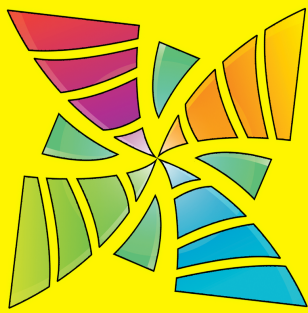


4th ICTTBM 2021

**PROCEEDING:
4TH INTERNATIONAL CONFERENCE
ON TOURISM, TECHNOLOGY AND
BUSINESS MANAGEMENT 2021
(4TH ICTTBM 2021)**



4th ICTTBM 2021

**Proceeding:
4th International Conference on Tourism,
Technology and Business Management 2021
(4th ICTTBM 2021)**

Date: 1-2 August 2021

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eISBN: 978-967- 2426-33-2

Published By:



**GLOBAL ACADEMIC EXCELLENCE
(M) SDN BHD -1257579-U**

**Lot 1156 Tingkat 2 Kompeni Niaga LUTH
Jalan Dato Pati, 15000 Kota Bharu ,
Kelantan, MALAYSIA
Website: www.egax.org
Email: publication@egax.org**

Contents

1. BANK TECHNICAL EFFICIENCY, PURE TECHNICAL EFFICIENCY AND SCALE EFFICIENCY, DOES ECONOMIC FREEDOM MATTER? EVIDENCE FROM CENTRAL EUROPE	1
2. KRISIS JAMINAN KERJA DALAM SEKTOR PERHOTELAN DI MALAYSIA TERHADAP HASRAT UNTUK BERHENTI KERJA SEMASA PANDEMIK COVID-19.....	26
3. HUBUNGAN ANTARA TEKANAN KERJA DENGAN PRESTASI KERJA GURU	34
4. HUBUNGAN ANTARA KEPUASAN KERJA DENGAN PRESTASI KERJA GURU	40
5. EXPLORING THE LINK BETWEEN SAFETY VARIABLES AND WELL-BEING OUTCOMES IN MALAYSIAN MANUFACTURING SECTOR: A CONCEPTUAL FRAMEWORK.....	47
6. MITIGATING THE IMPACTS OF A GLOBAL PANDEMIC ON HEALTH, HYGIENE (PPE) AND HOME GOODS.....	56
7. COMMITMENTS RELATION TO COMPETITIVE ADVANTAGE VIA GSCM ON FUEL RETAIL INDUSTRY IN INDONESIA	70
8. KAJIAN KEBERKESANAN MODUL LATIHAN PENGURUSAN PENINGKATAN KESEDARAN TERHADAP PENGURANGAN BENCANA	90

BANK TECHNICAL EFFICIENCY, PURE TECHNICAL EFFICIENCY AND SCALE EFFICIENCY, DOES ECONOMIC FREEDOM MATTER? EVIDENCE FROM CENTRAL EUROPE

Ahmad Shakhashiro¹
Fakarudin Kamarudin²
Ida Md. Yasin³

¹ PUTRA Business School (PBS), Universiti Putra Malaysia (UPM), Malaysia (a.shakhashiro92@gmail.com)

² Faculty Business and Economics Universiti Putra Malaysia (UPM), Malaysia (fakarudinkamarudin@gmail.com)

³ PUTRA Business School (PBS), Universiti Putra Malaysia (UPM), Malaysia (ida@putrabs.edu.my)

Abstract: *Current study attempts to investigate the impact of the limitation of economic freedom on conventional bank technical efficiency and its components (pure technical efficiency and scale efficiency) by using data from the region of central Europe. Non-parametric Data Envelopment Analysis (DEA) is employed to measure the bank technical efficiency and its components levels. The applied method of estimation consists of “pooled Ordinary Least Square (OLS), Fixed Effect Model (FEM), Random Effect Model (REM), and the Generalized Method of Moments (GMM)” to investigate the influence of economic freedom and other potential determinants on bank efficiency. This study have found that the indicators of Government Spending, Fiscal Health, Business Freedom, Labor freedom and Financial Freedom has positive relationships with bank’s technical efficiency, pure technical efficiency and scale efficiency. Contrariwise, Overall Economic Freedom, Monetary Freedom and Investment Freedom exhibit a negative impact on bank’s technical efficiency and its components. Implications from the study permit the related parties to identify the significant dimensions of economic freedom to the efficiency of the banks to ensure better bank performance.*

Keywords: *Economic Freedom, Technical efficiency, Pure Technical Efficiency, Scale Efficiency, DEA.*

JEL Classification: *E60, G21, G28*

Introduction

During last twenty years the processes of integration have been occurred rapidly in the financial market as well as banking sector of central Europe countries. There are numerous imposes of financial deregulations, Economics and monetary union foundation, and Europe banking systems have contributed to that particular integrations. Alongside with these deregulations, the technological changes have also contributed in these integrations and progressive processes and it tried to increase the competition of the banking industry. Thus, European central bank along with policy makers found that it is important to study the influence of those deviations on the banks’ performance. Nevertheless, banks' performance is not the only concerns by bank’s mangers in terms of costs minimization or profits maximization they are also concerning

about measuring the risk taken for generating beneficial revenues, whereas the central Europe banks are surrounded by a highly competitive banking environment. Moreover, the importance of explorations into efficiency of the banks have been risen in European union during latest years, and growing literatures exists evaluating the effects of various methods of banking regulations such as the capitalization, management, and all the activity of bank that might lead to restriction on its efficiency. Additionally, examining the bank's efficiency led to many facts about any advantages and disadvantages of the bank since bigger information of the efficiency measurements support their managers to decrease the costs and raise profits. As a consequence, searching about weakness that might lead to inefficiency. Bank's managers may create strategies to improve the efficiency. Also, banks have latterly encountered many challenges that influencing their efficiency, for instance, the government restrictions, which had a significant impact on most banks. Only banks that have high levels of efficiency were able to resist these challenges, World Bank, (2014). In fact, a large number of studies have focused on efficiency, since a large number of data is available Garza-García, (2012).

Referring to the government restrictions, theoretically government interventions have a significant impact on the financial system of their particular country and banks efficiency specifically, whereas, those interventions could be in several ways in order to allow for the government to control on individuals and financial institutions lives and transactions respectively. This is what policy maker and economists call it economic freedom. So, what is economic freedom? And how economic freedom affects the efficiency of banks? Economic freedom defined as it is at the heart of individual independency, concerned primarily with the choices' freedom that enjoyed by individuals in using and acquiring economic properties and goods. (Heritage Foundation 2010). There are several causes to argue that economic freedom could have a positive influence on banks' efficiency. Firstly, banks are tended to provide additional funds due to new companies competing in the economy which means banks have the capability for providing extra money to an extensive range of domestic companies. Besides higher economic freedom allows to possibility for the banks to issue more loans to international companies and banks which they have to ensure more variations and a well risk return trade-off for banking sector. Moreover, higher economic freedom normally leads to an enhanced environment for business and higher economic growth and in turn enhanced banks' efficiency. Additionally, the greater the degree of economic freedom is, the greater the bank's profitability is (Holmes *et al.*, 2008). This indicates a greater demand for banking services and products. In addition, a greater level of economic freedom leads to lesser inflation and more stable macroeconomic setting.

Obviously, there might be some ways in which better economic freedom may reduce banks' efficiency level. Easier access into the sector and more competition within the sector might weaken the average banks' profitability and durability. Besides, higher economic freedom might allow for higher competition within banking system from shadow banking such as hedge moneys. Therefore the impact of economic freedom on bank's efficiency is essentially an practical issue. Additionally, the developments of economic freedom during last twenty years permitted to investigate the influences of economic freedom on the several aspects of banks performance explicitly. Nonetheless, in the banking literatures the economic freedom has been used only as control variable in general and has been explained as regulation indexes which are lead to inaccurate result or some results might be missed among the studies. Moreover, the recent financial crisis disclosed the essentials weaknesses in the regulatory frameworks of the banks. Various policymakers and analysts try to relate the causes of recent dilemmas of the

financial industry to the weaknesses of economic freedom characteristics, or to unsuitable regulations with a consensus being designed headed for new and stronger forms of regulations. A developing question in the middle of this argument is: if and how economic freedom can influence the financial institutions performance or the efficiency of banks specifically, the rationale for the theorized relationship between banks efficiency and economic freedom is as follow: the less are the restrictions encountered by banks on how to arrange their procedures and businesses the more effective they ought to be in managing their expenses. Hence, causing a more effective resources allocation process (Chortareas 2013). Furthermore, recent studies and researches in banks are progressively more using the economic freedom as explanatory variables in their analysis that is considering different aspects of bank performance in general, and bank's efficiency specifically (Chortareas, 2011). And the opinion that the freedom of people and firms to follow their economic objectives led to the efficient outputs is as old as the economic sciences themselves, However the theoretical models and majority of previous studies was investigating the impact of some indicators of economic freedom on European banks' overall technical efficiency in general (Chortareas, 2013), instead, there are very limited studies have investigated the impact of economic freedom extensively on the components of technical efficiency (pure technical efficiency PTE and scale efficiency SE) for central Europe banking sectors. Theoretically, since both efficiency components are important and composing the overall technical efficiency (OTE), they could be sensitive and influenced by economic freedom indicators as much as overall technical efficiency (OTE) itself Berger et al, (1993)

Literature Reviews

A huge number of studies have focused on banking technical efficiency worldwide such as Athanasoglou, et la, (2008), and Chortareas, (2013). And technical efficiency has been used in many studies instead of allocative and economic efficiency methods. However, there is a lack of studies that have investigated on the components of technical efficiency, which is results, a serious concern about these technical efficiency components (Kumar et la, 2015).

SokGee (2011) assessed the technical, pure technical, and scale efficiencies of Chinese commercial banks in the years between 2001 and 2007 by applying non-parametric approach DEA. Their findings suggest that the Chinese banks tend to be on average technically inefficient. The technical inefficiency of the bank was driven by pure technical inefficiency indicating that banks were facing the challenge of resource allocation to strike a balance between input and output mixture. Moreover, Gulati (2011) have applied non-parametric approach DEA to evaluate the extent of technical, pure technical and scale efficiencies of Indian banks for the years of 2006/2007. Their findings conclude that in the sample of 51 banks there were 9 banks only who were functioning on the efficiency frontier. The inefficiency based on their study was mostly a caused by managerial inefficiency rather than scale inefficiency. A significant scale efficiency difference was determined between large and medium sized banks. Another study of Tandon et la, (2014) also examined the technical, pure technical and scale efficiencies of the Indian banking sector in the years between 2009 and 2012. The study results suggest that among the 44 banks in the sample only 7 exists on the efficiency frontier. Furthermore, Roy (2014) investigates the efficiency for Indian banks during the Basel changes by applying non-parametric approach DEA. The study results suggest that inefficiency in the banking sector was caused mostly by inadequate size allocation. Kumar & Singh (2015) examined the technical and scale efficiency of Indian banks between 2006 and 2010. Their study used both CRR and BCC models. Their study findings suggest that there was an increase in efficiency as a result of deregulation of the banks. The increase in efficiency causes an

increase in both pure technical efficiency and scale efficiency. Their study concludes that there was a significant difference in the technical efficiency between the banks during years of the study. Moreover, Singh & Fida (2015) applied non-parametric approach DEA in order to assess the level of all technical efficiency components for the banks of Oman. The scholar conducted that the scale inefficiency was greater than the pure technical inefficiency in the total technical efficiency. The scale inefficiency was mostly attributed to decreasing return to scale. Additionally, one of recent studies done by Hacini & Dahou (2016) examined the technical, pure technical, and scale efficiency of the Algerian banks in the years between 2000 and 2012. Their findings suggest that the bank's technical efficiency enhanced. The study suggests that the main cause of overall technical inefficiency is from the scale inefficiency. Most of the banks were functioning either under constant returns to scale or decreasing return to scale. Generally the literatures are showing that banking sectors are susceptible to inefficiencies as a result of either operating at the wrong scale or because of managerial inefficiencies. Depending on the peculiar situation in the country of study, there have been a number of variances in the efficiency of the banking system. Neither scale inefficiency nor pure technical inefficiency is predominant in those studies.

Economic Freedom on Bank Efficiency Components

Economic Freedom is a formative construct which is considered as macroeconomic conditions of a country (Heritage Foundation 2010), The index for Economic Freedom that provided by Heritage Foundation is classified into four major areas According to Sufian and Habibullah (2010) state that the economic freedom is macroeconomic factors that might significantly influence the bank's profitability. In fact there are conflict studies investigated the influence of economic freedom indicators on conventional bank's efficiency In addition to, no known study has examined the influence of overall economic freedom on the components of technical efficiency (pure technical efficiency and scale efficiency), which is the gap of knowledge that this study going to address. Moreover, one of the oldest studies that describe the relationship between open market and growth is done by Friedman (1962). The study suggested that individuals and banks that are permitted to manage their daily economic lives successfully in a relatively free market come to expect more profitable and efficient. In addition to, enhance political and social freedom in the country. Similarly, Chortareas et al. (2013) their study has focused on the influence of financial freedom along with other indicators of economic freedom index on bank's efficiency of European countries, their findings suggested that Higher freedom of the banks from government control permits the bank management to be responsible to their stockholders while imperfect financial freedom can deform the rewards of banks' managements that are responsible to government bodies and seek to meet specific government forced rules.

One of the common studies of the impact of economic freedom on bank's efficiency is conducted by Sufian and Majid (2011) they investigated the economic freedom influence on the efficiency of MENA Islamic banks for the years between 2000 and 2008. They conclude that overall economic freedom has a negative impact on the efficiency of banks under their study. Additionally, a study of Soo-Wah Low (2010) they examined the relationship between economic freedoms and banking system development for East Asian countries between the years of 1975 and 2006, among other indicators they found investment freedom, financial freedom and trade freedom have positive impact on banking system development. Furthermore, Sufian and Zulkhibri (2015) investigate the economic freedom influence on banks' profitability

for MENA banking system between the years of 2000 and 2010 applying dynamic panel model. They conclude that greater economic freedom are positively influencing the banks' profitability, implying that lesser interference by the governments in the sector increase banks' profitability.

Methodology

Current study is applying annual bank level data of all 95 commercial banks that operating in central Europe region over the period 2011–2019. The variables are obtained from Fitch connect dataset that contain data for 34000 banks worldwide. Moreover, Fitch Connect database offers the home currencies' data of the specific countries and offers the possibility to convert its data to any other currencies. Since the currencies of these countries are different, this paper uses the US Dollar (USD) currency in order to maintain data standardization. Additionally, to maintain homogeneity, current study is studying commercial banks only in the analysis. Hence, investment banks and specialized development banks are excluded from the sample. Meanwhile, all the data regarding Economic Freedom indicators are obtained from Heritage Foundation dataset. The Heritage Foundation project reports aggregate and individual Economic Freedom indicators that cover 215 economies or countries over the period 1995 to 2019. To maintain the best method of analysis, this **paper follows two stages of analysis.**

First Stage of Analysis Non-Parametric Data Envelopment Analysis Approach

The non-parametric DEA method is applied to compute the technical efficiency and its components (pure technical efficiency and scale efficiency) of all commercial banks operating in central Europe countries. For the objective of this study, this paper adopts an output maximization orientation, based on the assumption that banks are normally focus on rising (or maximizing) profits Banker et al. (1984). The DEA method includes constructing a non-parametric production frontier reliant on the actual input-output records in the sample relative to which efficiency of each bank in the sample is computed (Coelli et al., (1998) for a complete information). There are several causes why we employ the DEA approach. Firstly, each bank is gave a particular efficiency score that permits ranking among the banks in the sample. Secondly, the DEA approach highlights the zones of development for each particular bank such as either the input which extremely used, or output which under produced by the bank. Thirdly, there is a chance of making inferences on the bank's general profile –the DEA approach permits for evaluation to be made in respect to the production performance of each bank to a set of efficient banks (named a reference set). Fourthly, the DEA approach does not need for a fixed structure or specific functional form to be applied on the data in obtaining efficient frontier, error, and inefficiency structures of the bank (Bauer et al., 1998). Finally, the DEA approach does not need for standardization thus permitting researchers to select arbitrary any type of input and output of managerial interest, irrespective of the dissimilar measurement units (Ariff and Can, 2008; Avkiran, 1999; Berger and Humphrey, 1997). As well as the DEA analysis required inputs and outputs of the banks to analyze the bank's technical efficiency. This study follows rough rule of thumb that suggested by Cooper *et al.* (2002). in selecting inputs and outputs. Therefore, the inputs of current study will be as follows: x1 Deposit, x2 Labor and x3 fixed assets whereas the outputs are: y1 loans and y2 investments. The details of inputs-outputs are shown in the following table 1.

Table 1 Bank inputs-outputs (\$ million)

Variable	Mean		St. dev.		Median	
	2011	2019	2011	2019	2011	2019
Inputs						
Total Deposits	6297.3	7045.5	8916.5	5889.9	5669.87	5927.06
Personnel Expenses	227.736	244.959	488.444	482.988	585.311	596.891
Fixed Assets	3188.26	2304.35	5660.604	4843.577	91.9912	778.0624
Outputs						
Net Loans	19602.7	15765.6	28424.2	28694.1	5685.13	3633.66
Total Securities	1657.7	1180.5	3875.4	3506.9	394.88	357.07

Second Stage of Analysis Multivariate Panel Regression Analysis (Mpra)

The main aim of this study is to investigate the influence of economic freedom indicators on all commercial bank's technical efficiency components for central Europe countries, this study uses two types of regressions: 1) panel data regression (static panel) that contains of "pooled Ordinary Least Square (OLS), Fixed Effect Model (FEM), Random Effect Model (REM). 2) Generalized Method of Moments (GMM) (dynamic panel)" to examine the developed model. According to Gujarati (2002) he suggested three types of advantages for using panel regression. Firstly, panel data make the data more informative with variability, reduce collinearity between the variables, and give more degree of freedom to the data. Secondly, panel data consist of well recognition and measurements of effects that easily cannot be seeing in pure cross-sectional or pure time series data. Thirdly, panel data gather the data to be accessible into some thousand units. This might reduce the bias that could result if individuals or financial institution level data are distributed into broad combinations. Moreover, Nickell (1981) claims that the dynamic panel regressions yield biased coefficients expressively over all variables, while if the time shorter applied it would results a large bias. In fact this type of problems could be solved by applying "GMM" as this estimation method is able to consider the reverse causativeness, simultaneity bias, and absent variables by applying lagged dependent variables. Theoretically, using the GMM might generate two advantages: firstly, GMM offers a common structure for examining statistical inference issues because it includes several econometrics estimators. Secondly, it also offers an appropriate technique for the nonlinear dynamic models estimation devoid of complete specialization of the data possibility distribution.

Table 2 Variables of the second stage of analysis

Variable	Descriptions	Measurements of Variables	Source of Data	Hypothesized Association Type
Dependent				
lnOTE	Overall Technical Efficiency	PTE*SE	Fitch Connect	NA
lnPTE	Pure Technical Efficiency	OTE/SE	Fitch Connect	NA
lnSE	Scale Efficiency	CRS/VRS	Fitch Connect	NA
Independent				
Bank-Specific Characteristics (Internal Determinants)				
lnTA	Bank Size	Total Assets	Fitch Connect	+/-
lnETA	Capitalization	Equity over total assets	Fitch Connect	+/-
lnLOANSTA	Liquidity	Total loans over total assets	Fitch Connect	

lnLRGL	Credit Risk	Reserves loan loss over total loans	Fitch Connect	+/-
lnNIETA	Overhead Expenses	Non-interest expenses over total assets	Fitch Connect	+/-
Macroeconomic Factors (External Determinants)				
lnGDP	Economic Growth	Gross domestic product	World Development Indicators	+/-
lnINFL	Inflation	Consumer price index	World Development Indicators	+/-
Economic Freedom (Heritage Foundation)				
lnOVER_FREE	Overall Economic Freedom	A scale of 100 stages according on Heritage Foundation criteria.	Heritage Foundation	+/-
lnTXP	Tax Burdens		Heritage Foundation	+/-
lnFIS_HLTH	Fiscal Health		Heritage Foundation	+/-
lnGOV_SP	Government Spending		Heritage Foundation	+/-
lnBUSSFREE	Business Freedom		Heritage Foundation	+/-
nLBR_FREE	Labor Freedom		Heritage Foundation	+/-
lnMONE_FREE	Monetary Freedom		Heritage Foundation	+/-
lnTADE_FREE	Trade Freedom		Heritage Foundation	+/-
lnINV_FREE	Investment Freedom		Heritage Foundation	+/-
lnFINFREE	Financial Freedom		Heritage Foundation	+/-

Empirical Results and Discussions

First Stage of Analysis (Results and Tests of DEA)

Before proceeding further with the discussion on DEA outcomes, current study examine the rule of thumb on various numerals of inputs and outputs variables as proposed by Cooper *et al.* (2002). Since the overall number of the sample in current study is 95 banks, conventional banks is normally higher than the numeral of input and output variables $n \geq \max(3 \times 2, 3[3+2])$, the selections of variables are valid since they are steady with the rule of thumb, That is permits for the DMUs' efficiencies to be calculated. Additionally, we have applied the intermediation approach under variable return to scale (VRS) assumption that suggested by Banker *et al.*, (1984) in order to identify the efficiency scores of the banks, and investigate the different levels of the "overall technical efficiency (OTE), pure technical efficiency (PTE) and scale efficiency (SE)" among conventional banks under this study. The summary of data used to identify the efficiency frontiers for 2011 and 2019 of conventional banks are shown in Table 4.1 below.

Table 3 Average bank's Efficiencies 2011-2019

Efficiency Years	2011	2012	2013	2014	2015	2016	2017	2018	2019	Mean
OTE	0.505	0.518	0.471	0.437	0.419	0.423	0.407	0.454	0.466	0.455
PTE	0.666	0.667	0.634	0.640	0.608	0.606	0.580	0.579	0.558	0.615
SE	0.774	0.791	0.750	0.693	0.698	0.716	0.726	0.810	0.835	0.754

Second Stage of Analysis (Results of Multivariate Panel Regression Analysis)

The regression results that concentrating on the relationship between bank technical efficiency components and the explanatory variables (bank's level and country's level) are presented in Tables 4 to 15. Concerning the bank's size results, (lnTA) exposes a positive relationship with overall technical efficiency (OTE) and its component pure technical efficiency (PTE) only. However, a negative relationship with scale efficiency (SE) for the banks that covered by current study. This result implies that the greater (smaller) size of the banks tend to exhibit higher (lower) overall technical and pure technical efficiencies, and vice versa for bank's scale efficiency. This type of relationship supports to the debate that large banks might benefit from economies of scale which enables them to earn greater revenues. Huge banks might achieve higher management efficiency levels because their costs are well exploit by the bank's management and compensated by higher revenues that are generated via quality services. Moreover, large banks may have better abilities to capitalize on enhancement activities and well cost cutting opportunities compared to the small bank. These findings are steady with a number of scholars such as Sufian *et al.* (2012a), Srairi (2010). providing support to the debate that large banks have high levels of technical efficiency components compared to medium or small banks. Similarly, the coefficient of credit risk (lnLLRGL) exhibits a positive relationship with bank's (OTE), (PTE) and (SE), similar finding has been found by Sufian and Habibullah (2009).

Regarding to the influence of capitalization (lnETA) on overall technical efficiency (OTE) and its components as shown in Tables (4 ,8 and 12) that lnETA coefficient exhibits a negative sign in all models in terms of OTE, PTE and SE for conventional banks. Where the well-capitalized banks would decrease banks' profitability due to the higher predicted costs of financial distress, higher predicted bankruptcy costs, and higher risk of portfolio. Such disadvantages would then be interpreted into low profitability (Demirguc-Kunt and Huizinga, 1999). Scholars by Sufian (2009b), Akhigbe and McNulty (2005) and Goddard *et al.* (2004) they have stated similar results.

The influence of macroeconomic environment on bank efficiency is statistically significant. From the Tables (4, 8 and 12) the GDP has a negative association with banks overall technical efficiency (OTE) and pure technical efficiency (PTE) only, which could be due to the volatile economic growth in the years that are covered in the current study. These developments may have resulted in banks to suffer from lower demand of their financial services and incur more loan defaults. In this respect, Sufian (2009a) found a negative association between bank efficiency and GDP.

Does Economic Freedom Foster Banks' Overall Technical Efficiency, Pure Technical Efficiency and Scale Efficiency?

To deliver the concern of whether economic freedom matters in determining the technical efficiency and its components of conventional banks (main concern of present study), current study re-estimate several regression models and it includes the all significant indicators of the economic freedom index (refer to table 2). The relationships between the ten different indicators of economic freedom index and “overall technical efficiency (OTE), pure technical efficiency (PTE) and scale efficiency (SE)” are analyzed individually to avoid multicollinearity problem. The results are shown in (Models 1 to 36 of Tables 4 until 15) for conventional banks. Referring to overall economic freedom indicator (OVER_FREE), it has a significant negative relationship with overall technical efficiency, pure technical efficiency and scale efficiency. These types of relationships indicate that overall economic freedom is a vital dimension of economic freedom index for all technical efficiency components of the conventional banks. Additionally, the empirical results comes as surprise since economic freedom by default is a key to the creation of an environment that allows a complete cycle of entrepreneurship, innovation, and continued growth for economic and flourish improvement. According to our findings, economies with greater level of economic freedom are expected to experience low levels of bank's efficiency. Moreover, the empirical findings confirm that overall economic freedom score could significantly affect not only overall technical efficiency but also pure technical efficiency and scale efficiency. Government spending (GOV_SP) coefficient showed a positive sign at the 1% level of statistical significance in all models tested. The empirical findings obviously indicate that government spending (GOV_SP) has a strong positive relationship with overall technical efficiency (OTE), pure technical efficiency (PTE) scale efficiency (SE). This type of relationship implies that the more government spending in the economy the more technical efficiency of banks. Implying that excessive government spending in the economy often leads to efficiency possibly through the channels of adhococracy and higher productivity. The findings of government spending indicator are steady with the most recent study that done by Djalilov and Piesse (2016). Fiscal health (FIS_HLTH) coefficient in showed a positive sign at the 1% level of statistical significance in all models tested. The empirical findings obviously indicate that fiscal health (FIS_HLTH) has a positive relationship with “overall technical efficiency (OTE), pure technical efficiency (PTE) scale efficiency (SE)”. Which is indicates that the more fiscal freedom in the economy the more banks' technical efficiency. Additionally, this type of relationship implies that fiscal health could affect business-cycle volatility and growth, a positive effect on growth is associated with the capability of fiscal policy to relieve fluctuations of the business cycle and level of economic fluctuations by the use of automatic stabilizers hence, it gives an advantage for the banks to operate under well-structured environment in the most effective way. These results on fiscal health are strongly supported the earlier studies that done by (Afonso and Furceri 2010, Heckelman&Knack 2009). Regarding the influence of business freedom (BUSS_FREE) on the banks' technical efficiency components, the empirical findings showed that the coefficient of BUSS_FREE is strongly positive and statistically significant at the 1% level. The results indicate that the greater ability to start, operate, and close businesses are enhancing financial institutions and banks' efficiency in central Europe countries. These findings are steady with by Demirguc-Kunt et al. (2004), and [Feldmann \(2009\)](#), that concentrate on business and labor freedoms on bank efficiencies' components. Furthermore, in term of the influence of business freedom on pure technical efficiency the empirical results of current study approve that freedom of starting/closing businesses, entrepreneurship and foreign investments might

improve banks' management to operate efficiently, on the other hand, banks' management is needed to decrease the restrictions of government and operate in low regulated environment in order to work efficiently. Regarding the impact of labor freedom (LBR_FREE) coefficient showed a positive sign at the 1% level of statistical significance. The empirical findings obviously indicate that labor freedom has a positive relationship with overall technical efficiency (OTE), pure technical efficiency (PTE) and scale efficiency (SE), which indicates that the more freedom and flexible labor regulations that proposed by the government the more banks' technical efficiency. Additionally, in order to enhance the growth and profitability of business-cycle or financial market in a country, the government of this particular country has to legislate a clear working policy between workers and employers based on the rationale for protection of workers from arbitrary decisions by employers. Nevertheless, it may raise the costs of organizations to employ workers and regulate employment to the optimal stage. However, it will improve the financial market hence, giving the chance for banks to operate under health economic environment that lead to enhance their technical efficiency. Many of previous studies that relate labor freedom and regulations to the economic outcomes such as output and unemployment for instance: Heckman and Pagés (2000), Blanchard and Wolfers (2000). Regarding to the influence of monetary freedom (MONE_FREE), the coefficient of this indicator is negative and is statistically significant at the 1% level for all models. The empirical findings obviously indicate that monetary freedom has a negative relationship with overall technical efficiency (OTE), pure technical efficiency (PTE) and scale efficiency (SE). Additionally, it implies that lower (higher) government intervention in the market increase (decrease) banks' efficiency. Moreover, based on current study results a tight monetary policy might improve banks' profitability. Hence, it could help firms and societies to make investments, savings, and other long-term plans effectively. These findings are having an agreement with (Rode and Coll 2011, Gokal & Hanif, 2004). Similarly, the investment freedom (INV_FREE) coefficient showed a negative sign at the 1% level of statistical significance in all models that tested. The empirical findings obviously indicate that investment freedom has a negative relationship with "overall technical efficiency (OTE), pure technical efficiency (PTE) scale efficiency (SE)". Which indicates that the more investment freedom in the economy the less bank's efficiency. However, the coefficient of financial freedom (FINFREE) showed a positive sign and statistically significant at 1% in all models that approves a positive relationship between financial freedom and bank's overall technical efficiency (OTE), pure technical efficiency (PTE) and scale efficiency (SE), This type of relationship signifying that banking security plus freedom from government control present positive effect on central Europe banks' efficiency. The more banks are controlled by the government, the freer they are to involve in essential financial activities that ease private sector-led economic growth. The results from this study are adding to a certain extent, lend support to Chortareas (2013) who found that the banks which operating in the countries that enjoy with high level of financial freedom tend to have higher levels of banks efficiency.

Controlling for Potential Endogeneity

Generally, the dynamic model results that computed by using the GMM as a main estimation model indicate that credit risks (LLRGL) and capitalization (lnETA) represent as the determinants that significantly affect the level of overall technical efficiency (OTE) on conventional banks. Moreover, size of banks (lnTA) and overhead expenses (NIETA) approved as determinants that have a significant impact on pure technical efficiency (PTE) which is known as a bank's management efficiency. Furthermore, only size of banks (lnTA),

capitalization (lnETA) and credit risks (LLRGL) have been confirmed as significant determinants of scale efficiency (SE) in the dynamic models. Referring to the macroeconomic factors (external determinants of bank's efficiency), the economic growth (lnGDP), Inflation (lnINFL) exhibits significant relationship with "overall technical efficiency (OTE) and its components (pure technical efficiency PTE and scale efficiency SE)" on conventional banks. However, current study proceeds with the analysis using GMM estimation method in order to obtain robust results.

Garcia-Herrero *et al.* (2009) suggested that potential endogeneity might be a problem when evaluating banks' profitability determinants. In this respect, Poghosyan and Hesse (2009) propose that empirical studies on the determinants of bank performance could suffer from numerous sources of inconsistencies, such as endogeneity bias, omitted variables and highly persistence performance. For example, most efficient banks could have sufficient resources to provision for their non-performing loans. The more profitable banks could also find it easier to increase their client base through a successful advertising campaign and hiring of highly skilled employees (Garcia-Herrero *et al.* 2009).

To deliver present concern, a lagged dependent variable is introduced in the regression models via the "Generalized Methods of Moments (GMM)" method that presented by Blundell and Bond (1998), Arellano and Bover (1995), and Arellano and Bond (1991). The system GMM permits to control for persistence and endogeneity issues hence, yield consistent estimates. The GMM joins in a single system, all the regression equations in differences and levels, every single one with its set of instrumental variables. By doing so, the current study attempts to exploit the panel structure of the dataset and controls for undetected bank specific effects, potential endogeneity issues of the independent variables, and the use of lagged dependent variables. Thus, the panel data regression technique provides efficient solution and enables valuable inferences to be drawn in respect to the degree of bank's performance across different economic and institutional conditions.

