lain tanpa perlu menggunakan gajet. Guru boleh menyediakan bahan pengajaran iaitu bahan maujud untuk mengajar murid-murid. Misalnya menurut Marziah S. et. al (2018), jika guru mengajar mengenal huruf atau abjad, guru boleh membawa contoh-contoh yang berasaskan bahan maujud seperti buku untuk huruf “Buku”, pen untuk huruf “P” dan kotak untuk huruf “K”. Pembelajaran dengan menggunakan bahan maujud juga mampu merangsang minat murid, mewujudkan komunikasi antara guru dengan murid dan mampu memastikan murid sentiasa aktif dalam memberi respon mereka semasa sesi pengajaran dan pembelajaran.

Jadual 3: Analisis Item 6 hingga 10

Bil	Persepsi Guru Terhadap Pembelajaran Belajar Sambil Bermain Menggunakan Gajet di Prasekolah di Pedalaman di Sarawak	STS		TS		TP		S		SS		N		Skor	Mean	TCR (%)	Std.Dev
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
6	Kesukaran untuk mendapatkan rangkaian internet di kawasan pedalaman akan membantutkan proses pengajaran dan pembelajaran.	0	0%	0	0%	4	10%	4	10%	32	80%	40	100%	188	4.7	188	0.657
7	Penggunaan gajet menarik minat murid-murid untuk mengikuti sesi pengajaran dan pembelajaran.	0	0%	0	0%	2	5%	6	15%	32	80%	40	100%	190	4.75	190	0.55
8	Penggunaan gajet akan mengurangkan komunikasi dan interaksi di dalam bilik darjah.	0	0%	0	0%	4	10%	6	15%	30	75%	40	100%	186	4.65	186	0.671
9	Penggunaan gajet yang agak rumit akan melambatkan proses pengajaran dan pembelajaran.	2	5%	0	0%	0	0%	6	15%	32	80%	40	100%	186	4.65	186	0.933
10	Bermain gajet semasa aktiviti pengajaran dan pembelajaran akan menghidupkan suasana pembelajaran seronok dan tidak bosan.	0	0%	0	0%	0	0%	4	10%	36	90%	40	100%	196	4.9	196	0.308

Kesimpulan

Kajian ini telah menemukan kesan positif dan negatif bermain menggunakan gajet bagi murid-murid prasekolah di kawasan pedalaman Sarawak. Cara lain juga dianjurkan dalam memastikan sesi pengajaran dan pembelajaran dapat dijalankan tanpa menggunakan gajet. Sumbangan kajian juga turut dibincangkan iaitu sumbangan kepada praktis dan sumbangan kepada teori dan ilmu. Oleh itu, kajian yang dijalankan adalah untuk meninjau sesi pengajaran dan pembelajaran dengan bermain menggunakan gajet oleh murid-murid prasekolah di kawasan pedalaman Sarawak.

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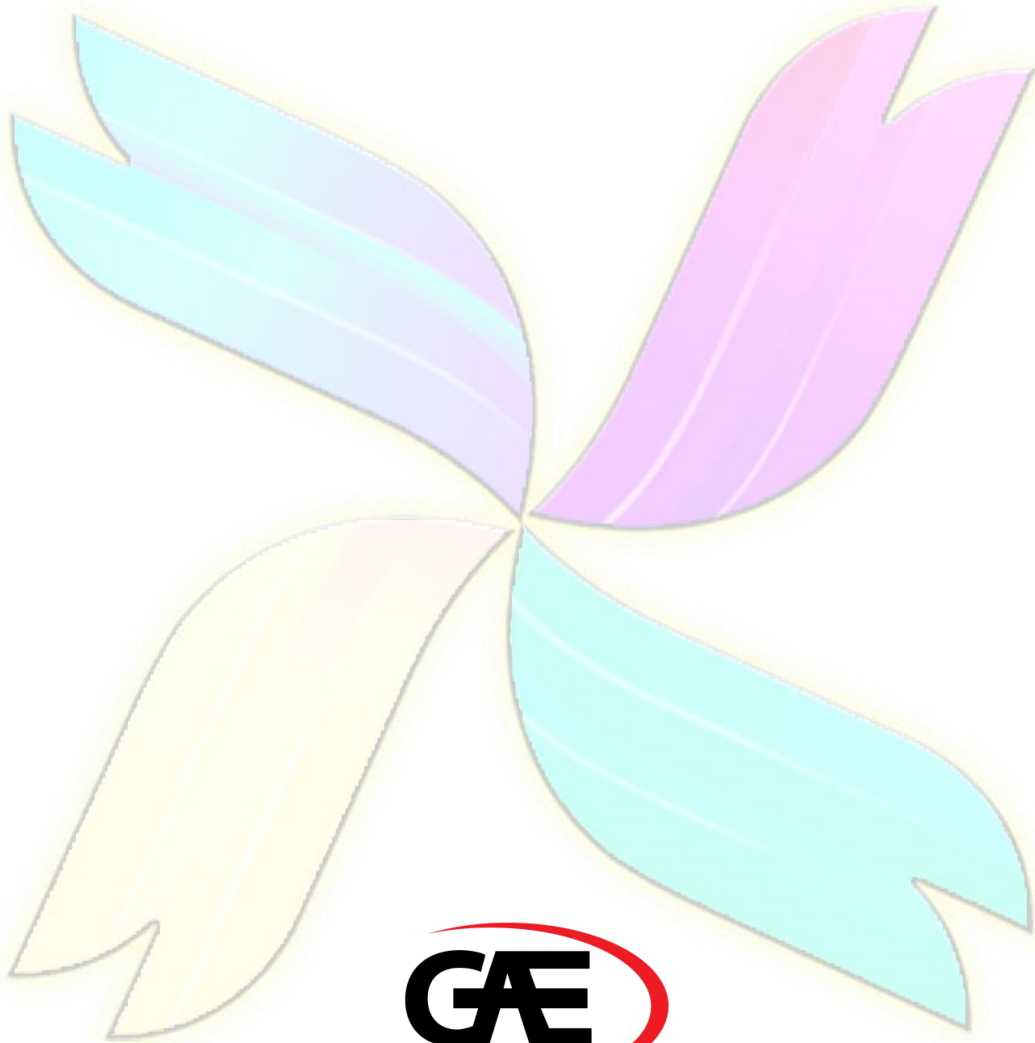
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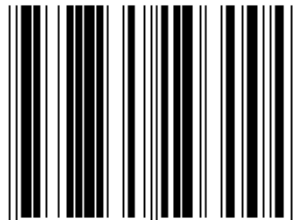
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5th IRCHST 2021

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