In tables 16 and 17 the Tax Burdens, Government Spending, Fiscal Health, Business Freedom, Labor Freedom, Trade Freedom and Financial Freedom indicators exhibit a positive statistically significant relationship with overall technical efficiency (OTE), that indicate higher (lower) Tax Burdens, Government Spending, Fiscal Health, Business Freedom, Labor Freedom, Trade Freedom, and Financial Freedom tend to increase (reduce) overall technical efficiency (OTE) of conventional banks. Whereas, Overall Economic Freedom, Monetary Freedom and Investment Freedom showed a significant negative relationship with overall technical efficiency (OTE) in GMM estimation method. Moreover, the tables 18 and 19 present that Fiscal health, Business Freedom, Trade Freedom, and Financial Freedom have a positive significant relationship with pure technical efficiency (PTE) (management efficiency), which indicate that higher (lower) Fiscal health, Business Freedom, Trade Freedom, and Financial Freedom tend to increase (reduce) pure technical efficiency (PTE) of conventional banks. Whereas, Overall Economic Freedom, Monetary Freedom and Investment Freedom exhibit significant negative relationship with pure technical efficiency (PTE) in dynamic panel models. Furthermore, the tables 20 and 21 show that Tax Burdens, Government Spending, Fiscal Health, Business freedom, Labor freedom Trade Freedom, and Financial Freedom have positive statistical and significant relationship with scale efficiency (SE), that indicate higher (lower) Tax Burdens, Government Spending, Fiscal Health, Business freedom, Labor freedom Trade Freedom, and Financial Freedom to increase (reduce) scale efficiency of conventional banks. Whereas, Overall Economic Freedom, Monetary Freedom and Investment freedom

indicators exhibit significant and negative relationship with scale efficiency (SE) in dynamic panel models.

Conclusion

This study is limited and contributes to the existing literatures by concentrating on the association between various indicators of the economic freedom on the bank's "overall technical efficiency (OTE), pure technical efficiency (PTE) and scale efficiency (SE)". Our main concentration is on the specific indicators of economic freedom namely overall economic freedom, tax burden, government spending, fiscal health, business freedom, labor freedom, monetary freedom, trade freedom, investment freedom and financial freedom that cover all macroeconomic areas that proposed by Heritage Foundation such as rule of law, government size, regulatory efficiency and market openness for central Europe countries in years between 2011 and 2019. In order to deliver our concern in this study we first employed DEA efficiency scores for 855 bank's observations that operating in the countries of central Europe, the empirical findings for efficiency scores suggest that based on the results presented in this study, there are some differences between "overall technical efficiency (OTE), pure technical efficiency (PTE) and scale efficiency (SE)" among the years that covered by current study. In the second stage we investigate the potential determinants and the impact of economic freedom indicators on the bank's technical efficiency components by applying Multivariate Panel Regression Analysis (MPRA) via the pooled Ordinary Least Square (OLS), Fixed Effect Model (FEM), Random Effect Model (REM) and Generalized Method of Moments (GMM) as estimation methods.

A deeper estimation of the findings reveals that bank's size ($\ln TA$) exposes a positive relationship with overall technical efficiency (OTE) and its component pure technical efficiency (PTE) only. However, a negative relationship with scale efficiency (SE). Similarly credit risk ($\ln LLRGL$) exhibits a positive relationship with bank's overall technical efficiency (OTE), pure technical efficiency (PTE) and scale efficiency (SE). However, capitalization ($\ln ETA$) has a negative effect on overall technical efficiency (OTE), pure technical efficiency (PTE) and scale efficiency (SE). In terms of macroeconomic factors our findings suggest that the GDP has a negative association with banks overall technical efficiency (OTE) and pure technical efficiency (PTE) only. Furthermore, examining the effect of economic freedom indicators to the bank's technical efficiency components, overall economic freedom (OVER_FREE) have to found a negative relationship between all bank's technical efficiency components, However, Government spending (GOV_SP) has a significant positive association with overall technical efficiency (OTE) and its components (pure technical efficiency PTE and scale efficiency SE). Similarly, fiscal health (FIS_HLTH), business freedom (BUSS_FREE) and labor freedom (LBR_FREE) have significant positive relationships with overall technical efficiency (OTE), pure technical efficiency (PTE) scale efficiency (SE). On the other hand, monetary freedom (MONE_FREE) and investment freedom (INV_FREE) have negative relationships with overall technical efficiency (OTE), pure technical efficiency (PTE) and scale efficiency (SE). Financial freedom (FINFREE) found to have a positive relationship with bank's overall technical efficiency (OTE), pure technical efficiency (PTE) and scale efficiency (SE).

The present study is not without its limitations. It is suggested that future research compare the results derived from the Data Envelopment Analysis (DEA) method with another non-parametric frontier method such as the Free Disposal Hull (FDH). In addition, the analysis may also be performed to compare results derived from the non-parametric method with parametric

methods such as Stochastic Frontier Analysis (SFA), Distribution Free Approach (DFA), and Thick Frontier Approach (TFA). Future research may also consider using financial ratio analysis which is considered as the traditional method to measure the efficiency of banks. Moreover, the findings of this study could be useful to regulators and policymakers. For one, regulators and policy makers can find a mechanism to improve the technical efficiency components separately. Additionally, policy makers may be able to design new policies and regulations based on the different dimensions of economic freedom which could enhance the technical efficiency components. Furthermore, the result could prove to be informative for bank managements various strategies need to be taken into consideration to improve bank's technical efficiency and consequently profitability. The findings from this study could also have important ramifications for investors whose main desire is to reap higher profit from their investments. The empirical findings from this study clearly highlight the importance for investors to focus on bank's technical efficiency components since these concepts might help investors to identify firms with a better prospect to generate higher profitability prior to investing.

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Appendix

REGRESSION RESULTS ON CONVENTIONAL BANKS OVERALL TECHNICAL EFFICIENCY (OTE)

Table 4: Regression Results on Conventional Banks Overall Technical Efficiency (OTE)

	Model 1				Model 2				Model 3			
	POLS	RE	FE	Robust-FE	POLS	RE	FE2	Robust-FE	POLS	RE	FE	Robust-FE
LnTA	0.0742*** (0.000)	0.0424* (0.090)	0.141*** (0.001)	0.141*** (0.003)	0.0667*** (0.000)	0.0272 (0.315)	0.229** (0.014)	0.229 (0.171)	0.0708*** (0.000)	0.0334 (0.200)	0.210** (0.020)	0.210 (0.190)
LnLLRGL	0.00504 (0.782)	0.0496*** (0.003)	0.0652*** (0.000)	0.0652*** (0.001)	0.0349 (0.114)	0.0876*** (0.000)	0.0870*** (0.000)	0.0870*** (0.002)	0.0169 (0.433)	0.0677*** (0.001)	0.0705*** (0.001)	0.0705*** (0.004)
LnETA	0.126** (0.020)	-0.110* (0.097)	-0.168** (0.026)	-0.168** (0.164)	0.127** (0.038)	-0.101 (0.197)	-0.198** (0.035)	-0.198 (0.167)	0.154*** (0.010)	-0.0455 (0.546)	-0.133 (0.143)	-0.133 (0.331)
LnLOANSTA	-0.228*** (0.000)	-0.125 (0.106)	-0.0124 (0.903)	-0.0124 (0.962)	-0.143** (0.019)	-0.0998 (0.258)	-0.0809 (0.536)	-0.0809 (0.742)	-0.157*** (0.008)	-0.118 (0.164)	-0.0907 (0.470)	-0.0907 (0.735)
LnNIETA	-0.465*** (0.000)	-0.206*** (0.000)	-0.0138 (0.846)	-0.0138 (0.858)	-0.496*** (0.000)	-0.279*** (0.000)	0.0625 (0.611)	0.0625 (0.744)	-0.498*** (0.000)	-0.312*** (0.000)	-0.0206 (0.862)	-0.0206 (0.911)
LnGDP					-1.506* (0.075)	-1.411** (0.021)	-1.343*** (0.022)	-1.343*** (0.000)	1.690* (0.077)	1.215* (0.075)	0.891 (0.177)	0.891 (0.124)
LnINFL					0.0256 (0.128)	0.0185 (0.129)	0.0131 (0.265)	0.0131 (0.132)	0.0348** (0.033)	0.0270** (0.021)	0.0210* (0.064)	0.0210** (0.014)
LnOVER_FREE									-18.76*** (0.000)	-15.46*** (0.000)	-13.21*** (0.000)	-13.21*** (0.000)
_cons	-3.867*** (0.000)	-1.982*** (0.000)	0.503 (0.412)	0.503 (0.633)	35.32 (0.109)	34.56** (0.029)	36.53** (0.017)	36.53*** (0.000)	30.86 (0.147)	30.86** (0.042)	33.26** (0.024)	33.26*** (0.001)
N	771	771	771	771	594	594	594	594	594	594	594	594
R-Squared	0.260	0.290	0.379	0.379	0.242	0.401	0.690	0.690	0.292	0.221	0.568	0.568
Adjusted R-Squared	0.256	0.301	0.302	0.102	0.232	0.269	0.425	0.425	0.285	0.443	0.472	0.472
Hausman			113.88				94.26				73.09	
F-Test	53.89	11.35	5.284	3.152	26.66	13.97	7.545	6.789	30.19	12.30	12.39	12.90

p-values in parentheses

Source: own calculations

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.0$

Table 5: Regression Results on Conventional Banks Overall Technical Efficiency (OTE)

	Model 4				Model 5				Model 6			
	POLS	RE	FE	Robust-FE	POLS	RE	FE	Robust-FE	POLS	RE	FE	Robust-FE
LnTA	0.0667*** (0.000)	0.0271 (0.319)	0.233** (0.004)	0.233*** (0.003)	0.0698*** (0.000)	0.0398 (0.136)	0.121 (0.170)	0.121 (0.431)	0.0808*** (0.000)	0.0819*** (0.001)	0.149** (0.037)	0.149 (0.261)
LnLLRGL	0.0346 (0.118)	0.0877*** (0.000)	0.0865*** (0.000)	0.0865*** (0.002)	0.0125 (0.559)	0.0616*** (0.002)	0.0645*** (0.002)	0.0645*** (0.009)	-0.0290 (0.136)	0.0104 (0.515)	0.0161 (0.331)	0.0161 (0.367)
LnETA	0.127** (0.039)	-0.101 (0.196)	-0.199** (0.034)	-0.199** (0.172)	0.176** (0.003)	0.00904 (0.904)	-0.0473 (0.596)	-0.0473 (0.704)	0.264*** (0.000)	0.252*** (0.000)	0.272*** (0.000)	0.272*** (0.004)
LnLOANSTA	-0.142** (0.020)	-0.0998 (0.259)	-0.0794 (0.544)	-0.0794 (0.747)	-0.174*** (0.003)	-0.150* (0.076)	-0.140 (0.252)	-0.140 (0.541)	-0.230*** (0.000)	-0.262*** (0.000)	-0.291*** (0.003)	-0.291 (0.267)
LnNIETA	-0.496*** (0.000)	-0.278*** (0.000)	0.0608 (0.621)	0.0608 (0.752)	-0.495*** (0.000)	-0.284*** (0.000)	0.0364 (0.751)	0.0364 (0.828)	-0.501*** (0.000)	-0.344*** (0.000)	-0.101 (0.269)	-0.101 (0.466)
LnGDP	-1.552* (0.071)	-1.408** (0.023)	-1.375** (0.021)	-1.375** (0.000)	-2.253*** (0.006)	-2.146*** (0.000)	-2.011*** (0.000)	-2.011*** (0.000)	1.878** (0.014)	1.729*** (0.000)	1.742*** (0.000)	1.742*** (0.000)
LnINFL	0.0246 (0.153)	0.0185 (0.137)	0.0123 (0.304)	0.0123 (0.186)	0.00783 (0.631)	0.00268 (0.813)	-0.000129 (0.991)	-0.000129 (0.987)	0.00658 (0.649)	0.00360 (0.680)	0.00210 (0.808)	0.00210 (0.762)
LnTXB	0.698 (0.761)	-0.0370 (0.982)	0.469 (0.770)	0.469 (0.798)								
LnGOV_SP					1.541*** (0.000)	1.424*** (0.000)	1.284*** (0.000)	1.284*** (0.000)				
LnFIS_HLTH									26.00*** (0.000)	24.82*** (0.000)	24.30*** (0.000)	24.30*** (0.000)
_cons	33.49 (0.143)	34.66** (0.035)	35.34** (0.026)	35.34*** (0.007)	48.76** (0.022)	47.90*** (0.001)	47.63*** (0.001)	47.63*** (0.000)	-166.0*** (0.000)	-156.4*** (0.000)	-154.2*** (0.000)	-154.2*** (0.000)
N	594	594	594	594	594	594	594	594	594	594	594	594
R-Squared	0.442	0.493	0.471	0.471	0.404	0.480	0.417	0.417	0.444	0.501	0.510	0.510
Adjusted R-Squared	0.431	0.468	0.424	0.424	0.395	0.430	0.411	0.411	0.436	0.494	0.473	0.473
Hausman			93.26				59.26				22.57	
F-Test	23.30	13.52	6.600	6.699	31.95	15.12	16.97	18.10	58.30	44.36	63.84	54.80

p-values in parentheses

Source: own calculations

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 6: Regression Results on Conventional Banks Overall Technical Efficiency (OTE)

	Model 7				Model 8				Model 9			
	POLS	RE	FE	Robust-FE	POLS	RE	FE	Robust-FE	POLS	RE	FE	Robust-FE
LnTA	0.0784*** (0.000)	0.0725*** (0.005)	0.125 (0.105)	0.125 (0.367)	0.0719*** (0.000)	0.0381 (0.145)	-0.157 [†] (0.058)	-0.157 (0.282)	0.0774*** (0.000)	0.0600** (0.020)	0.0278 (0.717)	0.0278 (0.841)
LnLLRGL	-0.0138 (0.488)	0.0294 [†] (0.084)	0.0345 [†] (0.050)	0.0345 [†] (0.080)	-0.0107 (0.609)	0.0341 [†] (0.073)	0.0375 [†] (0.058)	0.0375 [†] (0.065)	-0.0187 (0.350)	0.0231 (0.182)	0.0278 (0.122)	0.0278 (0.138)
LnETA	0.235*** (0.000)	0.162** (0.015)	0.164** (0.034)	0.164** (0.088)	0.198*** (0.001)	0.0510 (0.477)	0.0105 (0.902)	0.0105 (0.925)	0.225*** (0.000)	0.125 [†] (0.063)	0.112 (0.148)	0.112 (0.254)
LnLOANSTA	-0.213*** (0.000)	-0.239*** (0.002)	-0.287*** (0.006)	-0.287 (0.266)	-0.182*** (0.001)	-0.153 [†] (0.061)	-0.122 (0.291)	-0.122 (0.641)	-0.203*** (0.000)	-0.212*** (0.006)	-0.237** (0.025)	-0.237 (0.406)
LnNIETA	-0.498*** (0.000)	-0.305*** (0.000)	0.00164 (0.987)	0.00164 (0.991)	-0.489*** (0.000)	-0.298*** (0.000)	-0.0595 (0.585)	-0.0595 (0.705)	-0.493*** (0.000)	-0.301*** (0.000)	-0.0333 (0.737)	-0.0333 (0.828)
LnGDP	-4.123*** (0.000)	-3.936*** (0.000)	-3.763*** (0.000)	-3.763*** (0.000)	-9.448*** (0.000)	-8.617*** (0.000)	-7.990*** (0.000)	-7.990*** (0.000)	1.274 (0.103)	1.095** (0.027)	1.048** (0.033)	1.048*** (0.009)
LnINFL	0.0623*** (0.000)	0.0550*** (0.000)	0.0514*** (0.000)	0.0514*** (0.000)	0.127*** (0.000)	0.111*** (0.000)	0.0995*** (0.000)	0.0995*** (0.000)	0.0537*** (0.000)	0.0460*** (0.000)	0.0419*** (0.000)	0.0419*** (0.000)
LnBUSS_FREE	19.54*** (0.000)	18.39*** (0.000)	17.84*** (0.000)	17.84*** (0.000)								
LnLBR_FREE					24.38*** (0.000)	21.91*** (0.000)	20.10*** (0.000)	20.10*** (0.000)				
LnMONE_FREE									-10.04*** (0.000)	-9.282*** (0.000)	-8.829*** (0.000)	-8.829*** (0.000)
_cons	19.17 (0.326)	20.22 [†] (0.099)	18.74 (0.122)	18.74** (0.035)	140.6*** (0.000)	130.6*** (0.000)	124.5*** (0.000)	124.5*** (0.000)	6.462 (0.742)	8.919 (0.475)	9.464 (0.444)	9.464 (0.308)
N	594	594	594	594	594	594	594	594	594	594	594	594
R-Squared	0.407	0.421	0.435	0.435	0.351	0.267	0.498	0.498	0.405	0.404	0.419	0.419
Adjusted R-Squared	0.399	0.354	0.426	0.426	0.342	0.386	0.477	0.477	0.397	0.366	0.406	0.406
Hausman			32.52				50.76				32.90	
F-Test	50.15	45.35	47.29	47.32	39.51	25.98	26.01	29.42	49.77	37.45	44.27	43.85

p-values in parentheses

Source: own calculations

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 7: Regression Results on Conventional Banks Overall Technical Efficiency (OTE)

	Model 10				Model 11				Model 12			
	POLS	RE	FE	Robust-FE	POLS	RE	FE	Robust-FE	POLS	RE	FE	Robust-FE
LnTA	0.0667*** (0.000)	0.0282 (0.292)	-0.225** (0.017)	-0.225 (0.186)	0.0774*** (0.000)	0.0630** (0.014)	0.0213 (0.786)	0.0213 (0.878)	0.0698*** (0.000)	0.0321 (0.233)	-0.178** (0.050)	-0.178 (0.278)
LnLLRGL	0.0350 (0.114)	0.0877*** (0.000)	0.0875*** (0.000)	0.0875*** (0.002)	-0.0171 (0.397)	0.0266 (0.129)	0.0332 [†] (0.071)	0.0332 [†] (0.083)	0.0238 (0.271)	0.0747*** (0.000)	0.0753*** (0.000)	0.0753*** (0.004)
LnETA	0.127** (0.039)	-0.0986 (0.206)	-0.199** (0.034)	-0.199 (0.168)	0.240*** (0.000)	0.174** (0.011)	0.165** (0.041)	0.165 (0.118)	0.142** (0.018)	-0.0765 (0.314)	-0.159 [†] (0.079)	-0.159 (0.248)
LnLOANSTA	-0.143** (0.019)	-0.101 (0.249)	-0.0842 (0.520)	-0.0842 (0.735)	-0.213*** (0.000)	-0.217*** (0.005)	-0.212** (0.049)	-0.212 (0.386)	-0.152** (0.011)	-0.117 (0.174)	-0.118 (0.348)	-0.118 (0.661)
LnNIETA	-0.496*** (0.000)	-0.283*** (0.000)	0.0670 (0.587)	0.0670 (0.727)	-0.501*** (0.000)	-0.341*** (0.000)	-0.0951 (0.349)	-0.0951 (0.510)	-0.495*** (0.000)	-0.278*** (0.000)	0.0503 (0.671)	0.0503 (0.789)
LnGDP	-1.549 [†] (0.098)	-1.527** (0.024)	-1.473** (0.022)	-1.473*** (0.000)	3.209*** (0.000)	2.904*** (0.000)	2.706*** (0.000)	2.706*** (0.000)	-2.808*** (0.001)	-2.539*** (0.000)	-2.353*** (0.000)	-2.353*** (0.000)
LnINFL	0.0259 (0.129)	0.0194 (0.118)	0.0140 (0.240)	0.0140 (0.119)	-0.0255 (0.102)	-0.0264*** (0.009)	-0.0263*** (0.009)	-0.0263*** (0.000)	0.0277 [†] (0.092)	0.0203 [†] (0.081)	0.0153 (0.175)	0.0153 [†] (0.068)
LnTADE_FREE	0.377 (0.915)	1.032 (0.688)	1.194 (0.628)	1.194 (0.550)								
LnINV_FREE					-6.641*** (0.000)	-6.183*** (0.000)	-5.816*** (0.000)	-5.816*** (0.000)				
LnFIN_FREE									16.46*** (0.000)	14.25*** (0.000)	12.87*** (0.000)	12.87*** (0.000)
_cons	34.74 (0.126)	32.95** (0.045)	34.57** (0.029)	34.57*** (0.006)	-59.44*** (0.005)	-52.55*** (0.000)	-47.66*** (0.001)	-47.66*** (0.000)	0.669 (0.976)	4.501 (0.776)	8.668 (0.572)	8.668 (0.512)
N	594	594	594	594	594	594	594	594	594	594	594	594
R-Squared	0.442	0.487	0.474	0.474	0.398	0.397	0.392	0.392	0.280	0.118	0.465	0.465
Adjusted R-Squared	0.431	0.470	0.456	0.456	0.390	0.385	0.380	0.380	0.270	0.280	0.442	0.442
Hausman			98.71				27.64				76.89	
F-Test	23.29	24.69	66.21	75.71	48.30	36.77	39.54	36.69	28.48	38.20	42.14	45.55

p-values in parentheses

Source: own calculations

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

REGRESSION RESULTS ON CONVENTIONAL BANKS PURE TECHNICAL EFFICIENCY (PTE)

Table 8: Regression Results on Conventional Banks Pure Technical Efficiency (PTE)

	Model 13				Model 14				Model 15			
	POLS	RE	FE	Robust-FE	POLS	RE	FE	Robust-FE	POLS	RE	FE	Robust-FE
LnTA	0.192*** (0.000)	0.160*** (0.000)	0.0925 (0.104)	0.0925 (0.321)	0.187*** (0.000)	0.144*** (0.000)	0.0201 (0.794)	0.0201 (0.881)	0.190*** (0.000)	0.148*** (0.000)	0.0347 (0.641)	0.0347 (0.792)
LnLLRGL	-0.0198 (0.226)	0.0274** (0.045)	0.0366*** (0.008)	0.0366** (0.023)	-0.00654 (0.734)	0.0445** (0.010)	0.0466** (0.010)	0.0466** (0.031)	-0.0187 (0.326)	0.0306* (0.070)	0.0341* (0.052)	0.0341* (0.089)
LnETA	0.241*** (0.000)	0.0141 (0.802)	-0.0262 (0.673)	-0.0262 (0.769)	0.255*** (0.000)	0.0659 (0.321)	0.00981 (0.899)	0.00981 (0.912)	0.273*** (0.000)	0.106 (0.102)	0.0589 (0.433)	0.0589 (0.482)
LnLOANSTA	-0.189*** (0.000)	-0.00566 (0.934)	0.124 (0.138)	0.124 (0.363)	-0.0951* (0.074)	-0.0207 (0.790)	0.0563 (0.601)	0.0563 (0.614)	-0.104** (0.046)	-0.0304 (0.689)	0.0489 (0.638)	0.0489 (0.677)
LnNIETA	-0.308*** (0.000)	-0.0913* (0.051)	0.0222 (0.704)	0.0222 (0.711)	-0.326*** (0.000)	-0.141** (0.027)	0.0504 (0.619)	0.0504 (0.711)	-0.327*** (0.000)	-0.166*** (0.008)	-0.0125 (0.899)	-0.0125 (0.926)
LnGDP					-1.008 (0.172)	-1.034** (0.035)	-1.011** (0.036)	-1.011** (0.002)	1.153 (0.173)	0.832 (0.132)	0.680 (0.213)	0.680 (0.158)
LnINFL					0.0180 (0.220)	0.0130 (0.185)	0.00981 (0.309)	0.00981 (0.147)	0.0242* (0.094)	0.0190** (0.045)	0.0158* (0.092)	0.0158** (0.022)
LnOVER_FREE									-12.68*** (0.000)	-10.99*** (0.000)	-10.00*** (0.000)	-10.00*** (0.000)
_cons	-4.148*** (0.000)	-2.391*** (0.000)	-1.242** (0.014)	-1.242 (0.120)	22.10 (0.250)	24.35* (0.057)	25.69** (0.041)	25.69*** (0.004)	19.08 (0.312)	21.74* (0.077)	23.22* (0.056)	23.22*** (0.008)
N	771	771	771	771	594	594	594	594	594	594	594	594
R-Squared	0.379	0.372	0.412	0.412	0.370	0.348	0.370	0.370	0.395	0.443	0.471	0.471
Adjusted R-Squared	0.374	0.351	0.408	0.408	0.368	0.332	0.364	0.364	0.387	0.420	0.462	0.462
Hausman F-Test	43.33	32.47	81.54 42.12	19.63	49.15	37.51	26.99	30.61	47.77	51.64	14.04 69.02	45.77

p-values in parentheses

Source: own calculations

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 9: Regression Results on Conventional Banks Pure Technical Efficiency (PTE)

	Model 16				Model 17				Model 18			
	POLS	RE	FE	Robust-FE	POLS	RE	FE	Robust-FE	POLS	RE	FE	Robust-FE
LnTA	0.187*** (0.000)	0.145*** (0.000)	0.0144 (0.853)	0.0144 (0.914)	0.189*** (0.000)	0.154*** (0.000)	0.0745 (0.327)	0.0745 (0.554)	0.195*** (0.000)	0.183*** (0.000)	0.244*** (0.000)	0.244** (0.033)
LnLLRGL	-0.00670 (0.729)	0.0439** (0.012)	0.0458** (0.011)	0.0458** (0.036)	-0.0192 (0.316)	0.0303* (0.075)	0.0353** (0.047)	0.0353* (0.081)	-0.0455** (0.014)	-0.00244 (0.875)	0.00461 (0.775)	0.00461 (0.798)
LnETA	0.255*** (0.000)	0.0676 (0.309)	0.00723 (0.925)	0.00723 (0.936)	0.282*** (0.000)	0.133** (0.043)	0.0853 (0.267)	0.0853 (0.331)	0.338*** (0.000)	0.291*** (0.000)	0.288*** (0.000)	0.288*** (0.001)
LnLOANSTA	-0.0949* (0.075)	-0.0220 (0.776)	0.0591 (0.583)	0.0591 (0.600)	-0.113** (0.032)	-0.0488 (0.521)	0.0267 (0.799)	0.0267 (0.800)	-0.148*** (0.003)	-0.112 (0.116)	-0.0681 (0.472)	-0.0681 (0.533)
LnNIETA	-0.326*** (0.000)	-0.146** (0.021)	0.0474 (0.640)	0.0474 (0.728)	-0.325*** (0.000)	-0.159** (0.011)	0.0373 (0.706)	0.0373 (0.769)	-0.329*** (0.000)	-0.215*** (0.000)	-0.0462 (0.603)	-0.0462 (0.685)
LnGDP	-1.031 (0.170)	-1.063** (0.034)	-1.067** (0.030)	-1.067*** (0.000)	-1.431* (0.051)	-1.421*** (0.003)	-1.346*** (0.005)	-1.346*** (0.000)	1.054 (0.146)	0.822* (0.064)	0.815* (0.068)	0.815*** (0.009)
LnINFL	0.0175 (0.243)	0.0125 (0.217)	0.00852 (0.387)	0.00852 (0.252)	0.00794 (0.586)	0.00511 (0.597)	0.00320 (0.736)	0.00320 (0.608)	0.00643 (0.640)	0.00471 (0.577)	0.00332 (0.694)	0.00332 (0.576)
LnTXB	0.350 (0.862)	0.424 (0.752)	0.836 (0.526)	0.836 (0.548)								
LnGOV_SP					0.874*** (0.000)	0.738*** (0.000)	0.643*** (0.000)	0.643*** (0.000)				
LnFIS_HLTH									15.85*** (0.000)	14.78*** (0.000)	14.38*** (0.000)	14.38*** (0.000)
_cons	21.18 (0.288)	23.23* (0.081)	23.57* (0.070)	23.57** (0.033)	29.72 (0.117)	31.31** (0.012)	31.25** (0.011)	31.25*** (0.001)	-100.6*** (0.000)	-89.22*** (0.000)	-87.19*** (0.000)	-87.19*** (0.000)
N	594	594	594	594	594	594	594	594	594	594	594	594
R-Squared	0.370	0.392	0.378	0.378	0.392	0.400	0.431	0.431	0.452	0.442	0.465	0.465
Adjusted R-Squared	0.355	0.379	0.359	0.359	0.386	0.397	0.425	0.425	0.439	0.426	0.448	0.448
Hausman F-Test	42.94	33.47	52.46 24.09	43.78	47.11	66.41	37.30 56.47	52.95	60.23	38.97	24.85 42.10	34.37

p-values in parentheses

Source: own calculations

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 10: Regression Results on Conventional Banks Pure Technical Efficiency (PTE)

	Model 19				Model 20				Model 21			
	POLS	RE	FE	Robust-FE	POLS	RE	FE	Robust-FE	POLS	RE	FE	Robust-FE
LnTA	0.194*** (0.000)	0.176*** (0.000)	0.222*** (0.002)	0.222* (0.065)	0.190*** (0.000)	0.153*** (0.000)	0.0609 (0.405)	0.0609 (0.628)	0.193*** (0.000)	0.169*** (0.000)	0.169** (0.018)	0.169 (0.170)
LnLLRGL	-0.0354* (0.059)	0.0102 (0.520)	0.0167 (0.315)	0.0167 (0.375)	-0.0333* (0.082)	0.0136 (0.419)	0.0187 (0.284)	0.0187 (0.332)	-0.0381** (0.042)	0.00619 (0.700)	0.0122 (0.464)	0.0122 (0.517)
LnETA	0.319*** (0.000)	0.232*** (0.000)	0.216*** (0.003)	0.216** (0.007)	0.296*** (0.000)	0.163** (0.011)	0.127* (0.090)	0.127 (0.121)	0.313*** (0.000)	0.211*** (0.001)	0.190*** (0.009)	0.190** (0.013)
LnLOANSTA	-0.137*** (0.007)	-0.0979 (0.181)	-0.0612 (0.533)	-0.0612 (0.557)	-0.118** (0.022)	-0.0489 (0.514)	0.0333 (0.744)	0.0333 (0.766)	-0.131** (0.010)	-0.0827 (0.258)	-0.0341 (0.728)	-0.0341 (0.766)
LnNIETA	-0.327*** (0.000)	-0.184*** (0.002)	0.0157 (0.864)	0.0157 (0.893)	-0.322*** (0.000)	-0.169*** (0.006)	-0.0183 (0.849)	-0.0183 (0.883)	-0.324*** (0.000)	-0.181*** (0.003)	-0.00515 (0.955)	-0.00515 (0.966)
LnGDP	-2.556*** (0.000)	-2.497*** (0.000)	-2.389*** (0.000)	-2.389*** (0.000)	-5.660*** (0.000)	-5.122*** (0.000)	-4.753*** (0.000)	-4.753*** (0.000)	0.630 (0.389)	0.411 (0.370)	0.375 (0.412)	0.375 (0.305)
LnINFL	0.0397*** (0.005)	0.0345*** (0.000)	0.0316*** (0.000)	0.0316*** (0.000)	0.0776*** (0.000)	0.0655*** (0.000)	0.0585*** (0.000)	0.0585*** (0.000)	0.0346** (0.015)	0.0295*** (0.001)	0.0266*** (0.003)	0.0266*** (0.000)
LnBUSS_FREE	11.56*** (0.000)	10.56*** (0.000)	10.16*** (0.000)	10.16*** (0.000)								
LnLBR_FREE					14.28*** (0.000)	12.40*** (0.000)	11.32*** (0.000)	11.32*** (0.000)				
LnMONE_FREE									-5.916*** (0.000)	-5.396*** (0.000)	-5.119*** (0.000)	-5.119*** (0.000)
_cons	12.55 (0.493)	16.24 (0.156)	15.56 (0.174)	15.56* (0.061)	83.77*** (0.000)	78.83*** (0.000)	75.21*** (0.000)	75.21*** (0.000)	5.098 (0.782)	9.567 (0.406)	9.996 (0.385)	9.996 (0.251)
N	594	594	594	594	594	594	594	594	594	594	594	594
R-Squared	0.433	0.410	0.410	0.410	0.411	0.442	0.437	0.437	0.432	0.462	0.407	0.407
Adjusted R-Squared	0.421	0.408	0.407	0.407	0.405	0.425	0.431	0.431	0.427	0.441	0.382	0.382
Hausman			19.97			28.92					19.73	
F-Test	55.82	32.78	46.29	42.13	50.97	47.52	47.75	47.34	55.55	43.87	46.07	41.42

p-values in parentheses

Source: own calculations

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 11: Regression Results on Conventional Banks Pure Technical Efficiency (PTE)

	Model 22				Model 23				Model 24			
	POLS	RE	FE	Robust-FE	POLS	RE	FE	Robust-FE	POLS	RE	FE	Robust-FE
LnTA	0.187*** (0.000)	0.146*** (0.000)	0.0222 (0.775)	0.0222 (0.873)	0.193*** (0.000)	0.171*** (0.000)	0.170** (0.018)	0.170 (0.143)	0.189*** (0.000)	0.150*** (0.000)	0.0531 (0.483)	0.0531 (0.694)
LnLLRGL	-0.00668 (0.729)	0.0440** (0.011)	0.0468*** (0.010)	0.0468** (0.029)	-0.0387** (0.039)	0.00696 (0.664)	0.0144 (0.390)	0.0144 (0.426)	-0.0131 (0.495)	0.0359** (0.035)	0.0392** (0.027)	0.0392* (0.066)
LnETA	0.255*** (0.000)	0.0708 (0.285)	0.00915 (0.906)	0.00915 (0.918)	0.324*** (0.000)	0.247*** (0.000)	0.227*** (0.002)	0.227*** (0.008)	0.264*** (0.000)	0.0878 (0.178)	0.0345 (0.648)	0.0345 (0.681)
LnLOANSTA	-0.0952* (0.074)	-0.0249 (0.746)	0.0548 (0.611)	0.0548 (0.626)	-0.139*** (0.006)	-0.0893 (0.218)	-0.0221 (0.822)	-0.0221 (0.835)	-0.100* (0.057)	-0.0344 (0.651)	0.0326 (0.757)	0.0326 (0.774)
LnNIETA	-0.326*** (0.000)	-0.151** (0.017)	0.0524 (0.606)	0.0524 (0.703)	-0.329*** (0.000)	-0.207*** (0.001)	-0.0439 (0.635)	-0.0439 (0.710)	-0.325*** (0.000)	-0.153** (0.015)	0.0426 (0.667)	0.0426 (0.752)
LnGDP	-0.959 (0.240)	-1.075** (0.049)	-1.070** (0.044)	-1.070*** (0.000)	1.913** (0.015)	1.549*** (0.002)	1.411*** (0.005)	1.411*** (0.000)	-1.777** (0.019)	-1.733*** (0.001)	-1.653*** (0.001)	-1.653*** (0.000)
LnINFL	0.0177 (0.235)	0.0135 (0.179)	0.0102 (0.296)	0.0102 (0.138)	-0.0136 (0.346)	-0.0135 (0.140)	-0.0137 (0.131)	-0.0137** (0.018)	0.0192 (0.186)	0.0144 (0.135)	0.0112 (0.234)	0.0112* (0.092)
LnTADE_FREE	-0.443 (0.886)	0.349 (0.867)	0.535 (0.792)	0.535 (0.790)								
LnINV_FREE					-4.114*** (0.000)	-3.719*** (0.000)	-3.480*** (0.000)	-3.480*** (0.000)				
LnFIN_FREE									9.715*** (0.000)	8.794*** (0.000)	8.178*** (0.000)	8.178*** (0.000)
_cons	22.79 (0.250)	23.78* (0.074)	24.81* (0.057)	24.81** (0.024)	-36.61* (0.062)	-27.92** (0.024)	-24.68** (0.048)	-24.68*** (0.002)	1.645 (0.934)	5.804 (0.656)	7.977 (0.534)	7.977 (0.489)
N	594	594	594	594	594	594	594	594	594	594	594	594
R-Squared	0.370	0.420	0.371	0.371	0.435	0.447	0.403	0.403	0.385	0.472	0.404	0.404
Adjusted R-Squared	0.367	0.413	0.367	0.367	0.421	0.435	0.397	0.397	0.374	0.464	0.400	0.400
F-Test	42.94	45.62	23.66	30.10	56.35	28.96	35.65	31.44	45.71	41.08	53.63	73.01

p-values in parentheses

Source: own calculations

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

REGRESSION RESULTS ON CONVENTIONAL BANKS SCALE EFFICIENCY (SE)

Table 12: Regression Results on Conventional Banks Scale Efficiency (SE)

	Model 25				Model 26				Model 27			
	POLS	RE	FE	Robust-FE	POLS	RE	FE	Robust-FE	POLS	RE	FE	Robust-FE
LnTA	-0.118*** (0.000)	-0.122*** (0.000)	-0.234*** (0.000)	-0.234*** (0.002)	-0.120*** (0.000)	-0.124*** (0.000)	-0.250*** (0.000)	-0.250** (0.047)	-0.119*** (0.000)	-0.121*** (0.000)	-0.245*** (0.000)	-0.245** (0.049)
LnLLRGL	0.0248** (0.022)	0.0253** (0.014)	0.0286*** (0.008)	0.0286* (0.062)	0.0414*** (0.002)	0.0461*** (0.001)	0.0402*** (0.005)	0.0402* (0.055)	0.0355*** (0.009)	0.0405*** (0.002)	0.0363** (0.012)	0.0363* (0.069)
LnETA	-0.116*** (0.000)	-0.144*** (0.000)	-0.142*** (0.003)	-0.142** (0.046)	-0.127*** (0.001)	-0.191*** (0.000)	-0.208*** (0.001)	-0.208** (0.043)	-0.119*** (0.002)	-0.171*** (0.000)	-0.192*** (0.002)	-0.192* (0.057)
LnLOANSTA	-0.0392 (0.217)	-0.0879* (0.068)	-0.138** (0.036)	-0.138 (0.340)	-0.0478 (0.201)	-0.0626 (0.267)	-0.138 (0.108)	-0.138 (0.456)	-0.0522 (0.159)	-0.0630 (0.241)	-0.140 (0.101)	-0.140 (0.465)
LnNIETA	-0.157*** (0.000)	-0.0801** (0.017)	-0.0359 (0.432)	-0.0359 (0.471)	-0.170*** (0.000)	-0.0952** (0.039)	0.0126 (0.876)	0.0126 (0.919)	-0.171*** (0.000)	-0.116*** (0.008)	-0.00758 (0.925)	-0.00758 (0.950)
LnGDP					-0.501 (0.334)	-0.372 (0.335)	-0.335 (0.382)	-0.335 (0.180)	0.534 (0.374)	0.355 (0.437)	0.208 (0.642)	0.208 (0.547)
LnINFL					0.00760 (0.461)	0.00471 (0.541)	0.00326 (0.672)	0.00326 (0.526)	0.0106 (0.303)	0.00729 (0.351)	0.00520 (0.499)	0.00520 (0.321)
LnOVER_FREE									-6.073*** (0.001)	-4.330*** (0.002)	-3.210** (0.021)	-3.210** (0.027)
_cons	0.282* (0.072)	0.644*** (0.003)	1.744*** (0.000)	1.744*** (0.008)	13.29 (0.325)	10.38 (0.301)	10.92 (0.275)	10.92 (0.107)	11.85 (0.376)	9.508 (0.349)	10.12 (0.310)	10.12 (0.131)
N	771	771	771	771	594	594	594	594	594	594	594	594
R-Squared	0.372	0.426	0.432	0.432	0.468	0.401	0.405	0.405	0.482	0.492	0.515	0.515
Adjusted R-Squared	0.367	0.417	0.425	0.425	0.443	0.392	0.397	0.397	0.469	0.484	0.502	0.502
Hausman			20.01				17.89				15.30	
F-Test	57.16	12.64	30.60	2.802	30.67	17.34	42.39	23.83	28.68	34.52	49.44	42.19

p-values in parentheses

Source: own calculations

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 13: Regression Results on Conventional Banks Scale Efficiency (SE)

	Model 28				Model 29				Model 30			
	POLS	RE	FE	Robust-FE	POLS	RE	FE	Robust-FE	POLS	RE	FE	Robust-FE
LnTA	-0.120*** (0.000)	-0.122*** (0.000)	-0.247*** (0.000)	-0.247* (0.050)	-0.119*** (0.000)	-0.117*** (0.000)	-0.195*** (0.001)	-0.117*** (0.000)	-0.115*** (0.000)	-0.102*** (0.000)	-0.0950* (0.100)	-0.0950 (0.430)
LnLLRGL	0.0412*** (0.003)	0.0464*** (0.001)	0.0406*** (0.005)	0.0406* (0.052)	0.0317** (0.019)	0.0331** (0.011)	0.0290** (0.037)	0.0331* (0.065)	0.0164 (0.212)	0.0130 (0.297)	0.0113 (0.396)	0.0113 (0.527)
LnETA	-0.128*** (0.001)	-0.186*** (0.000)	-0.206*** (0.001)	-0.206** (0.045)	-0.107*** (0.004)	-0.134*** (0.006)	-0.132** (0.028)	-0.134** (0.039)	-0.0739** (0.041)	-0.0456 (0.342)	-0.0156 (0.791)	-0.0156 (0.847)
LnLOANSTA	-0.0475 (0.204)	-0.0583 (0.282)	-0.139 (0.106)	-0.139 (0.450)	-0.0613* (0.096)	-0.0877 (0.107)	-0.167** (0.043)	-0.0877 (0.413)	-0.0816** (0.022)	-0.135** (0.012)	-0.223*** (0.004)	-0.223 (0.260)
LnNIETA	-0.170*** (0.000)	-0.108** (0.015)	0.0139 (0.863)	0.0139 (0.911)	-0.169*** (0.000)	-0.109** (0.014)	-0.000397 (0.996)	-0.109** (0.036)	-0.172*** (0.000)	-0.140*** (0.001)	-0.0540 (0.462)	-0.0540 (0.623)
LnGDP	-0.524 (0.320)	-0.356 (0.372)	-0.311 (0.426)	-0.311 (0.205)	-0.824 (0.108)	-0.724* (0.054)	-0.668* (0.073)	-0.724*** (0.003)	0.821 (0.111)	0.897** (0.014)	0.924** (0.012)	0.924*** (0.001)
LnINFL	0.00708 (0.502)	0.00552 (0.491)	0.00382 (0.627)	0.00382 (0.475)	-0.000108 (0.992)	-0.00259 (0.730)	-0.00333 (0.656)	-0.00259 (0.579)	0.000168 (0.986)	-0.00106 (0.878)	-0.00121 (0.862)	-0.00121 (0.790)
LnTXB	0.352 (0.803)	-0.379 (0.723)	-0.364 (0.729)	-0.364 (0.705)								
LnGOV_SP					0.668*** (0.000)	0.675*** (0.000)	0.641*** (0.000)	0.675*** (0.000)				
LnFIS_HLTH									10.16*** (0.000)	10.04*** (0.000)	9.918*** (0.000)	9.918*** (0.000)
_cons	12.37 (0.377)	11.54 (0.276)	11.84 (0.253)	11.84 (0.120)	19.12 (0.150)	16.73* (0.086)	16.46* (0.089)	16.73*** (0.008)	-65.33*** (0.000)	-66.88*** (0.000)	-66.92*** (0.000)	-66.92*** (0.000)
N	594	594	594	594	594	594	594	594	594	594	594	594
R-Squared	0.468	0.442	0.505	0.505	0.498	0.468	0.524	0.482	0.547	0.474	0.544	0.544
Adjusted R-Squared	0.451	0.424	0.489	0.489	0.475	0.449	0.513	0.468	0.513	0.459	0.531	0.531
Hausman			18.63				11.39				17.11	
F-Test	26.80	30.06	72.11	63.02	31.08	51.98	62.90	55.64	38.88	39.46	41.97	76.69

p-values in parentheses

Source: own calculations

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 14: Regression Results on Conventional Banks Scale Efficiency (SE)

	Model 31				Model 32				Model 33			
	POLS	RE	FE	Robust-FE	POLS	RE	FE	Robust-FE	POLS	RE	FE	Robust-FE
LnTA	-0.115*** (0.000)	-0.104*** (0.000)	-0.0971* (0.096)	-0.0971 (0.425)	-0.118*** (0.000)	-0.118*** (0.000)	-0.218*** (0.000)	-0.218* (0.068)	-0.116*** (0.000)	-0.109*** (0.000)	-0.141** (0.015)	-0.141 (0.239)
LnLLRGL	0.0215 (0.103)	0.0197 (0.115)	0.0177 (0.187)	0.0177 (0.333)	0.0224* (0.095)	0.0223* (0.087)	0.0186 (0.183)	0.0186 (0.328)	0.0193 (0.143)	0.0177 (0.163)	0.0154 (0.257)	0.0154 (0.393)
LnETA	-0.0834** (0.022)	-0.0739 (0.123)	-0.0519 (0.376)	-0.0519 (0.536)	-0.0982*** (0.008)	-0.121** (0.013)	-0.116* (0.052)	-0.116 (0.177)	-0.0872** (0.016)	-0.0908* (0.057)	-0.0771 (0.188)	-0.0771 (0.370)
LnLOANSTA	-0.0765** (0.033)	-0.128** (0.018)	-0.227*** (0.004)	-0.227 (0.251)	-0.0642* (0.077)	-0.0908* (0.098)	-0.156* (0.056)	-0.156 (0.424)	-0.0726** (0.042)	-0.115** (0.033)	-0.203** (0.011)	-0.203 (0.327)
LnNIETA	-0.171*** (0.000)	-0.125*** (0.005)	-0.0136 (0.854)	-0.0136 (0.905)	-0.167*** (0.000)	-0.113** (0.012)	-0.0407 (0.596)	-0.0407 (0.715)	-0.169*** (0.000)	-0.122*** (0.005)	-0.0276 (0.711)	-0.0276 (0.806)
LnGDP	-1.570*** (0.002)	-1.446*** (0.000)	-1.377*** (0.000)	-1.377*** (0.000)	-3.793*** (0.000)	-3.461*** (0.000)	-3.242*** (0.000)	-3.242*** (0.000)	0.641 (0.212)	0.675* (0.067)	0.671* (0.071)	0.671* (0.012)
LnINFL	0.0226** (0.024)	0.0205*** (0.004)	0.0198*** (0.007)	0.0198*** (0.001)	0.0497*** (0.000)	0.0444*** (0.000)	0.0411*** (0.000)	0.0411*** (0.000)	0.0191* (0.054)	0.0165** (0.021)	0.0154** (0.033)	0.0154*** (0.005)
LnBUSS_FREE	7.982*** (0.000)	7.810*** (0.000)	7.680*** (0.000)	7.680*** (0.000)								
LnLBR_FREE					10.11*** (0.000)	9.391*** (0.000)	8.790*** (0.000)	8.790*** (0.000)				
LnMONE_FREE									-4.126*** (0.000)	-3.887*** (0.000)	-3.712*** (0.000)	-3.712*** (0.000)
_cons	6.692 (0.603)	4.241 (0.642)	3.257 (0.723)	3.257 (0.597)	56.93*** (0.000)	51.51*** (0.000)	49.39*** (0.000)	49.39*** (0.000)	1.432 (0.912)	-0.396 (0.966)	-0.463 (0.960)	-0.463 (0.941)
N	594	594	594	594	594	594	594	594	594	594	594	594
R-Squared	0.339	0.410	0.450	0.450	0.416	0.461	0.493	0.493	0.439	0.412	0.436	0.436
Adjusted R-Squared	0.324	0.402	0.442	0.442	0.399	0.453	0.472	0.472	0.423	0.401	0.419	0.419
Hausman			46.81				39.46				49.12	
F-Test	37.47	33.91	20.42	88.89	33.82	38.46	44.72	57.27	37.48	41.67	18.99	69.15

p-values in parentheses

Source: own calculations

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 15: Regression Results on Conventional Banks Scale Efficiency (SE)

	Model 34				Model 35				Model 36			
	POLS	RE	FE	Robust-FE	POLS	RE	FE	Robust-FE	POLS	RE	FE	Robust-FE
LnTA	-0.120*** (0.000)	-0.124*** (0.000)	-0.247*** (0.000)	-0.247* (0.051)	-0.116*** (0.000)	-0.109*** (0.000)	-0.149** (0.012)	-0.149 (0.215)	-0.119*** (0.000)	-0.121*** (0.000)	-0.231*** (0.000)	-0.231* (0.065)
LnLLRGL	0.0416*** (0.002)	0.0464*** (0.001)	0.0405*** (0.005)	0.0405* (0.055)	0.0216 (0.105)	0.0207 (0.106)	0.0186 (0.175)	0.0186 (0.317)	0.0368*** (0.006)	0.0409*** (0.002)	0.0360** (0.012)	0.0360* (0.074)
LnETA	-0.128*** (0.001)	-0.192*** (0.000)	-0.208*** (0.001)	-0.208** (0.043)	-0.0847** (0.021)	-0.0784 (0.108)	-0.0619 (0.304)	-0.0619 (0.457)	-0.121*** (0.001)	-0.177*** (0.000)	-0.193*** (0.002)	-0.193* (0.058)
LnLOANSTA	-0.0477 (0.202)	-0.0627 (0.265)	-0.139 (0.105)	-0.139 (0.452)	-0.0744** (0.039)	-0.115** (0.035)	-0.190** (0.018)	-0.190 (0.314)	-0.0514 (0.165)	-0.0676 (0.217)	-0.151* (0.075)	-0.151 (0.440)
LnNIETA	-0.170*** (0.000)	-0.0954** (0.038)	0.0151 (0.852)	0.0151 (0.904)	-0.172*** (0.000)	-0.132*** (0.003)	-0.0507 (0.505)	-0.0507 (0.648)	-0.169*** (0.000)	-0.105** (0.018)	0.00817 (0.918)	0.00817 (0.947)
LnGDP	-0.593 (0.301)	-0.459 (0.282)	-0.407 (0.335)	-0.407 (0.170)	1.293** (0.021)	1.338*** (0.001)	1.292*** (0.002)	1.292*** (0.000)	-1.035* (0.053)	-0.808** (0.043)	-0.703* (0.075)	-0.703** (0.012)
LnINFL	0.00824 (0.431)	0.00532 (0.497)	0.00375 (0.630)	0.00375 (0.487)	-0.0118 (0.250)	-0.0129* (0.082)	-0.0125* (0.093)	-0.0125** (0.013)	0.00845 (0.408)	0.00560 (0.465)	0.00408 (0.591)	0.00408 (0.422)
LnTADE_FREE	0.822 (0.705)	0.781 (0.630)	0.661 (0.683)	0.661 (0.644)								
LnINV_FREE					-2.526*** (0.000)	-2.450*** (0.000)	-2.336*** (0.000)	-2.336*** (0.000)				
LnFIN_FREE									6.745*** (0.000)	5.444*** (0.000)	4.690*** (0.001)	4.690*** (0.003)
_cons	12.02 (0.388)	9.163 (0.377)	9.829 (0.343)	9.829 (0.173)	-22.76 (0.102)	-24.20** (0.016)	-22.90** (0.025)	-22.90*** (0.002)	-0.912 (0.948)	-1.017 (0.922)	0.758 (0.942)	0.758 (0.919)
N	594	594	594	594	594	594	594	594	594	594	594	594
R-Squared	0.468	0.474	0.505	0.505	0.426	0.463	0.415	0.415	0.485	0.423	0.426	0.426
Adjusted R-Squared	0.451	0.461	0.485	0.485	0.411	0.451	0.403	0.403	0.475	0.410	0.409	0.409
Hausman			43.27				39.62				40.51	
F-Test	26.82	33.71	72.18	21.01	35.39	37.93	46.78	69.42	29.12	37.11	48.34	27.35

p-values in parentheses

Source: own calculations

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

GENERALIZED METHOD OF MOMENTS (GMM RESULTS)

Table 16: GMM Results for Overall Technical Efficiency (OTE)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
LLNOTE	0.774** *	1.045** *	1.016***	1.041***	1.029***	0.822***	0.867***	0.979***	0.858***	0.992***	0.818***	0.861***
	[0.05]	[0.07]	[0.06]	[0.07]	[0.09]	[0.06]	[0.06]	[0.06]	[0.05]	[0.08]	[0.06]	[0.06]
LnTA	-0.030	-0.020	0.011	-0.005	-0.015	0.026	0.013	0.000	0.028	-0.017	0.029	0.040*
	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.03]	[0.03]	[0.03]	[0.02]	[0.04]	[0.03]	[0.02]
LnLLRGL	0.109** *	0.160** *	0.134***	0.132***	0.178***	0.059*	0.091***	0.099***	0.047	0.159***	0.054	0.056
	[0.03]	[0.04]	[0.04]	[0.04]	[0.04]	[0.03]	[0.03]	[0.04]	[0.03]	[0.04]	[0.03]	[0.04]
LnETA	-0.203	-	-0.306*	-0.371**	-0.364*	0.053	-0.066	-0.168	0.033	-0.341*	0.066	0.007
	[0.14]	[0.18]	[0.18]	[0.18]	[0.19]	[0.13]	[0.12]	[0.13]	[0.13]	[0.20]	[0.13]	[0.14]
LnLOANSTA	-0.061	0.033	0.006	0.052	0.057	-0.049	-0.028	0.026	-0.054	0.029	-0.053	-0.060
	[0.18]	[0.13]	[0.13]	[0.11]	[0.14]	[0.10]	[0.10]	[0.09]	[0.09]	[0.14]	[0.10]	[0.10]
LnNIETA	-0.135	0.012	0.001	0.033	-0.050	-0.194**	-0.154*	-0.066	-0.151*	-0.026	-0.196**	-0.142
	[0.08]	[0.12]	[0.11]	[0.11]	[0.12]	[0.08]	[0.08]	[0.09]	[0.08]	[0.13]	[0.08]	[0.09]
LnGDP	-	-0.489	2.364***	-0.442	-1.114**	0.823**	-2.609***	-7.794***	2.217***	-1.303**	2.429***	-0.851**
	[0.48]	[0.61]	[0.48]	[0.51]	[0.39]	[0.47]	[0.91]	[0.41]	[0.53]	[0.44]	[0.38]	[0.38]
LnINFL	-	-	-0.034***	-0.061***	-0.035**	-0.046***	0.005	0.046***	-0.004	0.004	-	-0.019*
	[0.01]	[0.01]	[0.01]	[0.01]	[0.02]	[0.01]	[0.01]	[0.01]	[0.01]	[0.02]	[0.01]	[0.01]
LnOVER_FRE E	-	-	17.717** *	-	-	-	-	-	-	-	0.108***	-
	[2.52]	[2.52]	[2.52]	[2.52]	[2.52]	[2.52]	[2.52]	[2.52]	[2.52]	[2.52]	[2.52]	[2.52]
LnTXB	-	-	-	12.338** *	-	-	-	-	-	-	-	-
	[2.18]	[2.18]	[2.18]	[2.18]	[2.18]	[2.18]	[2.18]	[2.18]	[2.18]	[2.18]	[2.18]	[2.18]
LnGOV_SP	-	-	-	-	0.739*** [0.19]	-	-	-	-	-	-	-
	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]	[0.19]
LnFIS_HLTH	-	-	-	-	-	23.216*** [2.03]	-	-	-	-	-	-
	[2.03]	[2.03]	[2.03]	[2.03]	[2.03]	[2.03]	[2.03]	[2.03]	[2.03]	[2.03]	[2.03]	[2.03]
LnBUSS_FREE	-	-	-	-	-	-	14.398** *	-	-	-	-	-
	[1.58]	[1.58]	[1.58]	[1.58]	[1.58]	[1.58]	[1.58]	[1.58]	[1.58]	[1.58]	[1.58]	[1.58]
LnLBR_FREE	-	-	-	-	-	-	-	20.134*** [2.13]	-	-	-	-
	[2.13]	[2.13]	[2.13]	[2.13]	[2.13]	[2.13]	[2.13]	[2.13]	[2.13]	[2.13]	[2.13]	[2.13]
LnMONE_FRE E	-	-	-	-	-	-	-	-	8.525*** [0.72]	-	-	-
	[0.72]	[0.72]	[0.72]	[0.72]	[0.72]	[0.72]	[0.72]	[0.72]	[0.72]	[0.72]	[0.72]	[0.72]
LnTADE_FREE	-	-	-	-	-	-	-	-	-	23.863** *	-	-
	[5.71]	[5.71]	[5.71]	[5.71]	[5.71]	[5.71]	[5.71]	[5.71]	[5.71]	[5.71]	[5.71]	[5.71]
LnINV_FREE	-	-	-	-	-	-	-	-	-	-	-	-
	[9.373]	[9.373]	[9.373]	[9.373]	[9.373]	[9.373]	[9.373]	[9.373]	[9.373]	[9.373]	[9.373]	[9.373]
LnFIN_FREE	-	-	-	-	-	-	-	-	-	-	-	38.147*** [3.26]
	[3.26]	[3.26]	[3.26]	[3.26]	[3.26]	[3.26]	[3.26]	[3.26]	[3.26]	[3.26]	[3.26]	[3.26]
Constant	-0.138	13.673	13.425	-	26.880* *	-	5.276	119.279** *	-	-	-	-
	[0.75]	[12.78]	[11.24]	[16.00]	[13.22]	[15.14]	[9.68]	[16.59]	[9.68]	[22.71]	[10.05]	[15.81]
Observations No. of instruments	681 83	504 84	504 85	504 85	504 85	504 85	504 85	504 85	504 85	504 85	504 85	504 85
No. of groups	95	94	94	94	94	94	94	94	94	94	94	94
Arellano-Bond: AR(1)	0.001	0.001	0.004	0.001	0.000	0.001	0.002	0.000	0.000	0.001	0.001	0.000
Arellano-Bond: AR(2)	0.053	0.565	0.390	0.927	0.442	0.754	0.564	0.896	0.859	0.947	0.885	0.762
Hansen test (p- val)	0.212	0.145	0.121	0.182	0.159	0.172	0.166	0.151	0.173	0.157	0.181	0.148

Standard errors in brackets

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 17: GMM Results for Pure Technical Efficiency (PTE)

	Model 13	Model 14	Model 15	Model 16	Model 17	Model 18	Model 19	Model 20	Model 21	Model 22	Model 23	Model 24
L.LNPTE	0.912*** [0.09]	0.999*** [0.06]	1.015*** [0.13]	1.036*** [0.14]	1.055*** [0.13]	0.928*** [0.07]	0.956*** [0.07]	0.976*** [0.07]	0.936*** [0.08]	1.006*** [0.07]	0.923*** [0.07]	0.922*** [0.07]
LnTA	0.039 [0.03]	0.088** [0.04]	0.054 [0.05]	0.045 [0.05]	0.059 [0.05]	0.104*** [0.04]	0.095** [0.04]	0.095** [0.04]	0.104*** [0.04]	0.082** [0.04]	0.105*** [0.04]	0.109*** [0.04]
LnLLRGL	0.039 [0.03]	0.094** [0.04]	0.076** [0.04]	0.079** [0.04]	0.090** [0.04]	0.067* [0.04]	0.080** [0.04]	0.090** [0.04]	0.070* [0.04]	0.098** [0.04]	0.065* [0.04]	0.059 [0.04]
LnETA	-0.074 [0.12]	-0.069 [0.15]	-0.046 [0.14]	-0.071 [0.15]	-0.116 [0.11]	0.066 [0.18]	0.014 [0.17]	-0.046 [0.16]	0.040 [0.17]	-0.087 [0.15]	0.073 [0.19]	0.050 [0.16]
LnLOANSTA	0.004 [0.11]	0.003 [0.09]	-0.019 [0.10]	-0.009 [0.12]	0.029 [0.12]	-0.026 [0.09]	-0.013 [0.09]	0.006 [0.09]	-0.018 [0.09]	0.014 [0.09]	-0.028 [0.09]	-0.016 [0.09]
LnNIETA	-0.113* [0.07]	-0.013 [0.10]	-0.068 [0.10]	-0.046 [0.10]	-0.040 [0.09]	-0.073 [0.10]	-0.058 [0.10]	-0.026 [0.10]	-0.058 [0.10]	-0.016 [0.09]	-0.074 [0.10]	-0.054 [0.09]
LnGDP		-0.511	0.095	-0.544	-0.470	-0.111	-	-1.961**	0.218	-0.973**	0.402	-0.523
							1.167***					
LnINFL		[0.36] -0.015*	[0.59] -0.015**	[0.38] -0.016*	[0.47] -0.013	[0.36] -	[0.42] -0.005	[1.00] 0.000	[0.46] -0.007	[0.42] 0.006	[0.45] -	[0.32] -0.009
						0.020***					0.039***	
LnOVER_FREE		[0.01]	[0.01] -4.196* [2.29]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]
LnTXB				1.237 [1.73]								
LnGOV_SP					0.044 [0.12]							
LnFIS_HLTH						7.127*** [2.22]						
LnBUSS_FREE							4.214*** [1.41]					
LnLBR_FREE								3.890 [2.71]				
LnMONE_FREE									-2.334** [0.96]			
LnTADE_FREE										13.231*** [3.42]		
LnINV_FREE											- 2.900*** [0.91]	
LnFIN_FREE												12.110*** [4.27]
Constant	-0.706 [0.69]	12.559 [9.42]	14.459 [10.03]	8.365 [14.28]	11.644 [12.23]	- 29.439*	11.122 [16.34]	34.009** [9.17]	3.181 [15.69]	- 34.360*** [11.67]	0.480 [9.68]	-38.185* [21.28]
Observations	681	504	504	504	504	504	504	504	504	504	504	504
No. of instruments	83	84	85	85	85	85	85	85	85	85	85	85
No. of groups	95	94	94	94	94	94	94	94	94	94	94	94
Arellano-Bond: AR(1)	0.017	0.046	0.047	0.047	0.041	0.042	0.043	0.040	0.044	0.042	0.041	0.046
Arellano-Bond: AR(2)	0.118	0.313	0.312	0.312	0.306	0.344	0.352	0.351	0.355	0.310	0.341	0.316
Hansen test (p-val)	0.406	0.339	0.104	0.108	0.209	0.296	0.295	0.245	0.278	0.458	0.302	0.367

Standard errors in brackets

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 18: GMM Results for Scale Efficiency (SE)

	Model 25	Model 26	Model 27	Model 28	Model 29	Model 30	Model 31	Model 32	Model 33	Model 34	Model 35	Model 36
L.NLSE	0.455*** [0.08]	0.547*** [0.09]	0.758*** [0.11]	0.776*** [0.12]	0.587*** [0.11]	0.712*** [0.12]	0.656*** [0.11]	0.806*** [0.10]	0.776*** [0.11]	0.615*** [0.12]	0.724*** [0.12]	0.793*** [0.10]
LnTA	-	-	-0.122***	-	-	-0.107***	-	-0.108***	-	-0.151***	-	-0.097***
LnLLRGL	0.122*** [0.03]	0.192*** [0.04]	0.026 [0.04]	0.121*** [0.04]	0.141*** [0.04]	-0.010 [0.05]	0.010 [0.04]	-0.023 [0.05]	-0.030 [0.04]	0.032 [0.05]	-0.015 [0.05]	-0.025 [0.04]
LnETA	-	-	-0.220	-0.235**	-0.274**	-0.062	-0.120	-0.169	-0.071	-0.305**	-0.052	-0.066
LnLOANSTA	0.247** [0.10]	0.537*** [0.11]	0.16 [0.16]	0.11 [0.11]	0.12 [0.12]	0.14 [0.14]	0.12 [0.12]	0.13 [0.13]	0.11 [0.11]	0.13 [0.13]	0.13 [0.13]	0.11 [0.11]
LnNIETA	-0.088 [0.14]	-0.065 [0.18]	0.015 [0.12]	0.037 [0.08]	0.035 [0.10]	-0.087 [0.10]	-0.060 [0.11]	-0.004 [0.08]	-0.058 [0.09]	0.035 [0.10]	-0.090 [0.10]	-0.061 [0.10]
LnGDP	-0.071 [0.08]	0.047 [0.11]	-0.119* [0.07]	-0.087 [0.09]	-0.115 [0.09]	-0.143** [0.07]	-	-0.047 [0.09]	-0.099* [0.06]	-0.126 [0.10]	-0.138** [0.06]	-0.101* [0.06]
LnINFL	-	-0.155 [0.36]	1.605*** [0.55]	0.005 [0.37]	-0.747** [0.33]	0.788** [0.35]	-	-5.792*** [0.83]	1.728*** [0.48]	-0.496 [0.40]	1.775*** [0.44]	-0.155 [0.34]
LnOVER_FREE	-	-0.009 [0.01]	-0.009 [0.01]	-	-0.008 [0.01]	-0.022*** [0.01]	0.011 [0.01]	0.045*** [0.01]	0.003 [0.01]	0.014* [0.01]	-	-0.007 [0.01]
LnTXB	-	-	10.359*** [2.21]	8.459*** [1.86]	-	-	-	-	-	-	-	-
LnGOV_SP	-	-	-	-	0.668*** [0.11]	-	-	-	-	-	-	-
LnFIS_HLTH	-	-	-	-	-	14.265*** [2.41]	-	-	-	-	-	-
LnBUSS_FREE	-	-	-	-	-	-	9.017*** [1.39]	-	-	-	-	-
LnLBR_FREE	-	-	-	-	-	-	-	15.638*** [2.41]	-	-	-	-
LnMONE_FREE	-	-	-	-	-	-	-	-	-	-	-	-
LnTADE_FREE	-	-	-	-	-	-	-	-	5.530*** [0.85]	-	-	-
LnINV_FREE	-	-	-	-	-	-	-	-	-	13.694*** [3.51]	-	-
LnFIN_FREE	-	-	-	-	-	-	-	-	-	-	5.800*** [0.95]	-
Constant	1.080** [0.47]	6.832 [9.34]	2.705 [9.15]	- 35.550** [14.33]	18.133** [8.61]	- 82.012*** [16.60]	-2.504 [8.67]	86.837*** [13.14]	- 20.371** [10.23]	- 46.892*** [12.54]	- 21.055** [9.35]	- 90.425*** [19.11]
Observations	681	504	504	504	504	504	504	504	504	504	504	504
No. of instruments	83	85	85	85	85	85	85	85	85	85	85	85
No. of groups	95	94	94	94	94	94	94	94	94	94	94	94
Arellano-Bond:	0.001	0.003	0.010	0.037	0.031	0.037	0.013	0.032	0.034	0.032	0.035	0.013
AR(1)												
Arellano-Bond:	0.230	0.387	0.528	0.379	0.299	0.325	0.352	0.285	0.280	0.403	0.315	0.327
AR(2)												
Hansen test (p-val)	0.232	0.075	0.182	0.207	0.272	0.146	0.128	0.197	0.163	0.295	0.154	0.215

Standard errors in brackets

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

KRISIS JAMINAN KERJA DALAM SEKTOR PERHOTELAN DI MALAYSIA TERHADAP HASRAT UNTUK BERHENTI KERJA SEMASA PANDEMIK COVID-19

Samihah Suhail¹
Norsiah Mat²
Zuraida Hassan³

¹School of Business Management, Universiti Utara Malaysia (UUM), Malaysia,
(E-mail: amihah_02@yahoo.co.uk)

²School of Business Management, Universiti Utara Malaysia (UUM), Malaysia,
(Email: norsiah@uum.edu.my)

³School of Business Management, Universiti Utara Malaysia (UUM), Malaysia, (Email:h.zuraida@uum.edu.my)

Abstract: *Kemunculan wabak COVID-19 di Malaysia pada awal tahun lalu telah menyebabkan industri pelancongan dihimpit dengan pelbagai cabaran. Berdasarkan statistik semasa bagi tahun 2019 yang merekodkan peningkatan ketibaan pelancong asing sebanyak 2.7 peratus, dengan pertambahan pendapatan sebanyak 6.8 peratus berbanding tahun sebelumnya. Bagaimanapun, sektor pelancongan negara mengalami kemerosotan teruk dalam peratusan kedatangan pelancong asing akibat penularan wabak COVID-19. Krisis COVID-19 merupakan satu krisis baru yang melanda industri perhotelan di seluruh dunia termasuk Malaysia. Kesuraman industri pelancongan sekaligus menjejaskan bilangan pengunjung dan pelancong yang menetap di hotel. Ini kerana Malaysia adalah salah satu negara yang diterajui oleh pelancongan yang industri perhotelan merupakan penyumbang utama kepada KDNK keseluruhan ekonomi negara. Ini mengakibatkan banyak hotel di Malaysia terpaksa ditutup sementara atau gulung tikar. Untuk rekod, sebanyak 109 hotel terpaksa di tutup pada tahun 2020. Berdasarkan data daripada Persatuan Hotel Malaysia pada tahun 2020, sebanyak 542 orang bersamaan 3 peratus pekerja diberhentikan kerja, manakala 20 peratus (3,641) diminta untuk mengambil cuti tanpa gaji dan sebanyak (2,880) 16 peratus telah menghadapi pemotongan gaji. Di pihak pengurusan hotel, langkah pemotongan gaji, pemberhentian ganjaran dan pembuangan pekerja adalah sebahagian tindakan drastik yang terpaksa dilakukan bagi memastikan kelangsungan perniagaan. Namun, pendekatan ini dilihat sebagai tidak wajar kepada golongan pekerja sektor perhotelan. Data kajian ini melibatkan responden daripada negeri Kedah. Oleh itu, kajian ini bertujuan untuk mengenal pasti hubungan jaminan kerja terhadap hasrat untuk berhenti kerja semasa krisis COVID-19. Selain itu, data kajian ini dikutip menggunakan borang soal selidik yang diedarkan manakala untuk proses analisis data pula menggunakan aplikasi Statistical Packages for Social Science (SPSS). Hasil analisis mendapati jaminan kerja tidak mempunyai hubungan yang signifikan terhadap hasrat untuk berhenti kerja.*

Kata Kunci: *Jaminan Kerja, Pekerja Hotel, Sektor Perhotelan dan Covid-19*

Pengenalan

11 Mac 2020 merupakan satu tarikh keramat yang akan terus diingati berikutan Pertubuhan Kesihatan Sedunia (WHO), telah mengisytiharkan secara rasmi penularan wabak COVID-19 sebagai satu pandemik setelah ia merebak secara global yang melibatkan kebanyakan negara di seluruh dunia (Aziz, 2020). Berdasarkan rekod dari Pertubuhan Kesihatan Sedunia (WHO), sebanyak 187 juta kes positif dan 4.05 juta kematian direkodkan pada 15 Julai 2021 yang di laporkan di seluruh dunia. Manakala di Malaysia pula, jumlah positif yang direkodkan sehingga 15 Julai 2021 ialah sebanyak 880,782 kes positif dan 6,613 kes kematian dilaporkan (Laporan Statistik Kementerian Kesihatan Malaysia, 2021) yang telah memberi impak besar kepada Malaysia terutamanya sektor ekonomi (pelancongan & perhotelan), politik, pendidikan, sosial dan kesihatan negara.

Kes yang terus meningkat dari sehari ke sehari menyebabkan Perintah Kawalan Pergerakan (PKP) terpaksa diisytiharkan oleh pihak kerajaan untuk memutuskan rantai COVID-19 dari terus merebak. Peringkat permulaan Perintah Kawalan Pergerakan (PKP) telah dilaksanakan pada 18 Mac 2020 dan secara berperingkat sehingga ke fasa yang terakhir iaitu Perintah Kawalan Pergerakan Pemulihan (PKPP) yang berakhir pada 31 Disember 2020.

Berikutan dengan peningkatan kes, kebanyakan negara mengumumkan penutupan pintu negara dan perjalanan kemasukan ke sesebuah negara juga terbatas. Industri pelancongan dan perhotelan mengalami kesan kejatuhan yang negatif dan sangat besar dari segi ekonomi. Oleh yang demikian, Kementerian Pelancongan terpaksa menamatkan kempen Melawat Malaysia 2020 yang mana dapat menarik hampir 30 juta pelancong berdasarkan sasaran Kementerian Pelancongan (Zubir & Shamsudin, 2021). Persatuan Hotel Malaysia (MAH) menganggarkan kerugian RM560.72 juta pendapatan semasa tempoh Perintah Kawalan Pergerakan (PKP).

Selain itu, turut terkesan dengan krisis daripada pandemik ini ialah para pekerja yang bekerja di dalam sektor perhotelan. Berdasarkan data daripada Persatuan Hotel Malaysia (MAH) sebanyak 4 peratus bersamaan dengan dengan 2,041 pekerja yang diberhentikan kerja pada tahun 2020. Peratusan ini dijangka akan terus meningkat berikutan beberapa hotel yang terpaksa di tutup sepenuhnya impak daripada pemanjangan tempoh Perintah Kawalan Pergerakan (PKP) yang dilaksanakan (Ramli, 2021).

Berdasarkan Persatuan Hotel Malaysia (MAH), jadual di bawah menunjukkan kesan COVID-19 kepada pekerja hotel di Malaysia.

<i>Rank</i>	Negeri	Jumlah Pekerja (sampel size)	Bilangan Pekerja yang Diberhentikan	Bilangan Pekerja yang Menghadapi Pemotongan Gaji	Bilangan Pekerja yang Menghadapi Cuti tanpa Gaji
1	Kuala Lumpur	17,826	542	2880	3641
2	Perak	1653	245	91	595
3	Selangor	7981	238	134	1812
4	Pahang	1464	231	0	150
5	Sabah	4934	177	893	1075
6	Negeri Sembilan	1452	130	0	179
7	Sarawak	3488	92	175	258
8	Langkawi	4314	92	340	902
9	Melaka	1872	85	65	191
10	Penang	5549	84	240	430
11	Johor	3215	72	108	202
12	Terengganu	1298	53	52	101
13	Kelantan	560	0	76	157
14	Kedah	692	0	0	80
	Total	56,298	2041	5054	9773

Sumber: *Persatuan Hotel Malaysia (2020)*.

Walau bagaimanapun, menurut Setiausaha Jeneral Kesatuan Nasional Hotel, Pekerja Bar dan Restoran Semenanjung Malaysia, mereka tidak mempunyai bilangan pekerja hotel yang sebenarnya yang terkesan dengan krisis ini kerana sebilangan besar hotel tidak berdaftar dengan kesatuan (Malay Mail, 2020).

Penutupan syarikat penerbangan, hotel, tempat hiburan, tempat pelancongan, *homestay* dan pengangkutan, penurunan yang besar kemasukan pelancong menyebabkan pemilik industri hotel tidak dapat bertahan dan ini memberi impak kepada pekerja yang menyebabkan kenaikan kadar pengangguran terus meningkat di seluruh dunia kerana sebahagian syarikat besar, organisasi korporat melakukan pengurangan dan pemecatan pekerja serta diberikan cuti tanpa gaji untuk jangka masa yang tidak diketahui. Menurut Karim, Haque, Anis dan Ulfy (2020), walaupun satu tahun telah berlalu, pandemik ini masih berterusan. Ia secara tidak langsung mendorong kejatuhan industri pelancongan dan perhotelan di Malaysia dan sektor perkhidmatan turut merasa tempas impak daripada pandemik ini.

Oleh yang demikian, kajian ini membincangkan krisis jaminan kerja dalam sektor perhotelan di Malaysia yang memfokuskan negeri Kedah terhadap hasrat untuk berhenti kerja terutamanya semasa pandemik Covid-19.

Jaminan Kerja

Jaminan kerja merujuk kepada jangkaan dan harapan pekerja mengenai kestabilan dan jangka hayat pekerjaan mereka di dalam sesebuah organisasi (Pacheco, Coulombe, Khalil, Meunier, Doucerain, Auger & Cox, 2020; Davy, Kinicki & Scheck, 1997; Greenhalgh & Rosenblatt, 1984; Kraimer, Wayne, Liden & Sparrowe, 2005). Menurut Dhanpat, Manakan, Mbacaza, Mokone dan Mtongana (2019), jaminan kerja digunakan sebagai motivasi kepada pekerja

untuk terus berusaha dalam mencapai matlamat organisasi dan memastikan kejayaan organisasi ini kerana konsep jaminan kerja merujuk kepada “memiliki kuasa dan kawalan dalam pengaturan pekerjaan dan jaminan untuk masa depan pekerjaan”.

Secara umumnya, seseorang pekerja berpendapat bahawa jaminan kerja akan meningkatkan penglibatan pekerja dalam organisasi dan secara realistiknya, organisasi yang mewujudkan ikatan dengan komitmen terhadap pekerja akan mendapat balasan sebaliknya. Oleh yang demikian, kajian menunjukkan jaminan kerja secara positifnya berkait dengan hasrat untuk berhenti kerja dan sebagai penentu kepada pusing ganti yang sebenar (Huselid, 1995). Menurut Nicholson dan Johnson (1985) pekerja yang telah banyak menyumbang kepada organisasi akan mendapat peluang mengenai jaminan dan peluang dalam kerjaya sebagai pengganti kepada kesetiaan mereka.

Sehubungan itu, penyelidikan menunjukkan bahawa bencana alam dan krisis kesihatan awam memberi kesan ekonomi yang negatif kepada sesebuah negara (Qin & Jiang, 2011; Mastroianni, 2009). Sebaliknya, apabila jaminan pekerjaan tiada di dalam sesebuah organisasi, pekerja akan merasakan bahawa majikan telah gagal memenuhi tanggungjawab mereka dan adalah tidak adil bagi pekerja untuk terus kekal di dalam organisasi kerana tiada jaminan jika berlaku sesuatu yang tidak diinginkan (Lu, Du, Xu, dan Zhang, 2016). Sebagai contoh, seperti krisis kesihatan yang berlaku pada tahun 2020 di mana tiada sesiapa dapat meramalkan krisis ini akan terjadi sehingga menyebabkan pekerja kehilangan pekerjaan.

Walau bagaimanapun, jaminan kerja tidak dapat mempengaruhi hasrat untuk berhenti kerja semasa pandemik COVID-19, untuk jangka masa pendek, golongan muda adalah yang paling terjejas dengan kontrak pekerjaan. Namun, untuk jangka masa panjang, apabila berlakunya penutupan syarikat, golongan veteran lebih merasai kesannya, ini kerana mereka akan menghadapi kesukaran untuk mendapat kembali peluang dalam pekerjaan berdasarkan beberapa faktor seperti umur dan gaji.

Menurut Couch, Fairlie dan Xu (2020), walaupun kerajaan Amerika Syarikat telah mempraktikkan proses melambatkan penularan wabak ini, seperti melaksanakan polisi penjarakan sosial dan kawalan pergerakan yang ketat di mana kebanyakannya rakyatnya terpaksa menutup perniagaan dan diberhentikan kerja terutama sekali dalam sektor yang dianggap bukan permintaan. Dan ini dilihat memberikan impak yang besar terhadap pergolakan dalam pasaran saham dan peningkatan dalam sektor pengangguran.

Oleh yang demikian, kestabilan ekonomi merupakan salah satu faktor penting dalam pertumbuhan sesebuah sektor. Sehubungan itu, krisis ekonomi adalah keadaan yang mana ketika pekerja terjejas dan ini menimbulkan persepsi bahawa jaminan kerja mereka tidak lagi terjamin. Sebagai kesimpulan, krisis ekonomi akan meningkatkan rasa tidak selamat individu terhadap pekerjaannya yang boleh menjadi faktor kepada pelbagai masalah psikologi seperti, tekanan, kemurungan dan kegelisahan semasa krisis COVID-19 ini melanda (Khan, Niazi, Nasir, Hussain & Khan, 2021).

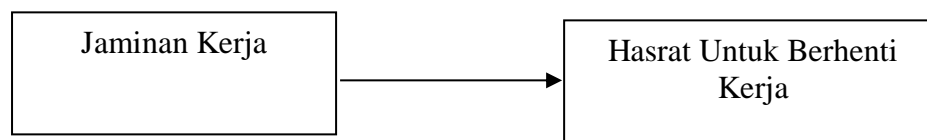
H1: Jaminan kerja mempunyai hubungan positif yang signifikan terhadap hasrat untuk berhenti kerja.

Hasrat untuk Berhenti Kerja

Hasrat untuk berhenti kerja adalah pandangan individu bahawa mereka merancang untuk meninggalkan majikan mereka sekarang (Munyaka, Boshoff, Pietersen & Snelgar, 2017). Menurut Loquercio, Hammersley dan Emmens (2006), pekerja yang meninggalkan organisasi sebelum berakhir tempoh perkhidmatan dikenali dengan pusing ganti, manakala pekerja yang berhasrat untuk meninggalkan organisasi pada sesuatu tempoh tertentu atau sebelum berakhirnya kontrak perkhidmatan dikenali sebagai hasrat untuk berhenti kerja. Untuk itu hasrat untuk berhenti kerja menjadi perhatian kepada para professional dan ahli akademik berikutan kesannya yang mendalam dan negatif terhadap sesebuah organisasi (Joarder, Muhammad Subhan, Abdul Ghani & Rabiul Islam, 2015).

Kerangka Kajian

Model ini merupakan model kajian yang dilakukan dalam konteks sektor industri hotel di Malaysia dan untuk memahami hubungan di antara jaminan kerja terhadap hasrat untuk berhenti kerja di kalangan pekerja hotel.



Metadologi

Persampelan kluster digunakan di dalam kajian ini untuk memperoleh maklumat melalui sampel yang akan mewakili populasi. Populasi sasaran untuk kajian ini adalah pekerja dalam industri perhotelan di bahagian operasi di Kedah. Sampel saiz ditentukan berdasarkan jadual Krejcie dan Morgan (1970) iaitu sebanyak 357 sampel saiz. Soal selidik diedarkan sebanyak 400 set dan hanya 257 set yang dikembalikan dan dapat digunakan. Borang soal selidik diedarkan melalui soal selidik. Manakala, analisis untuk kajian ini menggunakan *Statistical Package for Social Science (SPSS)*. Hasil ujian rintis untuk kajian ini menunjukkan kebolehpercayaan pembolehubah pada nilai 0.81 hingga 0.88 seperti yang disyorkan menurut Sekaran dan Bougie (2013).

Hasil daripada Analisis Kajian

Jumlah responden terdiri daripada 44.8 peratus lelaki dan 55.2 peratus wanita. Majoriti (44.8%) responden berumur di antara 19 hingga 29 dan telah berkahwin (53.2%). Kebanyakan responden penyelidik telah bekerja lebih daripada setahun dan kurang daripada 5 tahun (53.2%).

Jadual 1 menunjukkan nilai R 0.068 dan R^2 0.005 menunjukkan bahawa 0.5 peratus daripada hasrat untuk berhenti kerja dipengaruhi oleh hubungan dengan pembolehubah bersandar.

Jadual 1: Model Summary

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate
1	.068	.005	.001	1.00243

Jadual 2 menunjukkan regressi untuk faktor penting yang berkolerasi dengan hasrat untuk berhenti kerja.

Jadual 2: Regression and Related Statistics

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	β	T	Sig.
1	(Constant)	3.026	.236		12.826	.000
	JobSecurity	-.073	.068	-.068	-1.073	.284

Kajian ini menunjukkan bahawa jaminan kerja tidak mempunyai hubungan yang signifikan terhadap hasrat untuk berhenti kerja. Walau bagaimanapun, penemuan ini tidak konsisten dengan Schalkwyk, Du Toit, Bothma & Rothmann (2010), yang mendapati wujudnya hubungan di antara jaminan kerja dengan hasrat untuk berhenti kerja. Keadaan ini disebabkan oleh krisis kesihatan semasa yang berlaku menyebabkan hasil kajian ini tidak konsisten dan sebagai kesimpulan, dapat disimpulkan krisis semasa memberi impak kepada kajian ini.

Kesimpulan

Sebagai kesimpulan, kajian ini mengkaji faktor jaminan kerja yang mempengaruhi hasrat untuk berhenti kerja semasa krisis COVID-19. Impak dari krisis ini telah memberi kesan yang mendalam terhadap jaminan kerja seseorang pekerja dan keadaan ini diburukkan lagi apabila pihak kerajaan mengumumkan Perintah Kawalan Pergerakan (PKP) yang menyebabkan ramai individu yang diberikan cuti panjang dan tanpa gaji serta dibehentikan kerja. Tindakan drastik ini terpaksa diambil oleh para majikan untuk menjimatkan kos operasi berikutan terpaksa menanggung kerugian yang besar akibat pelaksanaan Perintah Kawalan Pergerakan (PKP).

Oleh yang demikian, semua pihak harus berganding bahu dalam membantu untuk meningkatkan kualiti perkhidmatan dalam industri ini dan sumber manusia dalam industri ini perlu diberi lebih perhatian dan pendedahan dengan menghantar mereka ke latihan yang berkaitan untuk meningkatkan kemahiran dan pengetahuan dalam mengendalikan pelancong di masa hadapan.

Justeru, dalam situasi penting ini, sebilangan pengkaji berpendapat untuk menghidupkan kembali industri perhotelan bukan sahaja dari segi wang tetapi juga harus mencari penyelesaian kepada menyesuaikan industri ini sepanjang tempoh pasca pandemik yang berterusan (Everingham & Chassagne, 2020; Carr, 2020). Walaupun agak sukar untuk industri ini kembali kepada keadaan sebelumnya, wabak ini juga telah memberi kita peluang dan keperluan langsung untuk mengalihkan keutamaan dari keuntungan ekonomi kepada kesejahteraan masyarakat dan persekitaran yang lebih holistik dan bermakna (Azam Khan & Hashim, 2020).

Selain itu, pengurusan kerja yang baik juga dapat mengelakkan individu daripada mengalami tekanan dari segi emosi, mental dan fizikal. Justeru, adalah penting membuat persediaan awal

dalam merancang kerjaya seseorang dalam menampung aspek kewangan serta kos sara hidup yang kian meruncing akibat daripada krisis ini. Oleh yang demikian, kesemua pihak harus terus mempromosikan Malaysia sebagai sebuah destinasi bersih dan selamat untuk membolehkan sektor perhotelan ini terus bertahan dengan mematuhi prosedur operasi standard (SOP) yang ditetapkan dan seterusnya dapat memastikan para pekerja mendapat manfaat darinya. Ini dapat memastikan pekerja dapat terus berkhidmat di dalam sektor ini.

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HUBUNGAN ANTARA TEKANAN KERJA DENGAN PRESTASI KERJA GURU

Aini Wizana Ismail¹
Kamal Ab Hamid²
Shahrizal Badlishah³

¹ School of Business Management, Universiti Utara Malaysia (UUM), Malaysia
Email: ainiwizanaismail@yahoo.com

² School of Business Management, Universiti Utara Malaysia (UUM), Malaysia
Email: abkamal@uum.edu.my

³ School of Business Management, Universiti Utara Malaysia (UUM), Malaysia
Email: bshahrizal@uum.edu.my

Abstrak: Peranan guru boleh dikatakan paling penting dalam kumpulan profesional untuk negara kita di masa depan. Jadi ianya menjadi sangat penting untuk mengenalpasti faktor-faktor yang mempengaruhi prestasi kerja guru disebabkan oleh peningkatan kepentingan peranan guru yang berprestasi serta berkualiti pada masa kini. Tekanan kerja memberi kesan kepada kepuasan kerja, keberkesanan ke atas produktiviti guru, peningkatan ketidakhadiran dan persaraan awal guru. Ia juga memberi kesan kepada masalah kesihatan mental dan fizikal seterusnya mempengaruhi keberkesanan tahap tenaga guru dan penglibatan tugas yang semakin berkurangan. Ini dapat menunjukkan bahawa tekanan dalam kalangan guru sudah mencapai satu tahap yang tinggi dan perhatian perlu diberikan ke atas masalah ini. Oleh yang demikian, kajian ini adalah bertujuan untuk mengenalpasti hubungan antara tekanan kerja dan prestasi kerja guru. Populasi untuk kajian ini adalah terdiri daripada guru-guru Sekolah Menengah Kebangsaan (SMK) dalam sektor pendidikan di wilayah utara Semenanjung Malaysia. Kajian ini memfokuskan populasi guru di negeri Kedah dan Perlis. Pemilihan lokasi kajian ini adalah kerana sekolah yang terlibat dalam kajian ini berada di bawah satu sistem pendidikan yang melaksanakan dasar dan polisi yang sama dan pelaksanaan aktiviti kurikulum dan ko-kurikulum juga sama serta memperolehi peruntukan dan bantuan kewangan yang hampir sama bagi seluruh negara. Bagi tujuan penyelidikan, kaedah pengedaran soal selidik digunakan dalam kajian ini. Manakala proses untuk menganalisis data pula menggunakan Statistical Packages for Social Science (SPSS) Version 24. Hasil keputusan analisis mendapati bahawa tekanan kerja mempunyai hubungan positif yang signifikan dengan prestasi kerja guru.

Keywords: Pendidikan, Tekanan Kerja, Prestasi Kerja Guru, Guru Sekolah Menengah Kebangsaan (SMK)

Pengenalan

Bidang pendidikan merupakan satu pelaburan untuk jangka masa panjang. Bidang pendidikan juga merupakan salah satu bidang yang penting dalam menyumbang kepada pembentukan negara maju dengan melahirkan sumber manusia yang ramai. Kecemerlangan sistem pendidikan sering menjadi tumpuan dan topik penting yang sering diperbincangkan. Kesungguhan ini terbukti apabila kualiti pendidikan di Malaysia merupakan

antara terbaik di dunia. Bagi memastikan kecemerlangan yang berterusan dalam sistem pendidikan, Kementerian Pendidikan Malaysia (KPM) sentiasa komited untuk memastikan hala tuju bidang ini sentiasa berada di landasan yang betul. KPM sentiasa memfokuskan pemantapan sistem Pengajaran dan Pembelajaran (PdP) yang kondusif dan berkesan. Oleh yang demikian, peranan guru sebagai warga pendidik dalam melaksanakan dan menjayakan agenda ini adalah sama pentingnya. Menurut Nadeem et al.,(2011); Ololube,(2006), pencapaian matlamat pendidikan dalam masyarakat secara dasarnya berkait rapat dengan prestasi kerja guru-guru dalam anggota masyarakat tersebut. Prestasi kerja guru telah dibincangkan secara meluas sebagai faktor yang kritikal yang mempengaruhi kualiti pendidikan (Mekonnen,2014).Ini bermaksud taraf pendidikan di Malaysia akan dapat mencapai matlamat apabila guru-guru yang berkualiti dapat dihasilkan (Syed Ismail & Ahmad Subki, 2010).

Sorotan Karya

Prestasi Kerja

Prestasi kerja didefinisikan sebagai tingkah laku atau tindakan yang berkaitan dengan matlamat organisasi (Campbell, 1990). Prestasi pekerja juga boleh dikatakan sebagai keberkesanan dan kecekapan pekerja dalam sesebuah organisasi menjalankan tugas seharian bagi memenuhi harapan pihak pengurusan dan pelanggan (Pierce et al, 2004). Ia merupakan hasil daripada dua aspek, iaitu terdiri daripada kemahiran dan kebolehan mereka untuk melaksanakan kerja dengan lebih baik (Sarmiento & Beale, 2007).Selain itu, ia juga boleh dikatakan tahap di mana pekerja menggunakan kemahiran, pengetahuan dan sikap mereka terhadap pencapaian matlamat yang diinginkan dan memenuhi objektif tertentu (Rehmanm, 2009).

Menurut Güngör,(2011), prestasi pekerja meliputi kuantiti output, kualiti output, ketepatan masa output, kehadiran di tempat kerja dan kerjasama pekerja . Terdapat beberapa faktor yang memberi kesan terhadap prestasi kerja di kalangan pekerja iaitu tekanan kerja, gaji, persekitaran kerja dan beban tugas (Ahmad et al., 2002; Munisamy, 2013). Pekerja yang gembira ialah pekerja yang produktif atau pekerja yang berpuas hati dengan pekerjaan mereka akan lebih berprestasi tinggi. Prestasi kerja yang baik secara tidak langsung akan dapat meningkatkan produktiviti organisasi dan seterusnya akan meningkatkan ekonomi negara. Sebaliknya, pekerja yang kurang bermotivasi akan menyebabkan kelemahan dalam sistem pentadbiran sesebuah organisasi kerana kurangnya komitmen terhadap tugas yang diberikan (Azlinda Jaini, 2013).

Prestasi Kerja Guru

Dalam bidang pendidikan, prestasi kerja guru merupakan salah satu faktor yang menyumbang dalam menentukan keberkesanan sekolah dan hasil pembelajaran. Sebagai sumber utama dalam kualiti pendidikan , prestasi kerja guru telah digariskan sebagai faktor kritikal yang mempengaruhi kualiti pendidikan (Mekonnen, 2014). Bagi guru yang berprestasi cemerlang, mereka mampu menyesuaikan diri dan memenuhi tuntutan kerja menurut skop kerja guru yang sentiasa berubah dan bertambah. Di persekitaran sekolah, perubahan sasaran kerja menjadi punca tekanan kerja di kalangan guru menyebabkan perubahan tingkah laku dari segi emosi, mental dan reaksi fizikal kesan daripada tekanan kerja secara berterusan. Guru mengalami tahap tekanan kerja yang berlainan berdasarkan keadaan dan lokasi sekolah yang berbeza-beza. Sepertiga daripada guru mengakui mereka menghadapi tekanan kerja pada tahap yang tinggi dalam kerjaya mereka (Borg, 2000). Selain daripada itu, faktor sikap pelajar, ibu bapa dan beban tugas juga merupakan penyumbang utama kepada tekanan kerja di kalangan guru sekolah di negara ini (Abdul Said Ambotang et al., 2014). Faktor-faktor seperti ini seterusnya

akan mempengaruhi prestasi kerja guru-guru dan seterusnya memberi kesan terhadap tahap kualiti pendidikan di negara ini.

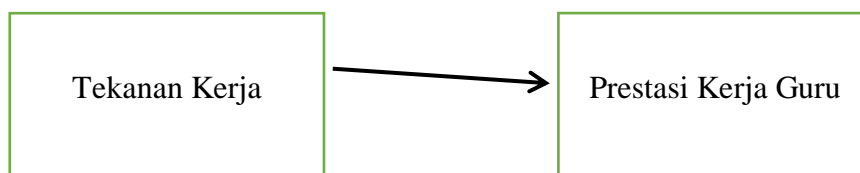
Tekanan Kerja

Tekanan kerja dalam kalangan masyarakat bukanlah sesuatu yang janggal. Tekanan kerja juga telah dibincangkan secara meluas oleh para pengkaji dalam pelbagai bidang. Tekanan kerja merupakan satu isu yang amat penting dan perlu diberikan perhatian kerana ia akan mempengaruhi pelbagai aspek kehidupan terutamanya terhadap prestasi kerja. Individu yang mengalami tekanan kerja ini akan merasa tidak gembira, tertekan, kemurungan dan berada dalam keadaan yang tidak stabil dari segi mental dan emosi. Tekanan mempunyai kaitan dengan gaya hidup, perwatakan, kejutan yang berlaku secara drastik dan sebagainya (Hatta Sidi & Mohamed Hatta Shaharom, 2002). Menurut Gnana (2007), tekanan kerja merupakan satu bentuk ancaman daripada persekitaran yang memberikan kesan negatif kepada individu yang mengalaminya. Ancaman tersebut ialah jika seseorang individu tidak dapat melengkapkan tuntutan kerja yang diberikan maka akan timbul tekanan dalam diri individu tersebut. Tekanan yang berlaku akan menimbulkan perasaan tidak selamat, tidak selesa serta tidak baik kerana ianya berpunca daripada sesuatu yang berada di luar kawalan kita (Traven & Potoca, 2005). Tekanan kerja yang dihadapi oleh guru ini memberikan kesan negatif terhadap daya keyakinan, kesihatan dan prestasi kerja guru.

Sementara itu, tekanan kerja guru didefinisikan sebagai suatu peristiwa yang dihadapi oleh guru disebabkan oleh emosi yang tidak menyenangkan seperti ketegangan, kekecewaan, kebimbangan, kerisauan, kemarahan dan perasaan dukacita yang berpunca daripada aspek tugas seorang guru (Raja Maria, 2011). Terdapat pelbagai factor yang menyumbang kepada berlakunya tekanan kerja guru, antaranya ialah disebabkan pekerjaan yang buruk, salah laku pelajar, kekurangan sumber untuk mengajar, bebanan tugas bukan mengajar dan sikap pelajar terhadap pelajaran (Mazlina, 2012).

Kerangka Kajian

Kerangka kajian untuk tujuan penyelidikan ini adalah seperti di bawah. Kajian ini melihat kepada dua aspek utama iaitu tekanan kerja dan prestasi kerja guru.



Metadologi

Bagi tujuan penyelidikan, kaedah pengedaran soal selidik digunakan dalam kajian ini. Soal selidik digunakan secara meluas dalam penyelidikan kerana kaedah ini merupakan satu kaedah pengumpulan data kajian (Abdul Rahman, 2007; Johnson & Christensen (2005). Pandangan oleh Babbie (1995) menyatakan bahawa masalah “bias” dapat dikurangkan melalui kaedah penggunaan borang soal selidik kerana responden akan mengisi semua item yang telah

disediakan kerana tiada pengaruh secara langsung daripada penyelidik.. Menurutnya lagi, penyelidik mempunyai ruang yang cukup untuk bertanya pelbagai jenis soalan. Ini kerana sekiranya penyelidik menggunakan kaedah temu ramah, masalah 'bias' akan timbul serta masa yang diperlukan untuk menemuramah responden adalah terhad.

Populasi kajian adalah terdiri daripada guru-guru Sekolah Menengah Kebangsaan (SMK) dalam sektor pendidikan di wilayah utara, Semenanjung Malaysia. Bagi kajian ini, fokus diberikan kepada dua lokasi negeri yang terlibat iaitu negeri Perlis dan Kedah. Pemilihan lokasi kajian ini adalah kerana sekolah yang terlibat dalam kajian ini berada di bawah satu sistem pendidikan yang melaksanakan dasar dan polisi yang sama dan pelaksanaan aktiviti kurikulum dan ko-kurikulum juga sama. Malah sekolah-sekolah yang terlibat dalam kajian ini turut memperolehi peruntukan dan bantuan kewangan dalam jumlah yang hampir sama bagi seluruh negara (Kementerian Pendidikan Negara, KPM). Kajian ini mengaplikasikan teknik pemilihan sampel berasaskan kepada teknik persampelan kluster. Menurut Gay & Deihl (1996) teknik persampelan kluster merupakan kaedah persampelan yang merujuk kepada kumpulan atau kluster dipilih secara rawak dan bukannya secara individu dan sesuai digunakan apabila sesuatu kajian yang melibatkan populasi yang besar dan populasi berada dalam lokasi yang luas dan seragam antara kluster serta senarai elemen tidak diperoleh.

Merujuk kepada jadual saiz sampel Krejcie & Morgan (1970), bagi keseluruhan populasi kajian, saiz sampel yang diperlukan adalah 370 sampel bagi mewakili populasi 13,898 responden. Manakala sampel saiz ditetapkan sebanyak 500 responden iaitu mengatasi kadar responden yang telah dicadangkan oleh Krejcie dan Morgan (1970). Keseluruhan item yang digunakan di dalam kajian ini di adaptasi daripada kajian terdahulu iaitu sebanyak 71 item digunakan dalam soal selidik ini yang terdiri daripada bahagian A,B dan C. Selain itu, soal selidik ini ditulis dalam Bahasa Melayu untuk memudahkan responden menjawab soal selidik. Sebanyak 500 borang soal selidik yang telah diedarkan dan sejumlah 421 soal selidik dikembalikan mewakili kadar respons 84.2 peratus. Walau bagaimanapun, hanya 406 borang soal selidik yang dikenalpasti boleh digunakan, mewakili 81.2 peratus maklum balas yang dianggap boleh diterima (Saunders et al., 2003).

Kajian ini menggunakan IBM SPSS Statistics Version 24 untuk penganalisaan data setelah data diperoleh daripada soal selidik dan telah melalui siri ujian awal untuk menentukan kadar respon, kesahihan dan kebolehpercayaan konstruk dalam kajian ini. Ujian rintis telah dilakukan sebelum pengumpulan data sebenar dan instrumen telah disahkan melalui kajian awal. Hasil kebolehpercayaan untuk setiap pembolehubah sama iaitu 0.87 yang umumnya diterima untuk tujuan penyelidikan kajian ini seperti yang disyorkan oleh Sekaran dan Bougie (2013).

Hasil daripada Analisis Kajian

Jumlah responden terdiri daripada 34% lelaki dan 66% wanita. Kebanyakan responden (31%) berumur di antara 36 hingga 40 dan paling ramai berkhidmat selama 16-20 tahun (29.8%). Selain itu, responden penyelidik juga terdiri dari mereka yang memiliki pencapaian akademik sarjana muda (79.6%).

Namun begitu, nilai beta menunjukkan bahawa hubungan signifikan negatif antara tekanan kerja dengan prestasi kerja guru ($\beta = -.325$, $t = -5.783$). Ini bermaksud semakin tinggi tekanan kerja, semakin rendah prestasi kerja guru. Hasilnya juga menunjukkan bahawa pemboleh ubah

dapat menjelaskan 42.1% ($F = 92.174$, $p < 0.01$) dari varian prestasi kerja guru. Oleh itu, hasil kajian mendapati tekanan kerja mempunyai hubungan dengan prestasi kerja guru.

Jadual 1: Keputusan Analisis Regresi bagi hubungan antara tekanan kerja dengan prestasi kerja guru

Pembolehubah	Prestasi Kerja Guru	
	Std. β	Nilai t
Tekanan Kerja	-.325**	-5.783
R ²		.628
R ² Terlaras		.421
Perubahan R ²		.416
Signifikan bagi perubahan F		92.174

Note: ** $p < 0.01$; * $p < 0.05$

Kesimpulan

Sebagai kesimpulan, kajian ini mengkaji faktor yang mempengaruhi prestasi kerja guru di mana factor yang di kaji ialah tekanan kerja. Hasil daripada kajian menunjukkan bahawa tekanan kerja memang mempengaruhi prestasi kerja guru. Seperti kebanyakan kajian yang lain, kajian ini turut mempunyai batasan kajian yang harus diambil kira untuk menilai hasil kajian. Batasan pertama adalah sampel sekolah yang dipilih. Kajian ini hanya melibatkan sampel kajian yang terdiri daripada guru-guru sekolah di Utara Semenanjung Malaysia sahaja maka hasil kajian ini tidak dapat digeneralisasikan kepada guru-guru di sekolah di zon lain di Malaysia. Batasan kedua ialah penggunaan kaedah soal selidik di mana data yang digunakan adalah berdasarkan persepsi jawapan setiap guru berdasarkan persepsi masing-masing. Kelemahan ini sesungguhnya menyediakan ruang penyelidikan baru pada masa hadapan antaranya dengan menggunakan kaedah kualitatif. Kajian ini menyumbang kepada bidang ilmu dengan membuktikan bahawa pentingnya untuk mengetahui tahap tekanan kerja yang di alami oleh seorang guru kerana ianya akan mempengaruhi prestasi kerja guru dan secara tidak langsung mempengaruhi kualiti pendidikan.

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HUBUNGAN ANTARA KEPUASAN KERJA DENGAN PRESTASI KERJA GURU

Aini Wizana Ismail¹
Kamal Ab Hamid²
Shahrizal Badlishah³

¹ School of Business Management, Universiti Utara Malaysia (UUM), Malaysia
Email: ainiwizanaismail@yahoo.com

² School of Business Management, Universiti Utara Malaysia (UUM), Malaysia
Email: abkamal@uum.edu.my

³ School of Business Management, Universiti Utara Malaysia (UUM), Malaysia
Email: bshahrizal@uum.edu.my

Abstrak: Kerajaan amat mengambil berat isu berkaitan persekolahan kerana hasil pendidikan pada masa kini akan membentuk generasi kita pada masa akan datang. Sehubungan dengan itu, kerajaan memandang serius aspek pendidikan negara dan melaksanakan pelbagai inisiatif bagi meningkatkan keberkesanan dan kecemerlangan sekolah melalui salah satu aspek yang terkandung dalam teras strategik Pelan Pembangunan Pendidikan Malaysia (PPPM) 2013-2025 iaitu meletakkan kualiti pencapaian akademik pelajar sebagai agenda utama reformasi pendidikan. Justeru itu, dalam usaha untuk memperbaiki dan meningkatkan prestasi kerja dalam kalangan guru, terdapat isu yang berkaitan yang perlu diberi penekanan. Jurang prestasi kerja guru diteliti dan diberi penekanan dari aspek kepuasan kerja. Oleh yang demikian, kajian ini bertujuan untuk mengenal pasti hubungan antara faktor kepuasan kerja dan prestasi kerja guru. Populasi kajian adalah terdiri daripada guru-guru Sekolah Menengah Kebangsaan (SMK) dalam sektor pendidikan di wilayah utara, Semenanjung Malaysia. Namun begitu, bagi kajian ini fokus diberikan kepada dua lokasi negeri yang terlibat iaitu negeri Perlis dan Kedah. Pemilihan lokasi kajian ini adalah kerana sekolah yang terlibat dalam kajian ini berada di bawah satu sistem pendidikan yang melaksanakan dasar dan polisi yang sama dan pelaksanaan aktiviti kurikulum dan ko-kurikulum juga sama. Malah sekolah-sekolah yang terlibat dalam kajian ini turut memperolehi peruntukan dan bantuan kewangan dalam jumlah yang hampir sama bagi seluruh negara (Kementerian Pendidikan Negara, KPM). Bagi tujuan penyelidikan, kaedah pengedaran soal selidik digunakan dalam kajian ini. Manakala proses untuk menganalisis data pula menggunakan Statistical Packages for Social Science (SPSS) Version 24. Hasil keputusan analisis mendapati bahawa kepuasan kerja mempunyai hubungan positif yang signifikan dengan prestasi kerja guru.

Keywords: Pendidikan, Kepuasan Kerja, Prestasi Kerja Guru, Guru Sekolah Menengah Kebangsaan (SMK)

Pengenalan

Sektor pendidikan merupakan salah satu faktor terpenting dalam pembangunan negara. Bagi memastikan kejayaan dalam sektor pendidikan ini, perancangan dari peringkat pusat dan pelaksanaannya sehingga ke peringkat sekolah perlulah dirangka dan dilaksanakan dengan bijak supaya kejayaannya dapat diraih oleh negara. Sekolah merupakan institusi di mana berlakunya peringkat pelaksanaan segala dasar, polisi dan inovasi pendidikan. Oleh yang demikian, institusi sekolah memainkan peranan penting kerana setiap dasar atau inovasi pendidikan yang dilaksanakan di peringkat sekolah memberikan kesan terhadap tingkah laku guru. Guru-guru merupakan pendidik yang akan mencorakkan sistem pendidikan masa depan negara. Mereka bertanggungjawab untuk memberikan pengajaran, bertindak sebagai pengurus, kaunselor, pengawal disiplin, interaksi yang baik dengan masyarakat setempat bagi menjayakan profesion keguruan dengan cemerlang (Fatimah, 2002). Oleh itu, pihak sekolah memerlukan guru yang mempunyai komitmen kerja dan motivasi yang tinggi untuk melaksanakan tugas mendidik generasi pada masa hadapan. Peranan guru sangat penting dalam pendidikan dan jika sumber tenaga ini tidak diuruskan secara bijak, akan menimbulkan banyak masalah. Oleh yang demikian, bidang pendidikan memerlukan para guru yang cekap, cergas, berdaya saing dan berproduktiviti tinggi. Matlamat sebegini hanya dapat dicapai sekiranya para guru tidak mengalami pelbagai cabaran dan tekanan di tempat kerja (Sapora, 2001). Selain daripada itu ketidakpuasan kerja di kalangan guru semakin ketara pada masa kini. Antara faktor yang mewujudkan ketidakpuasan di kalangan guru ialah tekanan kerja hasil daripada pelbagai tugas baru dan program baru dari berbagai peringkat dalam Kementerian Pendidikan Malaysia.

Ulasan Karya

Prestasi Kerja

Prestasi kerja pada mulanya berasal dari konsep pencapaian. Pencapaian ditakrifkan sebagai hasil kerja atau prestasi kerja. Sebenarnya, prestasi kerja mempunyai makna yang lebih luas, bukan hanya sebagai hasil kerja, tetapi juga merangkumi bagaimana proses pekerjaan berlangsung (Wibowo, 2011). Agarwal (2008) menyatakan bahawa prestasi kerja yang baik dapat dicapai oleh organisasi pemerintah, apabila disokong oleh kakitangan yang berkualiti. Kualiti kakitangan adalah tulang belakang organisasi untuk memastikan organisasi berada dalam keadaan baik dan sempurna. Prestasi kerja telah didefinisikan sebagai nilai keseluruhan yang diharapkan dari tingkah laku tingkah laku pekerja dilakukan dalam jangka masa tertentu (Motowidlo, Borman, & Schmidt, 1997). Pencapaian adalah kriteria penting untuk hasil dan kejayaan organisasi (Rotenberry & Moberg, 2007). Perbezaan antara prestasi dan motivasi adalah prestasi merujuk kepada hasil penilaian tingkah laku seseorang dalam menentukan keburukan dan kebaikan mereka dalam melaksanakan tugas, sementara motivasi adalah salah satu faktor yang terlibat dalam prestasi kerja pekerja (George & Jones, 2007). Kepuasan kerja juga adalah sebahagian daripada prestasi kepuasan kerja namun masih bergantung pada peringkat hasil intrinsik dan ekstrinsik (Ivancevich et al. 2008). Antara faktor yang mempengaruhi prestasi kerja adalah faktor keupayaan yang diukur dari kemampuan berpotensi. Manakala faktor kedua adalah faktor motivasi yang ditakrifkan sebagai sikap kepemimpinan dan juga orang yang mampu menghasilkan kerja yang baik dalam organisasi. Selain itu, Dzulizzi (2011) mengatakan bahawa prestasi pekerja merujuk kepada tanggungjawab dan tugas yang perlu dilakukan dan dilaksanakan oleh seseorang individu. Oleh itu, prestasi kerja akan dinilai melalui bagaimana mereka bertindak balas terhadap tugas tertentu. Menurut Sayman (2006) lagi, prestasi kerja yang baik adalah keperluan bagi setiap pekerja. Oleh itu, untuk mendapatkan prestasi kerja, pekerja mesti mempunyai sikap untuk

memperbaiki diri dalam melakukan pekerjaan untuk memastikan prestasi kerja berada dalam keadaan yang sangat baik.

Prestasi Kerja Guru

Guru mempunyai hubungan profesional dengan beberapa kumpulan yang akan mempengaruhi peranannya sebagai guru. Di bilik darjah, guru mempunyai hubungan langsung dengan murid-muridnya sendiri. Di luar kelas, tetapi masih di dalam kawasan sekolah, terdapat pula kumpulan lain yang terdiri dari pentadbir, rakan sejawat, staf sokongan dan penjaga yang berhubung dengan guru. Kumpulan ini juga mempunyai pengaruh kuat kepada guru secara tidak langsung walaupun guru tidak selalu berhubung dengan mereka yang akan menimbulkan stres guru (Noran Fauziah Yaakub & Ahmad Mahdzan Ayob, 1992). Menurut Adeyemi (2010), prestasi kerja guru adalah kemampuan guru dalam menggabungkan input yang relevan dengan tujuan meningkatkan proses Pengajaran dan Pembelajaran (PdP). Mekonnen (2014) dalam kajiannya menyatakan bahawa prestasi kerja guru dapat didefinisikan sebagai tugas yang dilakukan oleh guru dalam jangka masa tertentu berdasarkan sistem sekolah untuk mencapai matlamat sekolah. Dalam organisasi, prestasi kerja individu akan dinilai melalui aspek kehadiran, penglibatan, kecekapan, kepemimpinan, tanggungjawab dan sebagainya (Sharifah, Joki dan Rathakrishnan, 2006).

Dalam bidang perguruan, Adejumobi dan Ojikutu (2013) mengatakan bahawa prestasi kerja guru dinilai berdasarkan prestasi pengajaran guru yang terdiri daripada pengenalan pengajaran kepada penguasaan guru dalam mata pelajaran yang diajar, penglibatan pelajar, kawalan kelas, penilaian dan penilaian. Berikutan meningkatnya kepentingan terhadap prestasi kerja guru telah menunjukkan bahawa sangat penting untuk mengenal pasti faktor-faktor yang mempengaruhinya. Berdasarkan prestasi kerja, Nadeem et al. (2011) melihat aspek gaji rendah serta kekurangan sokongan daripada kakitangan lain memberi kesan yang signifikan terhadap tingkah laku guru dalam pekerjaan mereka. Prestasi kerja guru juga dipengaruhi oleh aspek seperti kebolehan, tingkah laku, penguasaan subjek, kaedah pengajaran, watak peribadi, persekitaran bilik darjah, kebolehan intelektual, keperibadian serta hubungan dengan pelajar (Usop et al., 2013). Dalam kajian ini ingin membincangkan tentang pengaruh kepuasan kerja terhadap prestasi kerja guru.

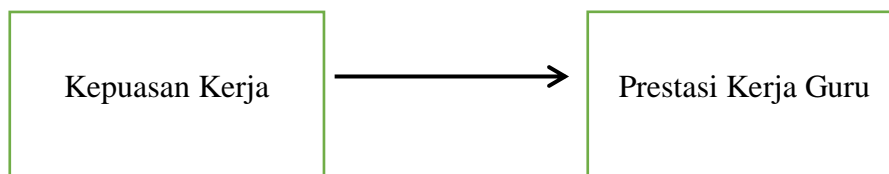
Kepuasan Kerja

Menurut Norhafa dan Ferlis (2010), kepuasan kerja dikaitkan dengan perasaan keseronokan yang diperoleh dengan melakukan pekerjaan seiring dengan keadaan persekitaran kerja. Pernyataan ini di sokong oleh Sancar (2009) yang berpendapat kepuasan kerja adalah situasi yang mana individu mengalami emosi keseronokan hasil daripada pekerjaannya. Kajian mengenai kepuasan kerja di kalangan guru telah menarik perhatian penyelidik dari pelbagai negara. Peningkatan tahap kepuasan kerja guru boleh mengakibatkan penurunan kualiti kerja dan peningkatan kekeliruan psikologi dan tekanan kerja di kalangan guru (Troman dan Wook, 2000). Aspek-aspek ini dapat mempengaruhi semangat, motivasi dan kesediaan guru untuk memaksimumkan potensi pengajaran mereka (Schulz dan Teddlie, 1989). Kamaruzzaman (2005) mengatakan bahawa faktor persekitaran di sekolah adalah penentu utama dalam mencapai kepuasan kerja guru yang merangkumi budaya pentadbiran dan komunikasi antara rakan sekerja. Bekerja dalam suasana yang menyenangkan pasti akan menghasilkan kerja yang berkualiti dan sebaliknya. Kenyataan ini juga disokong oleh Baharom Mohamad dan Ilyas Hashim (2011), bahawa guru yang merasa selesa di tempat kerja mereka akan lebih dinamik, bermotivasi, cekap dan sentiasa berusaha untuk meningkatkan pengajaran dan pembelajaran di dalam bilik darjah. Norhannan dan Jamaliah (2006), menyatakan bahawa kecemerlangan

organisasi mempunyai hubungan dengan kepuasan kerja dan tahap motivasi yang dimiliki oleh pekerjaannya di mana pekerja mendapat kepuasan apabila keperluan mereka dipenuhi sementara majikan mendapat kepuasan apabila pekerjaannya dapat mencapai tahap produktiviti yang tinggi. Dalam kajian ini, kepuasan kerja merujuk kepada perasaan positif terhadap tugas atau tanggungjawab yang telah dilaksanakan oleh seorang guru di sekolah masing-masing dalam mempengaruhi prestasi kerja para guru. Kepuasan ini akan dicapai oleh seseorang ketika dia melakukan kerjanya dengan komitmen tinggi, semangat berpasukan, disokong oleh iklim sekolah yang kondusif, kenikmatan bekerja dan sokongan positif dari kepala.

Kerangka Kajian

Kerangka kajian untuk tujuan penyelidikan ini adalah seperti di bawah. Kajian ini melihat kepada dua aspek utama iaitu kepuasan kerja dan prestasi kerja guru.



Metadologi

Bagi tujuan penyelidikan, kaedah pengedaran soal selidik digunakan dalam kajian ini. Soal selidik digunakan secara meluas dalam penyelidikan kerana kaedah ini merupakan satu kaedah pengumpulan data kajian (Abdul Rahman, 2007; Johnson & Christensen (2005). Pandangan oleh Babbie (1995) menyatakan bahawa masalah “bias” dapat dikurangkan melalui kaedah penggunaan borang soal selidik kerana responden akan mengisi semua item yang telah disediakan kerana tiada pengaruh secara langsung daripada penyelidik.. Menurutnya lagi, penyelidik mempunyai ruang yang cukup untuk bertanya pelbagai jenis soalan. Ini kerana sekiranya penyelidik menggunakan kaedah temu ramah, masalah ‘bias’ akan timbul serta masa yang diperlukan untuk menemuramah responden adalah terhad.

Populasi kajian adalah terdiri daripada guru-guru Sekolah Menengah Kebangsaan (SMK) dalam sektor pendidikan di wilayah utara, Semenanjung Malaysia. Bagi kajian ini, fokus diberikan kepada dua lokasi negeri yang terlibat iaitu negeri Perlis dan Kedah. Pemilihan lokasi kajian ini adalah kerana sekolah yang terlibat dalam kajian ini berada di bawah satu sistem pendidikan yang melaksanakan dasar dan polisi yang sama dan pelaksanaan aktiviti kurikulum dan ko-kurikulum juga sama. Malah sekolah-sekolah yang terlibat dalam kajian ini turut memperolehi peruntukan dan bantuan kewangan dalam jumlah yang hampir sama bagi seluruh negara (Kementerian Pendidikan Negara, KPM). Kajian ini mengaplikasikan teknik pemilihan sampel berasaskan kepada teknik persampelan kluster. Menurut Gay & Deihl (1996) teknik persampelan kluster merupakan kaedah persampelan yang merujuk kepada kumpulan atau kluster dipilih secara rawak dan bukannya secara individu dan sesuai digunakan apabila sesuatu kajian yang melibatkan populasi yang besar dan populasi berada dalam lokasi yang luas dan seragam antara kluster serta senarai elemen tidak diperoleh.

Merujuk kepada jadual saiz sampel Krejcie & Morgan (1970), bagi keseluruhan populasi kajian, saiz sampel yang diperlukan adalah 370 sampel bagi mewakili populasi 13,898 responden. Manakala sampel saiz ditetapkan sebanyak 500 responden iaitu mengatasi kadar responden yang telah dicadangkan oleh Krejcie dan Morgan (1970). Keseluruhan item yang digunakan di dalam kajian ini di adaptasi daripada kajian terdahulu iaitu sebanyak 45 item digunakan dalam soal selidik ini yang terdiri daripada bahagian A,B dan C. Selain itu, soal selidik ini ditulis dalam Bahasa Melayu untuk memudahkan responden menjawab soal selidik. Sebanyak 500 borang soal selidik yang telah diedarkan dan sejumlah 421 soal selidik dikembalikan mewakili kadar respons 84.2 peratus. Walau bagaimanapun, hanya 406 borang soal selidik yang dikenalpasti boleh digunakan, mewakili 81.2 peratus maklum balas yang dianggap boleh diterima (Saunders et al., 2003).

Kajian ini menggunakan IBM SPSS Statistics Version 24 untuk penganalisaan data setelah data diperoleh daripada soal selidik dan telah melalui siri ujian awal untuk menentukan kadar respon, kesahihan dan kebolehpercayaan konstruk dalam kajian ini. Ujian rintis telah dilakukan sebelum pengumpulan data sebenar dan instrumen telah disahkan melalui kajian awal. Hasil kebolehpercayaan untuk ialah .739 manakala kebolehpercayaan kepuasan kerja ialah .845 yang umumnya diterima untuk tujuan penyelidikan kajian ini seperti yang disyorkan oleh Sekaran dan Bougie (2013).

Hasil daripada Analisis Kajian

Jumlah responden terdiri daripada 34% lelaki dan 66% wanita. Kebanyakan responden (31%) berumur di antara 36 hingga 40 dan paling ramai berkhidmat selama 16-20 tahun (29.8%). Selain itu, responden penyelidik juga terdiri dari mereka yang memiliki pencapaian akademik sarjana muda (79.6%). Responden yang paling tinggi adalah mereka yang sedang berada di grad 44 iaitu (54.4%) daripada keseluruhan responden. Kebanyakan responden berpendapatan di antara RM5801 dan ke atas (44.4%) dan mereka yang telah berkhidmat antara 16-20 tahun (29.8%)

Jadual menunjukkan bahawa kepuasan kerja memberi sumbangan besar kepada ramalan prestasi kerja guru pada tahap 0.01 dan 0.05 ($\beta = .524$, $t = 12.406$). Ini bermaksud semakin tinggi kepuasan kerja, semakin tinggi tahap prestasi kerja guru. Hasilnya juga menunjukkan bahawa pemboleh ubah dapat menjelaskan 42.1% ($F = 92.174$, $p < 0.01$) dari varian prestasi kerja guru. Oleh itu, hasil kajian mendapati kepuasan kerja mempunyai hubungan dengan prestasi kerja guru.

Jadual 1: Keputusan Analisis Regresi bagi hubungan antara kepuasan kerja dengan prestasi kerja guru

Pembolehubah	Prestasi Kerja Guru	
	Std. β	Nilai t
Kepuasan Kerja	.524**	12.406
R ²		.628
R ² Terlaras		.421
Perubahan R ²		.416
Signifikan bagi perubahan F		92.174

Note: ** p < 0.01; * p < 0.05

Kesimpulan

Sebagai kesimpulan, kajian ini mengkaji faktor yang mempengaruhi prestasi kerja guru di mana faktor yang di kaji ialah kepuasan kerja. Hasil daripada kajian menunjukkan bahawa kepuasan kerja memang mempengaruhi prestasi kerja guru. Kajian ini dilaksanakan di Sekolah Menengah Kebangsaan (SMK) di Utara Semenanjung Malaysia sahaja. Oleh yang demikian untuk kajian pada masa hadapan, dicadangkan kajian ini boleh dilaksanakan dalam skala yang lebih besar melibatkan lebih banyaksekolah dan responden bagi mendapatkan gambaran yang lebih menyeluruh. Dapatan kajian ini juga tidak boleh digeneralisasikan kepada seluruh sekolah di Malaysia kerana setiap sekolah adalah unik dengan konteks yang tersendiri. Terdapat beberapa cadangan yang boleh dilaksanakan bagi kajian akan datang, iaitu dengan melibatkan lebih banyak sekolah, menambahkan faktor berkaitan dengan prestasi kerja sebagai pembolehubah kajian serta mempelbagaikan jenis sekolah yang ingin dikaji. Selain itu, disarankan kepada penyelidik yang ingin membuat kajian pada masa akan datang juga supaya menambahkan lagi faktor yang berkaitan dengan prestasi kerja untuk dikaji. Antara faktor berkaitan dengan prestasi kerja yang boleh ditambah termasuklah iklim organisasi, amalan kepimpinan guru besar serta latar belakang murid itu sendiri.

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EXPLORING THE LINK BETWEEN SAFETY VARIABLES AND WELL-BEING OUTCOMES IN MALAYSIAN MANUFACTURING SECTOR: A CONCEPTUAL FRAMEWORK

Norizan Baba Rahim

School of Distance Education, Universiti Sains Malaysia (USM), Malaysia, (norizanbaba@usm.my)

Abstract: *In Malaysia's manufacturing industry, workplace mishaps and injuries are a big problem. This industry has made only minor developments in terms of reducing fatalities and significant injuries. The fatality rate has decreased marginally; however, the previous year's severe injury rate remains unchanged (Department of Occupational Safety and Health, 2021). In Malaysia's aspiration into becoming an advanced country by 2020, reducing occupational mishaps and injuries is one of the key employments concerns it aims to address. As a substantial determinant of mishaps and safety behaviour, the perception of the work setting is considered essential. Safety measures must emphasise on the way employees view their work setting in order to improve safety plans and practices. Safety policy and procedures must bring about a shift in employees' mindsets and awareness of their immediate work setting in order to succeed in the intervention towards the shift in behaviour. This study proposes a conceptual framework to examine the interaction between safety climates, safety behaviour towards quality of work life, and psychological well-being within Malaysia's manufacturing industry that would assist in the advancement of more efficient safety interventions of reducing mishaps.*

Keywords: *Safety Climate, Safety Behaviour, Quality of Work Life, Psychological Well-Being*

Introduction

Presently, with globalisation, many nations are pursuing progress. Worldwide technological improvements have raised workers' responsiveness to safety matters, resulting in the recognition of workplace safety issues in headlines around the world (Stein & Scholz, 2020). Omairi and Ismail (2021) stated that unforgiving physical settings encountered in the manufacturing industry in Malaysia can aggravate the view of human error as being a contributory influence in mining mishaps.

As reported by Wan (2016), in the new suitability index, Malaysia was rated as one of the top manufacturing sites in the world, and the country's manufacturing industry is an essential backbone and contributor to the economy. For instance, the manufacturing industry is an important contributor to the Gross Domestic Product (GDP) of the country's financial revenue, as reported by the Department of Statistics Malaysia (2021). Among the five main economic activities which have underlined a significant contribution to the GDP from 2019 to 2021, economic activities (6.6%) from the manufacturing sector support the second highest to economic growth (see Table 1).

Table 1: Annual Growth of Five Main Economic Activities

Sectors	2019	2020	2020				2021
			Q1	Q2	Q3	Q4	
Agriculture	2.0	-2.2	-8.6	0.9	-0.3	-1.0	0.4
Mining & Quarrying	-0.6	-10.6	-2.9	-20.8	-7.8	-10.4	-5.0
Manufacturing	3.8	-2.6	1.4	-18.3	3.3	3.0	6.6
Construction	0.4	-19.4	-7.9	-44.5	-12.4	-13.9	-10.4
Services	6.2	-5.5	3.1	-16.2	-4.0	-4.8	-2.3

Source: Publication, Infographics, Pocket Statistics as of Q3 2018, Department of Statistics Malaysia

Furthermore, the manufacturing industry has been progressing in speed, determined by solid productivity with regard to sales value per employee, salaries and wages, and number of employees. For instance, Malaysia's manufacturing sales have increased by 2.2 per cent to RM339.4 billion in Q1 2020 (see Table 2).

Table 2: Manufacturing - Q1 2021

Indicators	Period	
	Growth YoY	%
Sales Value	RM339.4 billion	2.2%
Sales Value Per Employee	RM22,728.0 million	3.4%
Number of Employees	2,257,273 persons	1.2%
Salaries & Wages	RM150,368	1.0%

Source: Publication, Infographics, Pocket Statistics as at Q1 2020, Department of Statistics Malaysia

Although industrialisation, predominantly the manufacturing sector, is beneficial to the country, it has some negative impacts, such as industrial mishaps, occupational stress, and diseases. These incidents have caused a substantial economic loss, including the loss of work-days, and productivity, as well as pain and suffering to those injured. According to the statistics of incidents in Malaysia's manufacturing industry, the rate of mishaps is consistently alarming. This indicates that the manufacturing industry is among the crucial sectors which require a massive and swift revamp of the current procedures of on-site safety. The Department of Occupational Safety and Health (DOSH) stated that ten sectors have seen 1,948 occupational accidents since March 2021. The ten sectors are: 1) hotels and restaurants; 2) utilities, inclusive of electricity, gas, water, and sanitary services; 3) finance, insurance, real estate, and business services; 4) construction; 5) transport, storage, and communication; 6) manufacturing; 7) wholesale and retail trade; 8) public services and statutory authorities; 9) mining and quarrying; and 10) agriculture, forestry, and fishery. Of the 1,948 accident cases, 42 were fatalities, 1,831 were non-permanent disabilities, and 75 were permanent disabilities.

With ten fatalities, 1,172 non-permanent disabilities, and 58 permanent disabilities, the manufacturing industry reported the most critical number of job-related mishaps (1,420 cases), at a staggering 64% in comparison with the other aforementioned sectors. Next, the agriculture,

forestry, and fishing sectors have seen 265 cases (14%), with no death case, but recorded a devastating 262 non-permanent disability cases and three permanent disability cases. Finally, the third-highest number of occupational accidents was documented by the insurance, finance, real estate and business services sector that had 113 (65%) cases, with five deaths, 102 non-permanent disabilities, and six permanent disabilities (see Table 3).

Table 3: Occupational Accidents Statistics by Sectors as of March 2021

Sectors	Non-Permanent Disability	Permanent Disability	Death	Total
Hotels and Restaurants	40	1	0	41
Utility (Electricity, Gas, Water and Sanitary Services)	43	0	0	43
Finance, Insurance, Real Estate and Business Services	102	6	5	113
Construction	43	4	23	70
Transport, Storage and Communication	68	1	2	71
Manufacturing	1,172	58	10	1,240
Wholesale and Retail Traders	64	1	0	65
Public Services and Statutory Bodies	25	0	0	25
Mining and Quarrying	12	1	2	15
Agriculture, Forestry and Fishing	262	3	0	265
Total	1,831	75	42	1,942

Source: International Policy and Research Development Division, Department of Occupational Safety and Health (DOSH)

In addition, the manufacturing industry recorded the highest occurrences of workplace disease and poisoning incidents in 2020, at 82.3%. This was followed by the utilities (electricity, gas, water, and sanitary services) sector with 9.1%, and 2.4% from the mining and quarrying sector (see Table 4). Hence, employees in the manufacturing sector are more vulnerable to the risk of accidents.

Table 4: Occupational Disease and Poisoning Statistics by Sectors as of March 2021

Sectors	Percentage
Hotels and Restaurants	0.5%
Utilities	9.1%
Finance, Insurance, Real Estate and Business Services	1.4%
Construction	0.3%

Transport, Storage and Communication	1.4%
Manufacturing	82.3%
Wholesale and Retail Traders	0.3%
Public Services and Statutory Bodies	1.3%
Mining and Quarrying	2.4%
Agriculture, Forestry and Fishing	1.3%
Total	100%

Source: International Policy and Research Development Division, Department of Occupational Safety and Health (DOSH)

The manufacturing sector poses a higher risk among other sectors or industries due to the frequent occurrences of mishaps. It should come to no surprise that carelessness and the disregard for safety among employees are determinants in the majority of accidents (Dodoo & Al-Samarraie, 2019). Employees' substandard physical conditions, including exhaustion, disease, alcohol and drug abuse, can influence their work competence as well. Another on-site factor of work mishaps to be considered is the overall number of work hours gained by the employees, inclusive of their gained experience and completion of training. In addition, the employees' attitudes also influence the occurrence of accidents (Oah, Na & Moon, 2018). To illustrate, employees' reluctance of properly using safety equipment, the failure of adhering to work regulations, the assumption that safety is unimportant, the frequent postponement of tasks, and boredom with specific task can ultimately cause the loss of focus on the job. Accordingly, employees may mishandle equipment and risk causing unsafe work conditions. These scenarios indicate a lack of safety motivation among workers in the manufacturing industry.

Purpose of the study

Engineers play a critical part in the progress of Malaysia's technical breakthroughs. Furthermore, they serve as a key to wealth generation and assist the country in becoming a global participant (Rahim, 2020). Engineers have substantially impacted the community, and every engineering project must be safe and beneficial to its users. Many scholars believe that circumstances which are linked both directly and indirectly to accidents do exist. Poor well-being outcomes that have been connected to accidents, poor health, and safety could indicate a serious issue.

The extensive employment of new employees and new technology, machinery, and equipment is linked to the rapid growth of manufacturing industries during an economic upswing. Employees may be exposed to new risks as a result of the use of new technology. Similarly, new employees might encounter a higher risk of mishaps because they are not familiar with hazards in the workplace environment. The manufacturing industry is defined by a heavy emphasis on output. Operational safety is lowered as a result of high-performance pressures and time constraints. Engineers must meet stringent deadlines to complete their tasks. As a result, they may persuade employees to make concessions, putting their safety at risk. Accordingly, manufacturing engineers are shouldered with the legitimate responsibility of

developing and maintaining a secure work atmosphere for all personnel (Proven et al., 2020). The natural hazard of the manufacturing industry is highly receptive of business practices, especially in an already established capitalistic economy.

Industrial mishaps lead to numerous effects to the organisations involved, especially monetary deficits and non-monetary deficits such as a reduction in employees' motivation or a tarnished company image (Liu et al., 2018). Moreover, past studies came to a conclusion that workplace mishaps can be minimised if both the employer and employees share a commitment towards the maintenance of appropriate safety conducts (Toppazzini & Wiener, 2017). Consequently, safety conducts must be emphasised critically, while the workplace must be supervised regularly to minimise or eliminate industrial mishaps. However, decreasing output might mean the termination of recently employed employees who possess minimal experience or skills since they are generally more prone to workplace mishaps. Nonetheless, operating the factory floors only with more experienced and skilled employees in times of economic slump may actually decrease mishap occurrences.

As depicted in Table 3, the manufacturing industry has the highest rate of accidents. This scenario would result in financial loss and non-monetary losses, such as affecting the companies' reputation. Additionally, this scenario could worsen if there was inadequate research conducted with regard to engineers' well-being. Consequently, on-site safety behaviours must be emphasised critically and supervised regularly to minimise or eliminate industrial mishaps; as a result, engineers will be capable of maintaining and increasing their performance excellence and well-being.

From the above discussion and examples given in background of the study, the engineers in the manufacturing sector face challenges that can jeopardize their well-being. It is worthwhile to evaluate the correlation between safety climate and safety behaviour, with safety motivation as the moderating variable, towards the quality of work life among professional engineers in the Malaysian manufacturing industries. Thus, in response to the research questions, the following are the aims of this study:

1. *To investigate the effect of safety climate on safety behaviour among professional engineers in Malaysian manufacturing industries.*
2. *To investigate the effect of safety behaviour on quality of work life among professional engineers in Malaysian manufacturing industries.*
3. *To investigate the effect of safety behaviour on psychological well-being among professional engineers in Malaysian manufacturing industries.*

Proposed Conceptual Framework & Hypotheses

Figure 1 depicts the study's proposed conceptual framework.

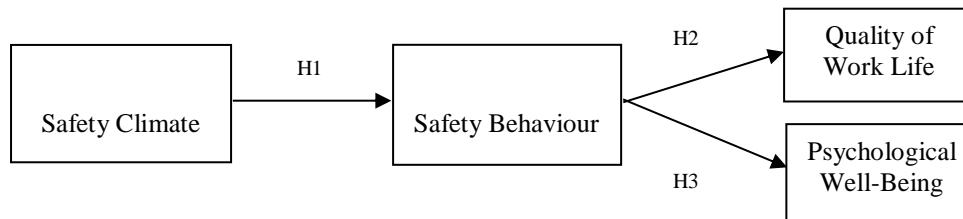


Figure 1: The proposed conceptual framework

Grounded on the framework, the subsequent hypotheses have been developed:

H1: Safety climate is significantly correlated with safety behaviour.

H2: Safety behaviour is significantly correlated with the quality of work life.

H3: Safety behaviour is significantly correlated with psychological well-being.

Methodology

Population and Sample Size

The study would be carried out on professional engineers listed under BEM. BEM defines professional engineers. As of 28th March 2019, in Malaysia, there are 14,749 professional engineers (www.bem.org.my) from diverse fields, i.e., aeronautical, agricultural, building services, civil, electric and electronics, and mining. However, this study would only include professional engineers from the manufacturing sectors.

According to Hair, Black, Babin, and Anderson (2010), the smallest sample size for actual data collection in a study should be determined in accordance with the “10 times” rule of thumb. Hair et al. (2010) suggested that the smallest sample size should be at a minimal of five times more than the number of variable items required for assessment. Since this study has 57 items for measuring all variables, the number is multiplied by 5; thus, the adequate minimum sample size consists of 285 respondents.

Sampling Technique

The purposive sampling technique was employed in this study. Specific types of people who can supply the required information are selected in this strategy. They would be chosen owing to being the only ones with the necessary information or if they meet the study's criteria. (Sekaran & Bougie, 2010). In this study, professional engineers that conform to the inclusion criteria as follows were chosen:

1. listed as professional engineers under the Board of Engineers Malaysia (BEM);
2. amassed a minimum of 50 hours in Continuing Professional Development (CPD) activities in 2020; and
3. currently employed in manufacturing industries only.

Data Collection Procedure

Self-administered questionnaires would be incorporated for data collection. Selected respondents are professional engineers registered with BEM. For the renewal of their practising certificates, the professional engineers must acquire a minimum of 50 hours in CPD activities each year. The questionnaires would be distributed and emailed according to the scheduled activities. This activities' schedule would be retrieved from the Institute of Engineers Malaysia (IEM)'s website. Before each CPD activity, the researcher would approach the venue management to explain the research objectives and seek permission for the placement of the questionnaires and email them throughout the activity. After permission was obtained, the time to distribute the questionnaires would be arranged.

Instrument

The instruments used are adopted from various previous studies with acceptable reliabilities (Cronbach's alpha). Four established instruments would be utilised for data collection upon gaining the respective authors' permissions: (1) Zohar and Luria (2005) for Safety Climate scale, (2) Neal and Griffin (2006) for Safety Behaviour scales, (3) Sirgy et al. (2001) for Quality of Work Life scale and (4) Berkman (1971a, 1971b) for Psychological Well-Being scale. Ratings apply the 5-point Likert-type scale (1 = strongly disagree; 5 = strongly agree) for every quantified item. The instruments would also be checked by an expert panel of five members before the actual data collection could be carried out. The experts would be given a copy of the instruments and instructions to assess all questions, to revise, and to modify or remove applicable items. The experts' assessment might be in the form of amendments, additions, or removal of certain questions or even a revision to the Likert-type scale.

Data Analysis

For the first phase of data analysis, the Statistical Package for Social Sciences (SPSS) version 25 would be utilised. Data were examined via SPSS statistical analysis; the coding, outliers, and normality were analysed. SPSS would also generate descriptive statistics to show the data's characteristics in a frequency distribution, maximum, minimum, mean, standard deviation, and variance. In the second phase, hypothesis testing would be done by means of Partial Least Squares (PLS) with SmartPLS 2.0 M3. In accordance with the approach on PLS regression, a research model analysis was executed in two steps: (1) to assess the measurement model; and (2) to assess the structural model. The initial step requires that every measure in the model is confirmed for validity and reliability. Subsequently, the structural model was evaluated by approximating the routes between the constructs, establishing their importance, and assessing the model's extrapolative robustness.

Conclusion

This study intends to provide an empirical evidence to the body of knowledge with regard to the link among safety climate, safety behaviour, and unsafe behaviour. Particularly, the present study endeavours to enlighten the perception of safety climate towards safety behaviour and the quality of work life, which have been inadequately researched within the Malaysian context. The current study also provides an enrichment value by proposing a safety behaviour, which can be used as a moderator in the connection between safety climate and the quality of work life in Malaysian manufacturing settings. For practical contributions, this type of conceptual framework, if verified empirically, will benefit parties like the government, the National Institute of Occupational Safety and Health NIOSH, companies in the manufacturing industries, and researchers. For instance, the government, especially NIOSH, can enhance workplace safety and health standards to raise human resource quality and overall national

development. The success of human resources will speed up the attainment of national goals. Next, the manufacturing industries can enhance the employees' quality of life via the development of safety and health at the workplace. This framework can motivate employees to be more productive in raising company productivity; as such, work should be designed to provide engineers with power and control. They should be provided with tasks that utilise their skills to increase satisfaction and decrease stress. Finally, researchers might be inspired to explore more and improve on any company's safety and health issue, besides suggesting that having a job resource will lead to positive psychological outcomes. When more research is conducted, more solutions can be found.

Acknowledgement

This study neither receives any specialised grant nor any fund from either public agencies, commercial enterprises, or not-for-profit organisations.

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MITIGATING THE IMPACTS OF A GLOBAL PANDEMIC ON HEALTH, HYGIENE (PPE) AND HOME GOODS

Muhammad Arif Ramadhan

Abstract

Impacts of a global pandemic on health, hygiene (PPE) and home goods are reoccurring issues that happen in every country that has been infected by a global pandemic such as the COVID19 pandemic. Recent and past studies have showed that in the occurrence of a global pandemic have created widespread panic across nations which results in a crippling supply run that is essential in maintaining a country's economy and the stability of healthcare institutions. The purpose of this study is to get around the unforeseeable worst-case scenario in the occurrence of a global pandemic and instead of having more problems branching from it, there will be preventive measures that could benefit communities and the healthcare sector that was highly impacted when medical, hygiene and home supplies were at the brink of shortage.

Keywords: *supply, demand, panic, PPE*

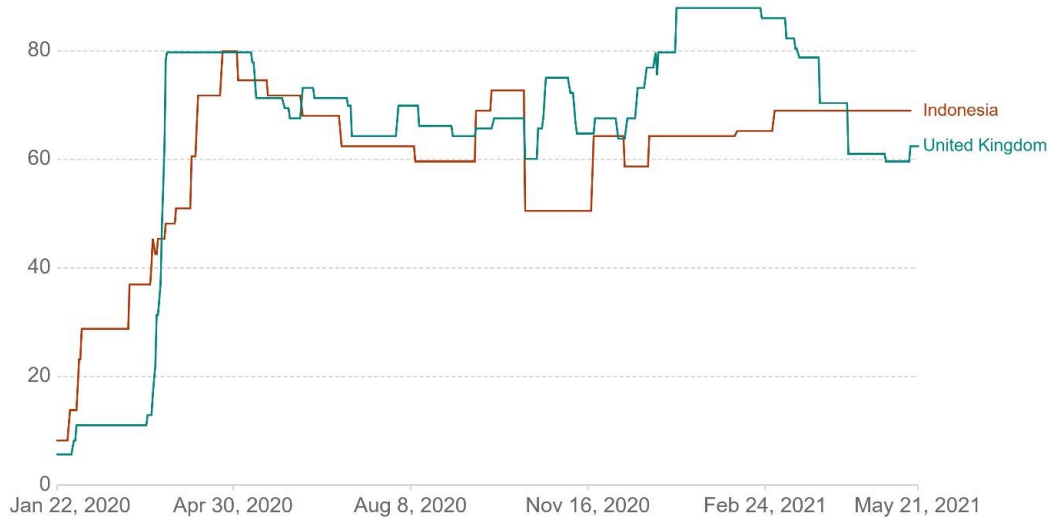
Introduction

The research topic shows the problem of having to face a shortage of medical, hygiene and home supplies during a global pandemic due to the increasing demands of such commodities or goods. A global pandemic can have a huge impact towards a country's healthcare and the retail industry which can grow larger in size if a viable solution has not been discovered yet, and with an inconsistency of a monetary or fiscal policy that can stabilize rapidly growing demands, the healthcare and retail industry could hit rock bottom due to a large pressure in demands. Those are two of the many consequences of panic buying which happens in every crisis where the whole country or even the whole world is at stake such as the coronavirus pandemic, worst of all it could heavily impact those who need those goods more than anyone else who are privileged enough to have a surplus. (*Coronavirus: The psychology of panic buying - BBC Worklife*, no date) Narrowing down the research to one specific country, which is Indonesia and by determining the ongoing conditions that are within targeted healthcare institutions that are facing the many challenges and difficulties coming from the pandemic. Getting into full details by directly engaging with people who are involved in managing the supply chain within the industry and transcribing their feelings and experiences that will help in formulating a final concept that could act as a viable solution. With the past records and the continuous updates of their condition in the wake of the COVID-19 outbreak, allocating the issues and figuring out what influences each other can be done with the flick of a finger. It all starts with the government and their decisions during the early stages of an outbreak. Whatever they choose to do will undoubtedly have a cause and effect that will either spiral out of control or make the situation under control during the later stages. The graph below shows the rate of the Indonesian and United Kingdom's government's response in relation to the number of

cases, and it shows that the government's response has recently been active after a year of being in a pandemic.

COVID-19: Stringency Index

This is a composite measure based on nine response indicators including school closures, workplace closures, and travel bans, rescaled to a value from 0 to 100 (100 = strictest). If policies vary at the subnational level, the index is shown as the response level of the strictest sub-region.



Source: Hale, Angrist, Goldszmidt, Kira, Petherick, Phillips, Webster, Cameron-Blake, Hallas, Majumdar, and Tatlow (2021). "A global panel database of pandemic policies (Oxford COVID-19 Government Response Tracker)." *Nature Human Behaviour*. – Last updated 24 May, 10:17 (London time)
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Healthcare firms, both public and private, are the first ones to act with their countermeasures against any forms of nationwide disasters such as a virus outbreak. The lives of millions of people are on the line with healthcare as the main entity that will steer the situations into a more favorable point for everyone who are affected by the pandemic. What is essential during such dire times are the commodities that are helping people avoid and prevent the worst possible outcome that could inflict short and long-term damage to themselves, the lives of other people around them or the economy as a whole in the path of a domino effect of worsening conditions. The essentials that healthcare institutions use to combat against the pandemic are personal protective equipment (surgical masks, n95 masks, gloves, hazmat, face shield), hand sanitizers, antiviral drugs, supplements, and diagnostic tools. With non-essential/medical workers sharing some of the products such as n95 face masks, face shields, and hand sanitizers.

Problem Identification

Media coverage of the pandemic was exaggerated during the first stages because of it being a new virus that have the potential to mutate and that it is highly contagious. Thus, resulting in a global wide panic that went on for months, therefore people started hoarding hygiene products, medical and home supplies throughout the country. Not only did supplies started dropping below the level of demand of those commodities at an uncontrollably rapid pace to a point where stores have run out of supplies. Suppliers themselves could not keep up with the pace and had to outsource from other countries that do not have any issues with the staggering supplies. (Jasper *et al.*, 2020) Following the coronavirus outbreak, the price of masks in Indonesia increased fourfold, while some ventilator models were out of stock despite

distributors tripling the price. (*Shortage of medical devices such as ventilators an extreme concern: Poll*, no date)

Yet, outsourcing was not an easy process to try to fill in the unmet high demands of medical supplies and equipment at all due to the outbreak halting and limiting trading and transportation between countries. With the newly given extra steps, some operations that were essential were halted because of not being able to fulfill the requirements. There is also a risk of fraud, such as this one case where China sent supplies of health supplies and test kits, only to find them being faulty and useless. The Netherlands, Spain, Turkey, Georgia and the Czech Republic have all rejected China's supplies of medical supplies and equipment because they were proven to be faulty and useless (*China exporting faulty medical equipment as manufacturing rebounds*, no date)

Firstly, to first establish the connection between social responses and the availability of resources, we have investigated the relationship between social reaction and the availability of goods and services, all while explaining the problem by consulting with critical staff who are part of the supply chain of medical equipment used by the healthcare industry and civilians.

Research Questions

Based on the problems that have been stated above, the questions that are needed to be answered that would formulate a viable solution in countering the problem are the following:

- Do the adverse impacts of a global pandemic have an impact on the supply and demand for hygiene and health commodities?
- Does the government's effort to preserve order in social practices and reactions by fiscal policies help balance the supply and demand for commodities?

Research Objectives

- To figure out ways on how to avoid and prevent such disruptions.
- To learn the patterns of the spread of the virus itself in businesses, starting from external to internal factors.

Scope and Limitations

With the ongoing pandemic right now and having travelling restrictions imposed, field study is impossible to be conducted and that the only accessible sources are the internet and contacts living in the country of interest (Indonesia). In addition to the inability to conduct any interviews with the local hospitals in the UK due to the severity of the ongoing lockdowns.

Literature Review

Widespread Panic and its Effects towards the Supply

Local healthcare firms have been on the frontline during numerous natural disasters and disease outbreaks. In the occurrence of an outbreak, there are spikes in demand of medical supplies from other healthcare firms that are in the frontline and civilians themselves which are hard to meet due to a widespread panic across the country. This widespread panic was caused by the psychological affects that a worldwide crisis can incur towards people overtime because it requires at least one person's patience to thin out which could potentially affect those who are in the same crowd of people. It's already stated that the fate of other people is intertwined by the decisions and actions of the people who are instigating the problem of

scarcity by hoarding, thus leading to a butterfly effect from something as minor as not having enough toilet paper to something major such as not having enough respiratory machines to care for those who are in critical condition due to being infected by the coronavirus. As time passes and the number of cases increase, more and more people start to only think for themselves and their freedom of speech which is even worse than causing passive havoc in spreading unnecessary panic either through physical or digital means. (*Coronavirus: The psychology of panic buying - BBC Worklife*, no date) A new field of study known as misinformation studies is attempting to explain how and when false theories emerge amid public health emergencies. The latest coronavirus's media attention is now unfolding and has not been thoroughly studied. However, an analysis of two previous epidemics that occurred concurrently with the proliferation of recent news about COVID-19 demonstrates the challenge of reversing misleading rumors about a health problem. (Jasper *et al.*, 2020)

Due to manufacturing and logistics constraints caused by the panic caused by people and healthcare institutions that were hoarding PPE, the PPE supply chain has been unable to adequately respond to an increase in demand. Prices of personal protective equipment (PPE) have increased significantly since the start of the COVID-19 outbreak: sixfold for surgical masks, threefold for respirators, and a doubling for gowns (WHO 2020). Globally, production orders are backlogged by 4–6 months, and raw materials are running low. Numerous economies have imposed export restrictions on personal protective equipment and critical products. (Park *et al.*, 2020) In areas with high demand, a crucial scarcity of any of these is expected to grow or has already emerged. PPE, which was formerly commonplace and interchangeable in the hospital setting, has become a rare and valuable asset in many areas, especially when caring for pathogenic patients. Increased PPE supply in reaction to this increased demand would necessitate a significant rise in PPE sourcing, a method that many medical systems lack due to the exponential growth in COVID-19 patients. (Livingston, Desai and Berkwits, 2020). The figure below represents each of the contributing factors that have an affect on the supply of PPE in the healthcare industry:

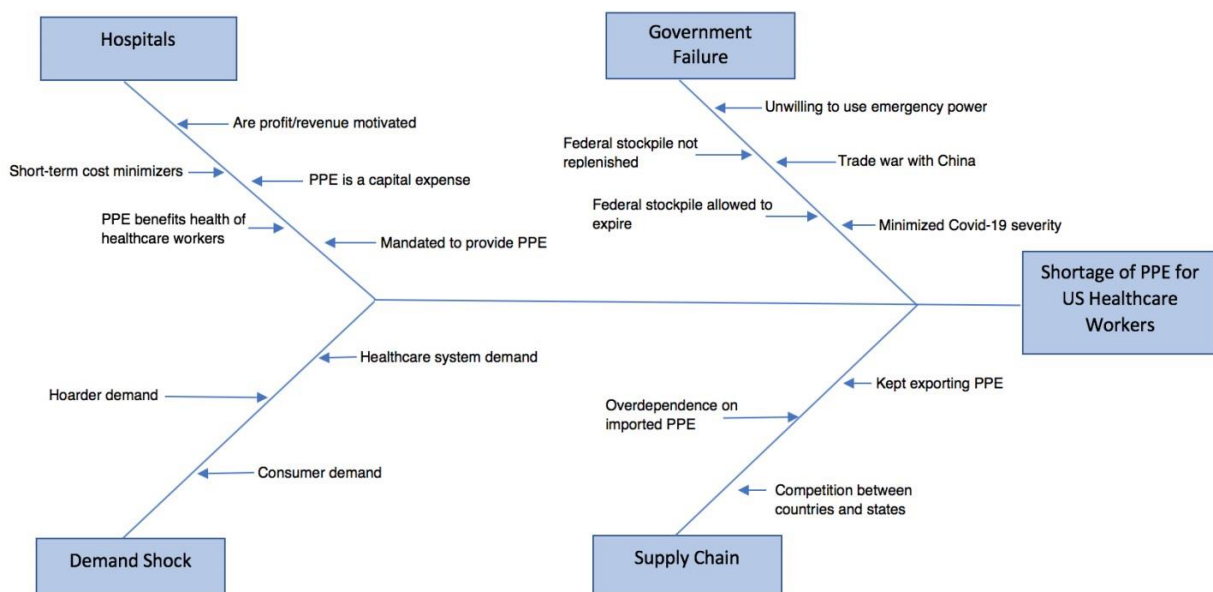


Figure 2.1 (Cohen and Rodgers, 2020)

Social-Political Views on Crisis

Crisis social-political philosophy is concerned with cultural symbols and living philosophies. Specifically, crisis occurs as collectively formed relationships lose their common purpose, legitimacy, and institutionalization. Empirical research demonstrates that this disintegration process can take a variety of different forms. According to the social-political viewpoint on crisis, the root of a crisis is a systemic inability to make sense of events and structure tasks. As a consequence, social order, allegiance, and commonly held values and convictions will deteriorate, leading to an increase in excessive individualism, incivility, and violence. (Pearson and Clair, 1998) In comparison, emerging nations have a younger demographic but less developed healthcare services. The markets are lower, and state capacities are restricted. Additionally, whilst the majority of developed countries invest, borrow, and repay their loans with their own currency printed by their central bank, emerging countries would need to secure, and in most situations borrow, dollars and euros to service their debts. In brief, emerging countries' strategies in response to the pandemic will fall well short of those of developed countries. ('New Perspectives on Turkey roundtable on the COVID-19 pandemic : prospects for the international political economic order in the post-pandemic world', 2021)

Domino Effect and the Appearance of Disruptions by Third Parties

The severity of the problem is worsening as many major manufacturers have lost supply of their own inventory, so many more healthcare companies have their supply chain worsened due to the lack of incoming restocks. 'Prestige Ameritech, the largest complete manufacturer of domestic operating masks, produced 600 000 masks every day, but struggled to meet demand.' (*A Texas mask manufacturer is caught in coronavirus's supply chain panic - The Washington Post*, no date) The Author highlights the gravity of the situation by the use of a six-figure number to prove that, in a global panic caused by a pandemic, a scarce commodity might reduce the productivities of medical suppliers. But, in a country with this influence, the author has said: "Mike Bowen, executive vice chair of the company, got cold calls on the telephone from people saying they served foreign governments and wanted to make big purchases." They have been able to get attention from other bodies from other countries in the same region. (*A Texas mask manufacturer is caught in coronavirus's supply chain panic - The Washington Post*, no date) The "cold calls" reveal a sense of fear on the other side of the call and again demonstrate the magnitude and global scope of the situation. However, this incident is a short-term advantage to the manufacturers and a longterm loss, since it acts as a contagion which batters them with further demand that they could not satisfy.

On the other hand, there are others that benefit other companies who are interested in their activities because of their greater local fabrication capacity in medical supplies such as China. "An enormous demand for medical supplies is holding the world's leading air cargo terminals busier than normal in the midst of the Covid-19 pandemic." (Lee, 2020) Showing the opportunistic strategy that is a win-win option both for the manufacturers of medical supplies and for the air cargo terminals in Covid-19. This was accomplished by repurposing current properties from their original intent to one that allows them to do further duplicate operations. "The substantial increase in business is largely due to the fact that freight carried by commercial aircraft had to be diverted to carriers when major airlines drastically cut or ceased flight." (Lee, 2020)

Another intriguing aspect of contagion is that it is not only limited to countries with strong economic or political relations. Psychological considerations, economists, analysts, and politicians have long argued, can be crucial in the international dissemination of crises. We believe that the ostensibly "psychological" causes should be rationalized. (Chen and Suen, 2016)

Crisis Management

Combating the humanitarian problem and challenge to justice posed by coronavirus in our communities is a time-consuming and multi-level endeavor. The crisis affects every level of society, from individuals to whole countries. The same is true for both short- and long-term effects and changes. As a result, the social crisis must be understood and discussed both in the short and long term. (Haase, 2020) Collaboration, teamwork, networking, and knowledge exchange are needed to resolve such a crisis. The procedures include the dissemination of current crisis files, 24-hour meeting points, analytical reports, and a web portal for knowledge exchange and collection. These activities can be carried out incrementally in three distinct operating modes: surveillance, knowledge exchange, and a hybrid of the three. (Goniewicz *et al.*, 2020) Crisis management scholarship outlines and discusses social responses to crises including a challenge to basic beliefs, a sense of urgency to respond, and confusion about the crisis and appropriate courses of action. (Punch, 1991) These circumstances not only present critical leadership problems in terms of decisionmaking, public knowledge, sense-making, transparency, learning, and change, but also necessitate broad cooperation and teamwork affecting various individuals and organizations. (Boin, Ekengren and Rhinard, 2014) Crisis intervention and management are inextricably linked to (1) national policy, including their substance, (2) the relationships of people, organizations, coalitions, and networks, and (3) structural factors, such as income distribution, local relationships, and global policy decisions. (Weible *et al.*, 2020)

Responses take place on both the political and organizational grounds. The approach to and handling of crises takes place on two occasions. (Boin and 'T Hart, 2010) The organizational level applies to decisions and activities made on the field, and it encompasses medical practitioners, epidemiologists, emergency managers, and other experts tasked with responding to the pandemic's imminent challenge. The strategic level is comprised of political-administrative leaders who bear political accountability for and make strategic decisions, provide public reports of activities, and facilitate teamwork and cooperation. The constant need for change in crisis prevention and management in response to changing conditions and incidents necessitates continued commitment at all levels. (Weible *et al.*, 2020)

Decisions should be taken with public health in mind, not political or economic expediency. Regrettably, many decisions taken during the ongoing crisis were motivated by political and economic concerns rather than concerns about public safety and stability. As a result of the late involvement in crisis management and inability to adopt critical social distancing techniques, the outcome was compromised, resulting in the loss of life and reputation. (La *et al.*, 2020) Studies integrating social sciences into the epidemic response complement clinical trials on COVID-19. The social sciences are intended to yield rich and comprehensive insights into the social, behavioral, and contextual facets of cultures, environments, and populations impacted by infectious disease epidemics. The ultimate goal is to integrate social science and biomedical awareness about the COVID-19 outbreak. This linkage will bolster responses at the foreign, federal, state, and local levels aimed at containing the spread of COVID-19 and

mitigating its social and economic consequences. (*A COORDINATED GLOBAL RESEARCH ROADMAP: 2019 NOVEL CORONAVIRUS*, 2020)

Performance Intelligence and Governance of the Supply of PPE

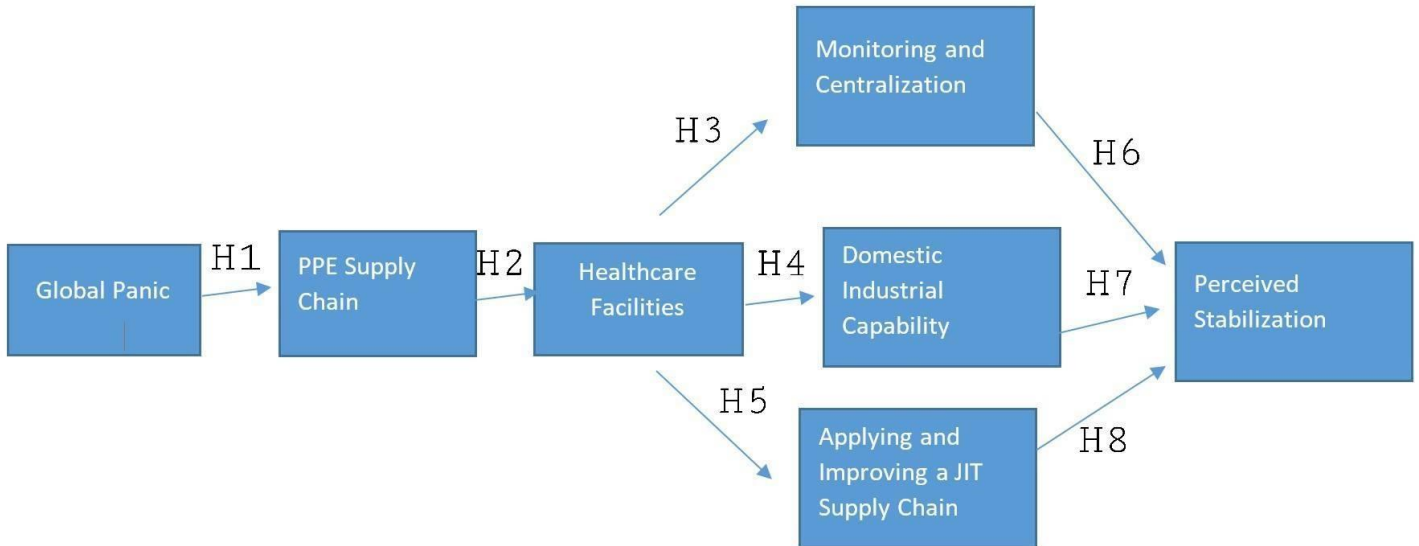
With the assistance of notified bodies, national authorities should exchange best practices and seek consensus on common methods for evaluating the safety and performance of medical devices and personal protective equipment. Member States should provide a single point of contact for all issues concerning personal protective equipment and medical devices in order to facilitate communication between testing laboratories and relevant market surveillance authorities. (*Coronavirus response | European Commission*, no date) Businesses should concentrate their efforts on making life-saving medical equipment, avoiding shortages or delays at a time when lives are at risk. Additionally, lowering barriers to access medical equipment and supplies is encouraged by eliminating customs, taxes, and VAT on medical devices and personal protective equipment imported from low-income countries. (Sohrabi *et al.*, 2020)

The solutions for PPE are slightly different. State governments could encourage enterprises to make this equipment in their communities that could shift production to that. The EPP components are complicated, but they do not require the intense capital required by ventilators, so that smaller regional businesses can play an essential role in bridging the gap. State partnerships with these firms will require cleverness, meaningful resources and relaxation of regulatory requirements of less importance. (Ranney, Griffith and Jha, 2020) Another solution would be the procurement of facemasks and other personal protective equipment (PPE) in a joint public procurement process. For example, on March 19, 2021, the EU Commission established rescEU stockpiling, a European-wide repository for medical devices such as ventilators, personal protective equipment, wearable masks, vaccines and therapeutics, and laboratory supplies. The reserve is funded to the tune of 90% by the EU Commission. This could also be adopted in Indonesia in order to have that equipment on standby during emergencies. (*Public health | European Commission*, no date)

Monitoring personal protective equipment (PPE) usage and delivery, as well as centralizing visibility of orders placed. Which will assist in ensuring the timely distribution of patient care during an emergency response and will allow distributors and retailers to identify duplicate orders and predict product demand at the national, regional, and global levels more accurately. Power for surges can be enhanced, whereas trade and logistics assistance can be prioritized through pandemics. Improving the infrastructure of just-in-time supply and distributing accountability. Foreign, national, and local stockpiles can be designed to meet the demands of an acute disease, or pandemic, while processing capability can be increased to satisfy PPE supply needs. While it is much easier to import additional supplies from other countries during outbreaks in a single region, such control becomes much more complex during pandemics, when all countries are affected. Increasing domestic industrial capability in the case of an emergency.

Lastly are some internal and external policies that can be implemented to further improve the stability of the supply chain. Government health programs must be evaluated prior to the occurrence of epidemics or pandemics. Sharing knowledge and engaging on a consistent basis. It is essential to create a reliable, lowburden system for governments and private sector stakeholders to exchange situational and supply information. (Park *et al.*, 2020)

Theoretical Framework



H1: Global panic has a negative influence on PPE Supply Chain

H2: PPE Supply Chain has a negative influence on Healthcare Facilities

H3: Healthcare Facilities initiate “Monitoring and Centralization”

H4: Healthcare Facilities initiate “Domestic Industrial Capability”

H5: Healthcare Facilities initiate “Applying and Improving a JIT Supply Chain”

H6: Applying and Improving a JIT Supply Chain has a positive influence on Perceived Stabilization

H7: Domestic Industrial Capability has a positive influence on Perceived Stabilization

H8: Applying and Improving JIT Supply Chain has a positive influence on Perceived Stabilization

Research Methodology

Research Design Flowchart

The section here shows a representative diagram of the research process which can be seen below in Figure 3.1. It includes all of the steps required in the formulation of a conclusive hypothesis.

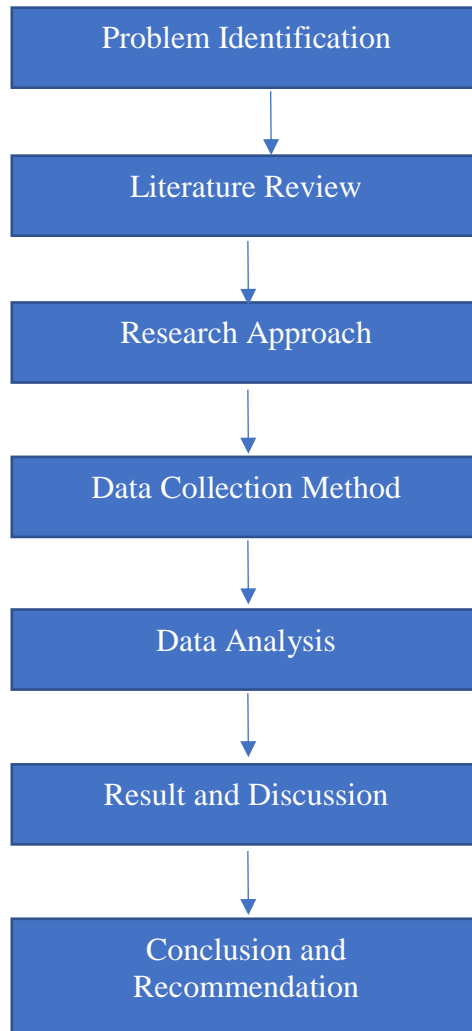


Figure 3.1 Research Design Flowchart

Research Approach

Qualitative and Correlation Approach

The qualitative approach is to be used to allocate primary data that can be easily transcribed. The correlation research design is also being used during the thematic analysis to determine the influences between each value and to compare the correlation between each theme.

Data Collection

Interview

Company Background and Chosen Interviewee

The chosen interview participant has been determined from working with the targeted company, RS Kurnia. Kurnia Hospital is a private healthcare firm with two branches located in Serang and Cilegon in the Banten region of Indonesia. RS Kurnia Cilegon is a development of RSIA Kurnia Cilegon. Kurnia Hospital Cilegon started its operational activities in 1982 under the name Kurnia Maternity Home for 21 years. (RS Kurnia Cilegon, no date) The selected interviewee will be a Medical Support staff member who works in the hospital and will be providing the primary data necessary to be analysed.

Data Analysis and Tools Used

For the data analysis, the thematic analysis approach is used since the data collected is qualitative data and that Due to the informative and exploratory aspect of the findings discussed in this article, content analysis was used as the primary method for analysis.

Table 3.2.4 Thematic Analysis

Themes	Code Sets	Values and their Relationships		
Comparison	Negative	Higher prices of PPE	Lower number of visitors	
Limitations	Difficulties and Challenges	PPE difficult to find on the market, higher price, competing with other health facilities	Decrease in number of visits, decrease in income	Longer supply needs
	Supply chain issues	Allocation of supplies, high demand, and low supply	Operational costs increase	Longer supply needs, not all ordered units will be fulfilled, units are limited
Involvement	Policies	Covid-19 Handling Team, Covid-19 Clinical Practice Guidelines, Hospital Infection Prevention and Control Policies, modification of Covid-19 Special Isolation Care Rooms	Minimum and maximum stock policy for each unit	
Feeling	Attention	Management of new disease	Calculated more than usual	Regularly follow-up orders, tighten PPE usage, work and patient safety
	Hopefulness	Supply chain began to stabilize in early 2021	Can be fulfilled for daily operations	Everyone hopes that this pandemic will end soon

	Uncertainty	Worried, "Even if"	"Quite a long time"	
	Hopelessness			Prices cannot be negotiated

Obstacles that were faced during this stage of the research was the constant try-outs in contacting different contacts to interview but due to the lockdown restrictions, the list of contacts have been reduced to one contact. Another obstacle was the attempt to utilize 3rd party tools such as "CATMA" which took too long to implement the thematic analysis; therefore, Microsoft Excel was used to implement the thematic analysis.

This method of analysis is effective due to the ability to finally get a clear idea of what are the correlating variables that the interviewee has mentioned throughout the interview. Also having to relate back to the literature review, there are some shared similarities such as the correlation between the high demand of PPE and its rising cost.

Results

The reason why comparing current conditions (COVID-19) with previous conditions (pre-COVID) was to provide an outlook as to how the company has been negatively impacted by the pandemic; with the higher prices of PPE influencing the difficulty on trying to find available sources of PPE in the market. As a result of market and government shortcomings, PPE procurement by hospitals, service providers, companies, individuals, and governments became more competitive and time and money consuming. (Cohen and Rodgers, 2020) Which also contributes to the lower number of visitors because of their lack of confidence and trust with the hospital's safety for their visitors, thus decreasing the hospital's income. About half of all Britons are afraid to visit a hospital, amid physicians' promises, a recent study shows.

They risk contracting COVID-19 and being a strain on the NHS. Due to the possibility of contracting COVID-19, 45% of respondents expressed fear of visiting A&E, 41% expressed fear of attending a hospital doctor consultation, and 45% expressed fear of contracting the virus if they visited the dentist. By contrast, just 27% expressed apprehension of a visit to the pharmacist for this cause. (*Half of British public 'scared' of going to hospital due to COVID-19 risk and time-wasting - PharmiWeb.com, 2020*)

Discussion

The results imply the direct connections between the all the different themes that were explored during the thematic analysis process. From the comparison of conditions to the feelings of the interviewee and, of course, internal policies (such as the introduction to new standards of procedures within the company) and the supply chain's stability. Such as forming guidelines

that helps those working in the supply department to determine the minimum and maximum stocks for each unit, which will help the company in tightening their usage of the PPE in order to reserve some in case of emergencies. Also paying a lot of attention to any sort of updates in regard to the disease that will help them in forecasting future supply runs, and to avoid any potential shortages. In addition to the constant follow-ups of each orders the company made to their various suppliers. This would lead to a competitive advantage, keeping a close-knit with their suppliers, In the face of other healthcare institutions that are also competing to obtain the supply of PPE that they need. This would eventually cover the three months resupply intervals that were changed from only just one month during pre-covid.

Nonetheless, the results are to be expected and that they share the same characteristics with some of the explored literature reviews. Thus, making them consistent with the previous studies that have been discussed.

Conclusion

However, the results cannot tell what the conditions are in other countries that were supposed to be included in the data collection process. It also does not include the ways to how a government can help in producing policies that would help healthcare institutions such as RS Kurnia, because of the lack of information provided by the interviewee in regard to those external policies and the unavailability of those data from other sources that does not require a translation. Since the only source of primary data was from one participant, it can be deducted that the data is highly generalized to the environment that surrounds the company and the participant herself. Which implies that there is some information that are expected to not connect with some of the previous studies that have been explored in the literature review section. Despite the generalization, the research has proven that there is a strong connection between social behaviours and the supply and demand of essential goods. Last thing that should be pointed out is that healthcare institutions should focus more on the safety of their employees and patients because they are what keeps the company running and not just the supply chain of devices or equipment that can be obtained comparatively less difficult.

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COMMITMENTS RELATION TO COMPETITIVE ADVANTAGE VIA GSCM ON FUEL RETAIL INDUSTRY IN INDONESIA

Hari Purnomo¹
Ina Primiana Syinar²
Fani Cahyandito³
Diana Sari⁴

¹ Faculty of Economics, Universitas Padjadjaran, Indonesia, (E-mail: haridmb2016@gmail.com)

² Faculty of Economics, Universitas Padjadjaran, Indonesia, (E-mail: ina.sagir@fe.unpad.ac.id)

³ Faculty of Economics, Universitas Padjadjaran, Indonesia, (E-mail: cahyandito@yahoo.com)

⁴ Faculty of Economics, Universitas Padjadjaran, Indonesia, (E-mail: diana.sari@fe.unpad.ac.id)

Abstract: *The competition among gas stations is getting tighter. Restrictions on subsidized fuel began at the end of the first quarter of 2011, so that local gas stations must be ready to compete with foreign gas stations. Commitment level of the industry as business partners is very important to decision running the business. Increasing competitive advantage can be conducted by implementing Green Supply Chain Management (GSCM) which is related to commitment. This paper aims to see and examine the effect of commitment on GSCM, the effect of commitment on competitive advantage, the effect of GSCM on competitive advantage, and the effect of commitment on competitive advantage through GSCM. This study is a descriptive and associative research by using quantitative approach. We use Structural Equation Model (SEM) with total sample of 640 respondents. Data processing is conducted by Lisrel software. Result shows that commitment have a positive effect on GSCM, commitment have a positive effect on competitive advantage, commitment has influence on competitive advantage through GSCM, and competitive advantage in the fuel retail industry can be increased by implementing GSCM. The GSCM needs to be supported by commitment. Commitment acts as the foundation of GSCM.*

Keywords: *Commitment, Green Supply Chain Management, Competitive Advantage, Fuel Retail Industry*

Introduction

The competition among gas stations is getting tighter. Restrictions on subsidized fuel began at the end of the first quarter of 2011, so that local gas stations must be ready to compete with foreign gas stations. Foreign gas stations have varied products so that consumers have a choice other than Pertamina gas stations (bphmigas.go.id, 2017). There is a fuel price competition which is determined from the difference in the classification of the fuel based on the Research Octane Number (RON). In addition to product variations and price factors, consumer considerations in choosing a gas station are also based on the gas station services. AC Nielsen's research conducted in 2011 measuring Quality Product, Sales & Purchase Service, General Service, Facilities and Image Performance shows that Shell is in first place and followed by Petronas, Pertamina and Total. It shows that as new players, foreign gas stations can compete competitively with local who have been operating in Indonesia for a long time. (AC Nielsen, 2011)

Commitment level of the industry as business partners is very important to decision running the business. Result of a survey conducted by AC Nielsen in 2017 regarding the tendency of business partners to continue to collaborate with companies in the Retail Fuel Industry in Indonesia obtained an average index of 47% (AC Nielsen, 2018). Each year, the Ministry of Environment and Forestry gives the Proper award with the aim of encouraging companies to comply with environmental regulations and environmental excellence. Almost all gas terminals (formerly known as depots) are required to participate in the program. The program aimed to reduce emissions. Indonesia has a commitment to reduce emissions by 29 percent by 2030 as stated in the Paris Agreement. In order to adapt the environmental issue, Pertamina succeeded release the Pertalite (RON 90). It is launched to get better fuel quality by having greener fuel product. Green product and service is one of the The fuel retail industries need to improve ability to run business professionally. By this competition, the fuel retail industry in Indonesia need to create competitive advantage that is right for its business. Competitive advantage according to Michael E. Porter (2008) is the ability to achieve economic benefits above the profits compared to competitors in the market of the same industry. Companies are expected to improve their external and internal performance in order to stay competitive in the market (Handfield and Nicholas, 2002). Competitive advantage and good organizational performance can be done by implementing Green Supply Chain Management (GSCM) (Sarkar, 2012). GSCM is integration of environmental insight in supply chain management, including product design, material sourcing and selection, manufacturing processes, final delivery of products to consumers and end-of-life management of the products (Srivastava, 2007). Implementation of GSCM requires continuous improvement in the production performance by complying environmental regulations. Research conducted by Rao and Holt (2005) using a sample of environmentally friendly companies in the Southeast Asia region shows that environmentally insight contribute to competitiveness advantage. The results of research conducted by Nielsen (2018) state that customer satisfaction and loyalty are closely related to the commitment of the fuel retail industry. Gharehbashlioni and Seify (2014) state that commitment, conflict management and communication have an effect on competitive advantage. However, need more evidence to correlate commitment, GSCM and competitive advantage in the fuel retail industry. This study was conducted to examine the commitment factor associated with Green Supply Chain Management and its impact on competitive advantage in the retail fuel industry in Indonesia. Indonesia is suitable for the research as Indonesia is currently an emerging country with developing various fuel industry.

Literature Review

Commitment

Commitment is long-term orientation relationship, including the desire to maintain the relationship. This study develops the commitment construct by Gruen, Summers, and Acito (2000) and Leonidou, Katsikeas, and Hadjimarco (2002) and Keh and Xie (2009). Definition of commitment in this study is a psychological state that represents the experience of dependence on a relationship. Commitment summarizes previous experiences and directs reactions to new situations. Dimensions and indicators that are used in this study are:

1. Dimensions of Affective Commitment
 - Strong sense of belonging to the company.
 - Feelings of pleasure during association with the company.
 - Feelings of the company's problems are also their problems.
 - Feelings of pleasure discussing the company with others.

- Possession of emotional bond with the company.
 - Desire to continue to cooperate with the company.
2. Dimensions of Normative Commitment
 - Feeling obliged to remain as partner of the company.
 - Commitment to continue working with the company despite receiving a better offer.
 - Commitment to partnership with the company for the benefit of the gas station.
 - Appropriateness to earn loyalty.
 3. Dimensions of Continuance Commitment
 - Willingness to maintain good relations with the company.
 - Willingness to dedicate whatever is necessary to develop working relationship with the company.
 - Feelings of need to maintain cooperation.
 - Concerns about cancellation of cooperation with the company.
 - Commitment not to leave the company.

Green Supply Chain Management

The GSCM construct used is combination of Zhu and Sarkis (2004), Yang, Lu, Haider, and Marlow (2013) and Chan, He, Chan, and Wang (2012) adjusting several dimensions of GSCM. This research also emphasizes the users feeling related to GSCM. GSCM is an integration of environmental issues, corporate environmental management practices into supply chain management. The indicators for each dimension used in this study are described as follows.

1. Company policy on the environment

- The company's ability to implement environmental management.
- Company's ability to implement environmental audit and compliance programs.
- The company's ability to carry out ISO 14001 certification and environmental management systems.

2. Level of product compliance to the environment

- The company's ability to have products that are more environmentally friendly.
- The company's ability to design products which reduce material/energy consumption.

3. Level of reliability of the logistics network

- The company's ability to provide guaranteed products.
- The company's ability to design products by avoiding hazardous manufacturing processes.

4. Pollution reduction/prevention strategies

- The company's ability to have a strategy in reducing pollution.
- The company's ability to prioritize products that are more environmentally friendly.
- The company's ability to have low-Sulphur products.

5. Develop mutual understanding of risks and environmental responsibilities to customers
 - The company's ability to inform customers about the importance of protecting environment.
6. Provision of environmentally friendly service information to customers
 - The company's ability to provide information on environmentally friendly services to customers.
 - The company's ability to offer more environmentally friendly products to customers
7. Attract customers with “green” initiatives and services
 - The company's ability to attract customers by using environmentally friendly products

Villanueva and Garcia (2013) stated that GSCM is a strategy to determine competitive advantage. Likewise, research conducted by Khaksar, Abbasnejad, Esmaili and Tamošaitienė (2015) and Abbas, Hasan and Niloufar (2017) show that GSCM has a significant positive effect on competitive advantage.

Competitive Advantage

Porter (2008) which states that competitive advantage in an industry needs to have the ability to understand changes in market structure and be able to choose an effective marketing strategy. This study also adjusts several dimensions that are used as references in measuring competitive advantage as a combination of the dimensions proposed by Rao and Holt (2005), Li, Ragu-Nathan, Ragu-Nathan, and Rao (2006) and Navarro, Losada, Ruzo, and Díez (2010) adapted to conditions of Indonesia. Definition of competitive advantage in this study is the ability to understand and respond to changes in market in order to be above competitors.

Details of the competitive advantage dimensions and indicators used in this study are described below:

1. Price
 - The company's ability to set competitive prices.
 - The company's ability to offer lower price than competitors.
2. Product quality
 - The company's competitive ability based on the quality of the products produced.
 - The company's ability to produce highly reliable products.
 - The company's ability to produce durable products.
 - The company's ability to produce high quality products.
 - The company's ability to provide needed products.
3. Delivery dependability
 - The company's ability to fulfil orders on time.
 - The company's ability to make reliable deliveries

4. Product innovation

- The company's ability to provide appropriate products.
- The company's ability to provide product offerings that meet client needs.
- The company's ability to respond well to customer requests of new features.

5. Time to market

- The company's ability to deliver products to market quickly.
- The company's ability to be the first in introducing new products in the market.
- The company's ability to deliver new products faster than other companies.
- The company's ability in rapid product development.

Hypothesis

These are some hypotheses used in this study.

Hypothesis 1: Commitment affects GSCM in the fuel retail industry in Indonesia.

Hypothesis 2: Commitment affects competitive advantage in the fuel retail industry in Indonesia.

Hypothesis 3: Commitment affects competitive advantage through GSCM in the fuel retail industry in Indonesia.

Methodology

This study uses quantitative, descriptive and associative approach. Population of this study is fuel gas in Java Island. 3,083 or 41.35% of gas stations in Indonesia are located in Java Island. In Java Island, PT. Pertamina has 2,979 gas stations, AKR has 36 gas stations, while Total, Shell Indonesia and Vivo have 68 gas stations (BPHMigas, 2017).

This study uses the Structural Equation Model (SEM) equation model. The sampling technique used is simple random sampling. While the sampling technique used is proportional random sampling. Determination of the minimum sample required uses the Slovin formula with a tolerable sampling error rate of 5% (Umar, 2008). Population of the study is 3.083 gas station, with 0,05 significance level, thus:

$$n = \frac{3,083}{1 + (3,083 \times 0,05^2)} = 354$$

Thus, sample of each population can be seen as below.

Table 1: Proportion Allocation of Research Sample

No	Gas Station	Population	Sample
1.	Pertamina	2979	342
2.	Akrindo	36	4
3.	Total, Shell dan Vivo	68	8
	Total	3.083	354

Source: Processed from Various Resources (2018)

Data collected in the field is 640 respondents which has complied with above requirements.

Measurement of the variables uses Likert scale. This scale uses a value of 1 to 5 with response categories ranging from strongly agree to strongly disagree. Respondents need to determine the choice of agreement or disagreement in the series of statements regarding object of the stimulus.

Result and Discussion

General Description

This research was conducted by doing survey to supervisor or manager of gas stations in Java with a variety of respondents. Based on the survey results, here are some characteristics of respondents:

Table 2: Profile of Respondents

Profile of Respondents	Frequency (n)	%
Gender		
Male	583	91.09
Female	57	8.91
Age		
Less than 25	46	7.19
26-30	113	17.66
31-35	161	25.16
36-40	139	21.72
More than 41	181	28.28
Education		
Doctoral	0	0
Master	8	1.25
Bachelor	122	19.06
Diploma	62	9.69
High School	448	70.00
Working Experience		
Less than 1 year	28	4.38
2-3 year	77	12.03
3-5 year	103	16.09
More than 5 years	432	67.50

The survey results show that the supervisor or manager of gas stations is still dominated by men. Gas station supervisor or manager is more technical and management activities which are more suitable for male employee. The management tends to do uncomplicated routine activity, thus do not require higher level of education. The supervisor or manager of a gas station is responsible for the day-to-day operation requires long work experience as they need to understand any possible case or incidents. Therefore, assigned manager or supervisor tends to have worked for more than 5 years.

Commitment on Fuel Retail Industry in Indonesia

Commitment is a psychological state represents experience of dependency in a relationship. Commitment summarizes previous experience and directs reactions into new situations. Results of the study related commitment are presented at below graphics.

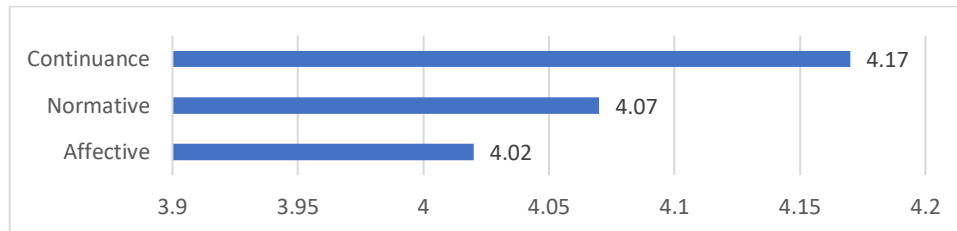


Figure 1: Average of Commitment

Each dimension of commitment is good. This shows that there has been a good commitment between the company and business partners in the fuel retail industry in Indonesia. High level of commitment is important for both parties. For companies, a strong commitment from their business partners can be beneficial to continue maintaining the business and operations support. Likewise, with business partners, good commitment creates a sense of comfort to actively market the products and carry out right strategy to increase their sales. Dimension of continuance has the highest average index as retail fuel industry requires long-term engagement in maintaining cooperation between the company and its business partners. The amount of investment that must be issued by both the company and business partners is one of the factors that makes cooperation between the two is sought to be sustainable for a long time. Indicator desire to continue working with the company and indicator of feeling the need to maintain cooperation are two indicators that get highest average index level. Partnership between the company and business partners, both have interests and goals to develop a long-term partnership. By working together, company's performance may continue through strong supply chain network. In addition, sustainable benefits also need to be obtained by both parties considering the amount of investment made by the business. Indicator of feeling happy discussing the company to others is the indicator with the lowest average index. Business partners are reluctant to share their business with others. Sharing information with others will make them interested in doing similar business. By addition of the number of gas stations in the fuel retail industry will potentially erode the market and profits. Result of this study is in line with Gruen *et al.* (2000), Leonidou *et al.* (2002) and Keh & Xie (2009).

Green Supply Chain Management on Fuel Retail Industry in Indonesia

Green Supply Chain Management (GSCM) is defined as an integration of environmental issues, corporate environmental management practices into supply chain management. Average index of each dimension is presented at figure below.

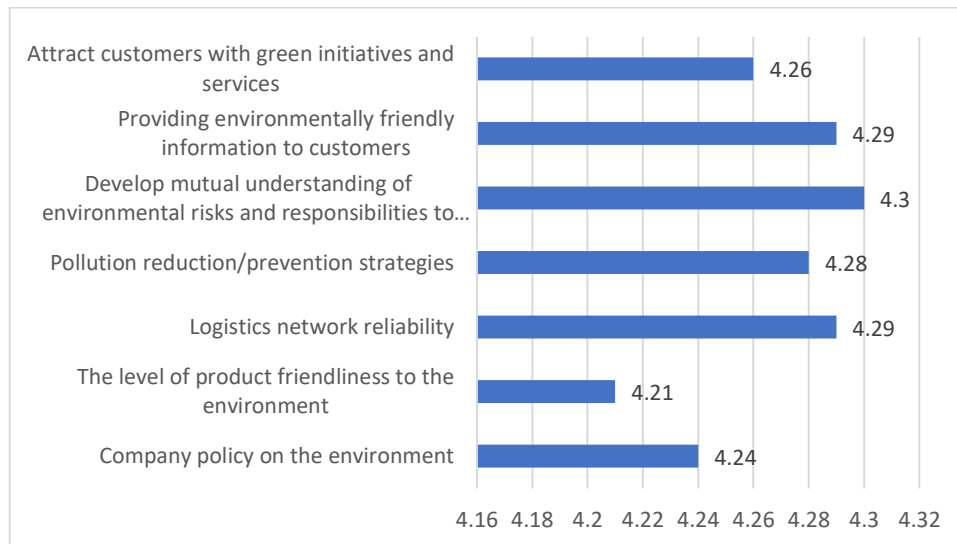


Figure 2: Average of GSCM

All dimensions in the GSCM variable are in the good category. It shows that the fuel retail industry in Indonesia have implemented good GSCM. Companies are believed by their business partners as they have implemented environmental management properly and also develop environmentally friendly products. Companies support the government's policy to continue to reduce the sulphur content in the gasoline series products. Company often cooperates with its business partners to provide special discounts on products that have high specifications and more environmentally friendly. Developing a mutual understanding of risk and responsibility for the environment has the highest average index. This shows that the gas station the representative feels involved and understand about the risks and responsibilities to the environment of their products. They realize that the fuel products are dangerous and may cause environmental damage, thus need to run the standard operational procedure really well. Referring to the average index of indicators on the GSCM variable, indicators of the company's ability to prioritize products that are more environmentally friendly have the highest average index level. The company often make promotions by providing a higher discount rate for greener fuel products. The discounts are not only for customers but also for the gas station by giving higher profit margin. The lowest average index is indicators of the company's ability to design products which reduce material/energy consumption. In order to increase the index of this indicator, innovation is needed to create products that are more environmentally friendly and meet customers' need. The innovation needs to be able to face competition with renewable energy products. Advantage of this product is that its availability and technology readiness is better than renewable energy products.

Competitive Advantage on Fuel Retail Industry in Indonesia

Competitive advantage is defined as the ability to understand and respond to changes in market structure in order to create a position above its competitors. Average index of the competitive advantage on fuel retail industry in Indonesia is shown at below graphics.

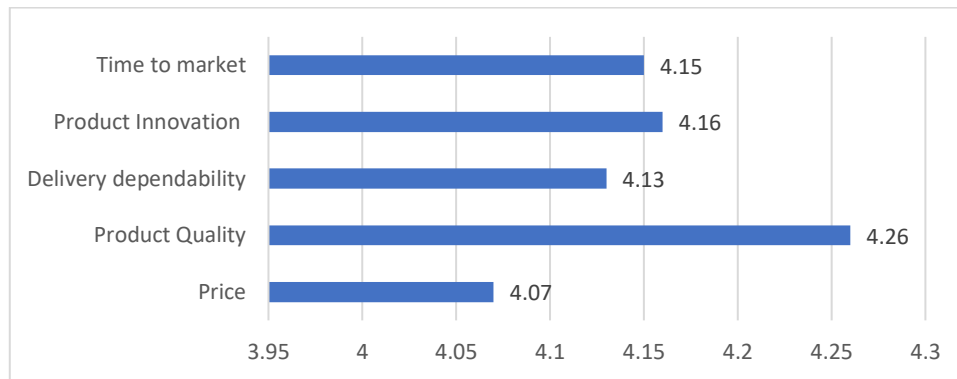


Figure 3: Average of Competitive Advantage

The graph shows that all dimensions contained in the competitive advantage variable are in the good category. Product quality dimension has the highest average index. With the competition open in the fuel retail industry, every company is competing to create product with higher quality. The increase in quality aspects is also supported by the government in order to reduce emissions and pollution levels. Indicator of the company's ability to provide suitable products is highest average index. Supervisors or managers of gas stations think that the company is able to create and supply products that are compatible with vehicle specifications. There are several brands and types of vehicles that demand high fuel specifications and are successfully provided by the company. Indicator of a company's ability to offer lower prices than competitors is the lowest average index level. With Pertamina no longer monopolizing the fuel retail industry in Indonesia, other national and international oil and gas companies compete in the fuel retail industry. This condition makes open and tight competition among companies. The competition make price becomes sensitive. Overall, the average index of the competitive advantage variable is 4.15 which indicates that the competitive advantage variable in the retail fuel industry in Indonesia is in the good category. Companies in the fuel retail industry in Indonesia have realized the importance of competitive advantage for companies to maintain the company's business, especially with the increasing business competition in fuel retail industry in Indonesia. The importance of competitive advantage is in line with Porter (2008), Rao and Holt (2005), Li *et al.* (2006) and Navarro *et al.* (2010).

Structural Equation Modelling (SEM)

Measurement Model Test

Analysis of the measurement model was carried out by using Confirmatory Factor Analysis (CFA). CFA is used to examine the factors that build each variable, and to find out whether the existing indicators are able to explain a construct. Confirmatory tests were carried out on endogenous constructs (commitment) and exogenous constructs (GSCM and competitive advantage). Testing the measurement model was carried out to see the validity of the construct which can be assessed from construct reliability (CR) and average variance extracted (AVE) (Ghozali, 2006). Testing is conducted by looking at the results of standardized regression weight. If the standardized loading value (λ) is more than 0.40, it is considered to have strong validity to explain the construct (Sharma, 1996; Ferdinand, 2002). Then the value of CR is good if > 0.70 and AVE is good if > 0.50 (Hair, Black, Babin, & Anderson, 2009).

Exogenous Construct Measurement Model

Confirmatory analysis was carried out on exogenous variables, commitment. Then will be tested by suitability of the measurement model. Here are the results of confirmatory test for the exogenous constructs.

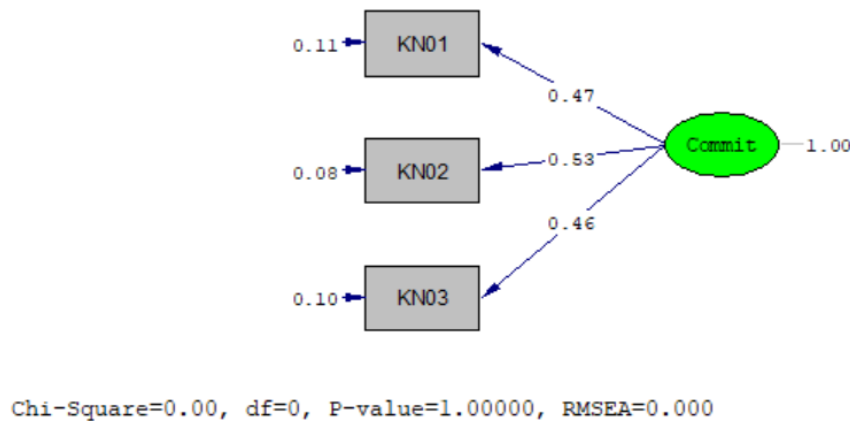


Figure 4: Result of Exogenous Measurement Model

Source: Processed with LISREL for Windows (2020)

Value of the degree of freedom is equal to 0. The Goodness of Fit Index (GFI), Comparative Fit Index (CFI), Non-Normed Fit Index (NNFI), Normed Fit Index (NFI), and Incremental Fit Index (IFI) is greater than 0.90, and Root Mean Square Residual (RMR) is smaller than 0.08 which indicate the model is in a fit state. Based on those results, can be concluded that the research measurement model is appropriate.

Table 3: Suitability of Exogenous Measurement Model

No.	Degree of Fit	Value	Acceptable Rate	Desc.
1.	<i>Degree of freedom</i>	0	DoF \geq 0	Fit
2.	<i>Goodness of Fit Index (GFI)</i>	0.91	\geq 0.90	Fit
3.	<i>Comparative Fit Index (CFI)</i>	0.99	\geq 0.90	Fit
4.	<i>Non-Normed Fit Index (NNFI)</i>	0.98	\geq 0.90	Fit
5.	<i>Normed Fit Index (NFI)</i>	0.98	\geq 0.90	Fit
6.	<i>Incremental Fit Index (IFI)</i>	0.99	\geq 0.90	Fit
7.	<i>Root Mean Square Residual (RMR)</i>	0.011	\leq 0.08	Fit

Source: Processed with LISREL for Windows (2020)

The measurement model test results for exogenous can be seen from loading factor coefficient below.

Table 4: Result of Exogen Construct Measurement

Variable	Dimension	λ	λ^2	E	CR	AVE
Commitment	KN1	0.47	0.2209	0.10	0.880	0,710
	KN2	0.53	0.2601	0.099		
	KN3	0.46	0.2304	0.091		

The table shows that the value of loading factor (λ) for each dimension is greater than 0.40 which means that each dimension is declared valid in forming the exogenous construct. Furthermore, all variables obtained CR values > 0.70 and AVE values > 0.50 , which can be concluded that all exogenous constructs have good construct validity and reliability.

Endogenous Construct Measurement Model

Confirmatory analysis is carried for endogenous variables Green Supply Chain Management and Competitive Advantage. Those variables then being tested for their suitability to the measurement model. Results of confirmatory test are presented below.

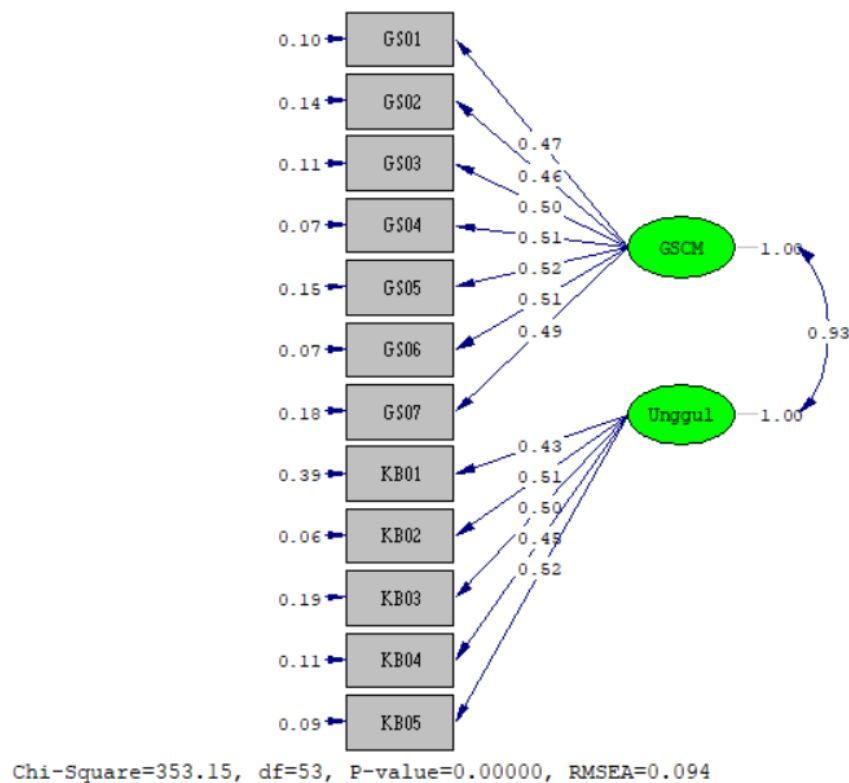


Figure 5: Result of Endogenous Measurement Model

Source: Processed with LISREL for Windows (2020)

Value of the degree of freedom is 53 or more than 0. Goodness of Fit Index (GFI), Comparative Fit Index (CFI), Non-Normed Fit Index (NNFI), Normed Fit Index (NFI), and Incremental Fit Index (IFI) are greater than 0.90, and Root Mean Square Residual (RMR) is less than 0.08 shows that the model is in a fit state. Thus, it can be concluded that the research measurement model is appropriate.

Table 5: Suitability of Endogenous Measurement Model

No.	Degree of Fit	Value	Acceptance Rate	Desc.
1.	<i>Degree of freedom</i>	53	DoF ≥ 0	Fit
2.	<i>Goodness of Fit Index (GFI)</i>	0.92	≥ 0.90	Fit
3.	<i>Comparative Fit Index (CFI)</i>	0.98	≥ 0.90	Fit
4.	<i>Non-Normed Fit Index (NNFI)</i>	0.98	≥ 0.90	Fit
5.	<i>Normed Fit Index (NFI)</i>	0.98	≥ 0.90	Fit
6.	<i>Incremental Fit Index (IFI)</i>	0.98	≥ 0.90	Fit
7.	<i>Root Mean Square Residual (RMR)</i>	0.011	≤ 0.08	Fit

Source: Processed with LISREL for Windows (2020)

The measurement model test results are presented in table below

Table 6: Result of Endogenous Construct Measurement

Variable	Dimension	λ	λ^2	E	CR	AVE
GSCM	GS1	0.47	0.22	0.10	0.936	0.676
	GS2	0.46	0.21	0.14		
	GS3	0.50	0.25	0.11		
	GS4	0.51	0.26	0.068		
	GS5	0.52	0.27	0.15		
	GS6	0.51	0.26	0.073		
	GS7	0.49	0.24	0.18		
Competitive Advantage	KB1	0.43	0.18	0.39	0.875	0.584
	KB2	0.51	0.26	0.056		
	KB3	0.50	0.25	0.19		
	KB4	0.45	0.20	0.11		
	KB5	0.52	0.27	0.085		

Value of the loading factor (λ) for each dimension is greater than 0.40, which means that each dimension is valid in forming the endogenous constructs. All variables obtained CR values > 0.70 and AVE values > 0.50 , thus can be concluded that all endogenous constructs have good validity and reliability.

Structural Equation Model Analysis

In this study, SEM analysis was carried out by using LISREL for Windows software. Complete path diagram is shown at below graph.

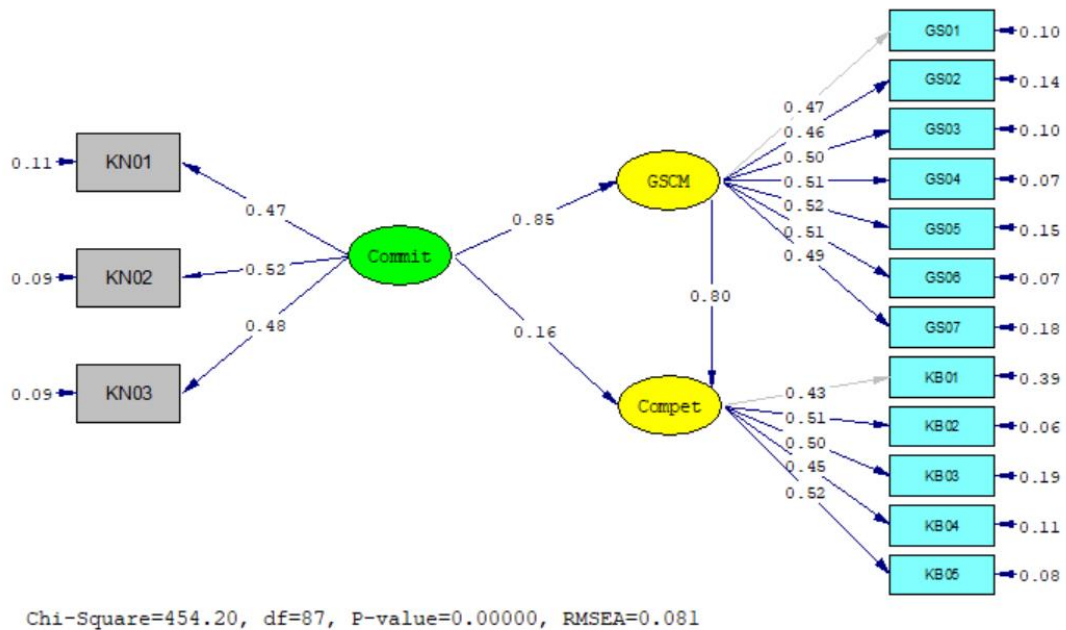


Figure 6: Path Analysis Diagram

Source: Processed with LISREL for Windows (2020)

Structural equations generated are:

1. $GSCM = 0.85 * Commit + \zeta_1$
Errorvar. = 0.29, $R^2 = 0.71$
2. $Comp = 0.16 * Commit + 0.80 * GSCM + \zeta_2$
Errorvar. = 0.13, $R^2 = 0.87$
3. $Comp = 0.83 * Commit + \zeta_2$
Errorvar. = 0.31, $R^2 = 0.69$
4. $Comp = 0.85 * GSCM + \zeta_2$
Errorvar. = 0.29, $R^2 = 0.71$

Description:

GSCM : *Green Supply Chain Management*

Commit : *Commitment*

Comp : *Competitive Advantage*

ζ (Zeta) : *Structural model error*

Based on the above calculations, results obtained for the equations are:

- a. The first equation can be explained that direction of commitment in relationship with GSCM is positive with a total effect of $R^2 = 0.71$.
- b. The second equation shows that direction of relationship between commitment, and GSCM with competitive advantage is positive with total effect of $R^2 = 0.87$.
- c. Third equation explain that direction of commitment in relation with competitive advantage is positive with total effect of $R^2 = 0.69$.

- d. The fourth equation shows that direction of the relationship between GSCM and competitive advantage is positive with total effect of $R^2 = 0.71$.

There are three types of goodness of fit which are absolute fit measures (measuring the model as a whole), incremental fit (comparing models with other models), and parsimonious fit (measuring fit by comparing models with different coefficients) (Ghozali, 2006). Types of measurement used are absolute fit and incremental fit. Meanwhile, parsimonious fit measurement is still being processed but is not used as main reference as it does not have an ideal value criterion limit (Wijanto, 2008).

Table 7: Structural Model Fit

No.	Degree of Fit	Value	Acceptance Rate	Desc.
1.	<i>Degree of freedom</i>	87	$\text{DoF} \geq 0$	Fit
2.	<i>Goodness of Fit Index (GFI)</i>	0.91	≥ 0.90	Fit
3.	<i>Comparative Fit Index (CFI)</i>	0.99	≥ 0.90	Fit
4.	<i>Non-Normed Fit Index (NNFI)</i>	0.98	≥ 0.90	Fit
5.	<i>Normed Fit Index (NFI)</i>	0.98	≥ 0.90	Fit
6.	<i>Incremental Fit Index (IFI)</i>	0.99	≥ 0.90	Fit
7.	<i>Root Mean Square Residual (RMR)</i>	0.011	≤ 0.08	Fit

Source: Processed by using LISREL for Windows (2020)

The value of the degree of freedom is 87 or greater than 0.0. Thus, it can be concluded that the research model is fit. Goodness of Fit Index (GFI), Comparative Fit Index (CFI), Non-Normed Fit Index (NNFI), Normed Fit Index (NFI), and Incremental Fit Index (IFI) greater than 0, 90, and the Root Mean Square Residual (RMR) is less than 0.08, thus can be concluded that the research model is in accordance with the empirical conditions.

Effect of Commitment to GSCM on the Fuel Retail Industry

Here are hypotheses H_0 and H_1 for the related pathways.

H_0 : commitment has no effect on GSCM in the fuel retail industry in Indonesia.

H_1 : commitment has effect on GSCM in the fuel retail industry in Indonesia.

The result shows that the p-value is <0.05 so that H_0 is rejected (H_1 is accepted). Based on the test results, it is known that commitment has strong effect on GSCM by 71%, while the other 29% is influenced by other factors which are not examined. So, it can be concluded that the hypothesis "commitment has effect on GSCM in the retail fuel industry in Indonesia" can be accepted. In the tight competition, companies need to pay attention to commitment with customers. These aspects are dealing with dynamic changes, especially related to environmental issues and policies. Commitments will be able to produce good GSCM which will support the performance of fuel retail industry in Indonesia.

Commitment of the gas station's manager or supervisor is needed for the consistency of GSCM being implementation. With It will also involve with environmental policies which reflecting Environmental Impact Analysis (AMDAL) standards in each gas station. The commitment of business partners also helps the company to prioritize products that have higher specifications and more environmentally friendly, such as giving special lane for purchasing these products. Result of this study is in line with Ukpabi, Ikaba, Enyindah, and Idatoru (2015) which did an empirical study in the oil and gas industry in Port Harcourt regarding the impact of relationship marketing on GSCM. Normative commitment has the greatest influence in fuel retail industry in Indonesia. Large investment of the business makes the partners strive for long-term cooperation with the company. Business partners feel that they deserve to get loyalty from the company. The sense of obligation for getting and giving loyalty is in line with Gruen *et al.* (2000).

Effect of Commitment to Competitive Advantage on the Fuel Retail Industry

Here are hypotheses H_0 and H_1 for the related pathways.

H_0 : commitment has no effect on competitive advantage in the fuel retail industry in Indonesia.

H_1 : commitment has effect on competitive advantage in the fuel retail industry in Indonesia.

The result shows that the p-value is <0.05 so that H_0 is rejected (H_1 is accepted). Based on the test results, it is known that commitment has strong effect on competitive advantage by 69%, while the other 31% is influenced by other factors which are not examined. So, it can be concluded that the hypothesis "commitment has effect on competitive advantage in the retail fuel industry in Indonesia" can be accepted. Commitment consisting of affective, normative, and continuance may help business partners to maintain quality of the products and its sales. Good collaboration and high commitment level may result in better competitive advantage is in line with Fawcett, Ogden, Magnan, and Cooper (2006) which did research on organizational commitment and governance in supply chain.

Effect of GSCM to Competitive Advantage on the Fuel Retail Industry

Here are hypotheses H_0 and H_1 for the related pathways.

H_0 : GSCM has no effect on competitive advantage in the fuel retail industry in Indonesia.

H_1 : GSCM has effect on competitive advantage in the fuel retail industry in Indonesia.

The result shows that the p-value is <0.05 so that H_0 is rejected (H_1 is accepted). Based on the test results, it is known that GSCM has strong effect on competitive advantage by 71%, while the other 29% is influenced by other factors which are not examined. So, it can be concluded that the hypothesis "GSCM has effect on competitive advantage in the retail fuel industry in Indonesia" can be accepted. GSCM is a framework or guide in achieving competitive advantage in fuel retail industry in Indonesia. GSCM as the basis of competitive advantage as the industry need to compete with domestic and international companies. The companies also need to compete with renewable energy and comply with available regulations.

Integration of the environmental management principles in supply chain cycle, including product design, logistics, distribution and product marketing to consumers, it determines company's excellence. This result is in accordance with Yunus and Michalisin (2016) about sustainable competitive advantage by practicing GSCM.

Effect of Commitment to Competitive Advantage via GSCM on the Fuel Retail Industry

Here are hypotheses H_0 and H_1 for the related pathways.

H_0 : commitment has no effect on competitive advantage via GSCM in the fuel retail industry in Indonesia.

H_1 : commitment has effect on competitive advantage via GSCM in the fuel retail industry in Indonesia.

As previously showed that commitment and GSCM have a strong effect on competitive advantage by 0.87 or 87% while the remaining 13% is influenced by other factors that are not examined within the model. Testing the significance of GSCM as a mediating variable can be checked by Sobel test.

a. Error Standard ab or S_{ab}

$$S_{ab} = \sqrt{b^2Sa^2 + a^2Sb^2 + Sa^2Sb^2}$$

b. t value of ab

$$t = \frac{a * b}{S_{ab}}$$

The path coefficient and standard error can be seen as follows.

Table 8: Path Test of Commitment's influence on Competitive Advantage via GSCM

Relation	Correlation coefficient	Error Standard
Commitment → GSCM	0.85	0.041
GSCM → Competitive advantage	0.66	0.067
Commitment → GSCM → Competitive advantage	a = 0.32	Sa = 0.064
	b = 0.66	Sb = 0.067
t-count = 8.8889		

Based on table above show that relationship between commitment to competitive advantage through GSCM has a significant relationship. Above hypotheses can be accepted since t-count > t-table (t-table = 1.97).

All variables in this study have significant relationship with positive values. Thus, can be concluded that the relationship between the variables is complementary partial mediation. Complementary partial mediation shows that the intervening variable is a reinforcement of the existing connection (Hair *et al.*, 2009). Variance Accounted For (VAF) method is also carried out to see ratio of the indirect relationship between two variables indicating full mediating, partial mediating, or no mediating effect. According to Hair *et al.* (2009), the VAF value above 80% indicates full mediating, VAF value between 20% - 80% indicates partial mediating role, and VAF value less than 20 % indicates almost no mediating effect.

$$\text{Ratio Indirect X ke X (VAF)} = \frac{\text{Indirect Effect}}{\text{Total Effect}}$$

$$\text{Ratio Indirect X ke X (VAF)} = \frac{(p1 \times p2)}{(p1 \times p2) + p3}$$

Calculation of direct and indirect effects in this study is shown as follows.

Table 9: Calculation of Direct and Indirect Effect

Hypothesis	Indirect Effect	Direct Effect	Total Effect	Ratio Effect
Direct: Commitment → Competitive advantage	0.85 x			
Indirect: Commitment → GSCM → Competitive advantage	0.66 = 0.561	0.83	1.391	40.33%

Above calculation shows that the direct and indirect relationship through the GSCM as an intervening variable shows significant positive relationship and points in the same direction so that it is included in complementary mediation or GSCM is reinforcement of the existing connectedness. The resulting effect ratio value is above 20% (40.33% effect ratio), thus can be said that the GSCM variable is mediation in the model (Baron and Kenny, 1986). This implies that GSCM affects competitive advantage in the model. GSCM acts as an intervening as its roles as framework in determining the company's course that can be influenced by commitment. Integration of environmental issues, corporate environmental management practices into supply chain management need to be conducted. Commitment is important as the company need to keep promises and provide the right information as per customer expectations.

Conclusion

Implementation of GSCM in the retail fuel industry in Indonesia is influenced by commitment. The fuel industry in Indonesia has very strict rules regarding commitments. Dimensions of commitment have high scores which consists of affective (4.02), normative (4.07), and continuance (4.17). It also has a good GSCM index. Supporting environment for the retail fuel industry in Indonesia has been developed. It is environmentally oriented and logistically reliable, and supported by a good commitment from the fuel retail industry in Indonesia.

Competitive advantage in fuel retail industry in Indonesia is influenced by commitment. Good competitive advantage in fuel retail industry is caused by its support systems, both technical and non-technical support. Good affective, normative and continuance commitment make the company have convincing impression as a good company. Feelings of belonging, feelings of pleasure in dealing with the company, maintaining good relations, and the need to maintain cooperation should always be sought in order to increase the company's competitive advantage.

Competitive advantage in the fuel retail industry in Indonesia is influenced by GSCM. To increase competitive advantage in the retail fuel industry in Indonesia, implementation of environmental-based GSCM and commitment need to be conducted. GSCM related to the company's policy on the environment, the level of product friendliness to the environment, reliability of the logistics network, pollution prevention/reduction strategies, providing information on environmentally friendly services to customers, “green” initiation and services.

Competitive advantage in the retail fuel industry in Indonesia is influenced by the implementation of GSCM which is supported by commitment. GSCM acts as a useful mediation to link commitment with competitive advantage. The implementation of commitments made by the company must be accommodated in the elements of GSCM. GSCM is the integration of environmental issues, corporate environmental management practices into supply chain management.

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KAJIAN KEBERKESANAN MODUL LATIHAN PENGURUSAN PENINGKATAN KESEDARAN TERHADAP PENGURANGAN BENCANA

Aziah Adi¹

¹Jabatan Asas Pendidikan dan Komuniti, Institut Aminuddin Baki Cawangan Genting Highlands, Pahang.
(E-mail: aziahadi@iab.edu.my)

Abstrak: Pemimpin pendidikan perlu bertanggungjawab untuk memastikan keselamatan warga sekolah dalam pengurusan bencana yang berlaku dalam kawasan sekolah. Seterusnya, aspek yang berkaitan dengan pengurusan risiko perlu juga diterapkan secara berkesan agar kesediaan dan tindakan pemimpin di semua peringkat di sekolah lebih efektif. Tujuan kajian ini adalah mengkaji keberkesanan modul latihan pengurusan bencana dalam kalangan pemimpin sekolah. Seramai 132 orang peserta kursus yang terdiri dari Guru Penolong Kanan (GPK) yang hadir berkursus di IABCGH telah dipilih untuk dijadikan responden kajian. Instrumen kajian adalah merupakan borang soal selidik yang diedarkan kepada para responden, yang mengandungi 30 soalan menggunakan skala lima mata likert. Data- data yang diperolehi telah dianalisis secara sistematik dengan menggunakan perisian *Statistical Package for Social Science* (SPSS) versi 24.0 dan diterangkan dalam bentuk skor min dan tahap bagi setiap aspek yang diuji. Hasil dapatan kajian ini menunjukkan tahap nilai skor min yang tinggi adalah pada aspek pengetahuan dan kesediaan GPK dalam pengurusan bencana di sekolah.

Katakunci: keberkesanan, modul latihan, pengurusan bencana, pemimpin sekolah dan pengurusan risiko.

Abstract: Education leaders need to be responsible for ensuring the safety of school people in disaster management that occurs within the school grounds. Furthermore, aspects related to risk management should also be applied effectively so that the readiness and actions of leaders at all levels in the school are more effective. The purpose of this study is to examine the effectiveness of disaster management training modules among school leaders. A total of 132 course participants consisting of Senior Assistant Teachers (GPK) who attended courses at IABCGH were selected to be the study respondents. The research instrument is a questionnaire distributed to the respondents, which contains 30 questions using a five-point Likert scale. The data obtained were analyzed systematically using *Statistical Package for Social Science* (SPSS) version 24.0 software and described in the form of mean scores and levels for each aspect tested. The results of this study show that the high level of mean score value is in terms of knowledge and readiness of GPK in disaster management in schools

Keywords: effectiveness, training modules, disaster management, school leaders and risk management.

Pengenalan

Bencana dapat ditakrifkan sebagai sesuatu kejadian yang berlaku secara mengejut, bersifat kompleks dan mengakibatkan kehilangan nyawa, kemusnahan harta benda dan alam sekitar serta menjejaskan aktiviti masyarakat setempat (Hall, G. E. & Hord, S. M. 2014).

Pengurusannya memerlukan kecekapan menggembelingkan serta penyelarasan yang berkesan sumber, peralatan, kekerapan dan penggunaan tenaga manusia (Cavazotte, F., Moreno, V., & Bernardo, J. 2013; Harris, A., Jones, M. & Huffman, J. B. 2017)

Dunia sekarang yang *volatile, uncertain, complex, ambiguous* (VUCA) memerlukan pemimpin sentiasa bersedia, mempunyai kesedaran diri serta peka terhadap perubahan dan dinamik dalam pengurusan dan kepimpinan (KPM 2017; Harris, A., Jones, M. & Huffman, J. B. 2017; Cavazotte, F., Moreno, V., & Bernardo, J. 2013). Kesedaran diri ini adalah sifat yang amat diperlukan sekiranya seseorang ingin menjadi pemimpin yang cekap (Davis, G. 2019). Ia kemahiran yang perlu diasah bertubi-tubi oleh setiap pemimpin dalam semua organisasi. Seseorang itu mempunyai kesedaran diri akan memberi perhatian kepada persekitaran. Sebelum membuat keputusan, seseorang itu juga akan membuat pertimbangan yang sewajarnya supaya tidak akan menimbulkan masalah yang akan mengganggu kerjanya (Davis, G. 2019).

Persediaan menghadapi bencana memerlukan persediaan peralatan, tenaga manusia dari pelbagai agensi serta penyelarasan yang berkesan (Penton, S., & Pettersson, F. 2019). Selain itu, ia memerlukan tindakan yang sistematik dan jangka masa yang panjang. Pelan Tindakan Sekolah (PTS) disediakan untuk membantu guru membuat persediaan awal menghadapi sebarang kemungkinan apabila menghadapi sesuatu bencana di sekolah serta bertujuan membantu guru bertindak semasa dan selepas berlaku bencana alam di sekolah (KPM 2013). Bencana alam ialah fenomena yang berlaku secara mengejut dan bersifat kompleks (Penton, S., & Pettersson, F. 2019). Ia mengakibatkan kehilangan nyawa, kemusnahan harta benda dan alam sekitar serta menjejaskan aktiviti masyarakat setempat. Ianya juga melibatkan tindakan yang kompleks dan memerlukan jangka masa yang panjang untuk diselesaikan (Harris, A., Jones, M. & Huffman, J. B. 2017; Davis, G. 2019).

Objektif Kajian

Mengenal pasti keberkesanan modul latihan pengurusan bencana dalam kalangan pemimpin sekolah di Pantai Timur Semenanjung Malaysia.

Tinjauan Literatur

Malaysia pada umumnya bukan sebuah negara yang bergunung-ganang, dengan ramai penduduk tiada pilihan, melainkan terpaksa tinggal di kawasan pergunungan yang berisiko tanah runtuh. Sungai kita tidak terlalu panjang dan berdataran banjir yang luas sehingga penempatan yang sesuai untuk membina kawasan perumahan amat terhad. Negara kita juga jauh daripada 'jalur lingkaran api', di mana bencana gempa bumi, tsunami dan letusan gunung berapi berada pada tahap risiko yang sangat rendah. Begitupun, negara kita begitu prihatin dengan rakyatnya yang ditimpa bencana alam. Pendekatan pengurangan risiko bencana yang paling efektif ialah dengan mewujudkan dasar dan perancangan pengurusan bencana secara bersepadu dan jangka panjang dengan memberikan kesedaran terhadap pengurusan bencana (Penton, S., & Pettersson, F. 2019; Harris, A., Jones, M. & Huffman, J. B. 2017).

Pemimpin yang prihatin terhadap orang lain perlu memberi respons kepada emosi atau perasaan, sikap peribadi, kebimbangan dan keperluan warga organisasi dan boleh membuat pemantauan dan penglibatan secara langsung dalam mengurus perubahan (Cavazotte, F., Moreno, V., & Bernardo, J. 2013). Dalam mengurus perubahan semasa menangani krisis (Penton, S., & Pettersson, F. 2019), pemimpin perlu menjana strategi yang jelas dan berupaya melaksanakannya dengan tepat dengan emosi yang stabil (Davis, G. 2019). Setiap pemimpin dalam sesebuah organisasi perlu untuk mengetahui dan mengambil strategi pengurusan risiko agar dapat terus dilaksanakan dalam satu budaya kerja baharu (Cavazotte, F., Moreno, V., & Bernardo, J. 2013; Hall, G. E. & Hord, S. M. 2014). Dalam menghadapi sesuatu krisis, pemimpin secara bersepadu bersama warga organisasi perlu menetapkan hala tuju dan mengawal risiko (Maurer, R. 2014). Selain itu, nilai juga menjadi perkara penting untuk dititikberatkan dalam mengharungi masa depan yang kabur dalam dunia VUCA ini (Hall, G. E. & Hord, S. M. 2014; Penton, S., & Pettersson, F. 2019).

Metodologi Kajian

Metodologi kajian ini adalah berbentuk deskriptif. Pemilihan sampel kajian dilakukan secara rawak mudah. Seramai 312 orang PGB terlibat dalam kajian ini. Instrumen kajian yang digunakan dalam kajian ini adalah satu set soal selidik. Skala Likert digunakan untuk menentukan interpretasi pada setiap pernyataan yang diberikan. Hal ini bertujuan untuk menetapkan sejauhmana tahap keberkesanan modul latihan pengurusan bencana. Interpretasi yang dimaksudkan adalah dirujuk pada jadual 1. Bagi proses analisis perisian SPSS 24.0 telah digunakan untuk memperoleh nilai skor min bagi setiap item pernyataan.

Jadual 1: Permarkahan Interpretasi merujuk kepada Skala Likert

Skala	Penerangan
1	Sangat Tidak Setuju
2	Tidak Setuju
3	Neutral
4	Setuju
5	Sangat Setuju

Seterusnya, data daripada responden ini dianalisis dengan menggunakan Perisian *Statistical Package for the Social Sciences* (SPSS) versi 24 untuk mendapatkan skor min.

Jadual 2: Analisa Skor Min

Julat Skor Min	Tahap Nilai Skor Min
1.00 – 2.00	Rendah
2.00 – 3.00	Sederhana
3.00 – 4.00	Tinggi

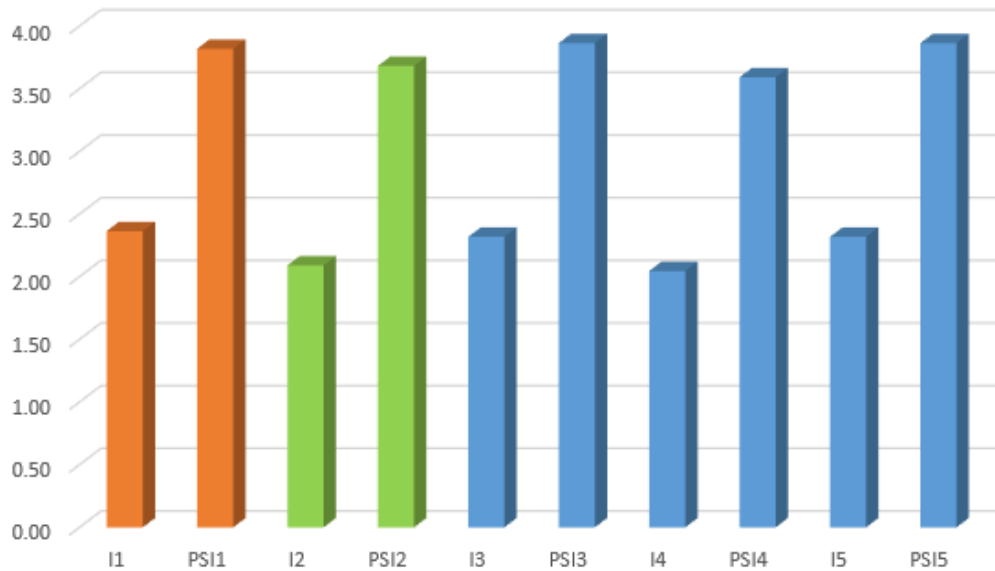
Dapatan Dan Perbincangan

Para peserta kursus dikehendaki menjawab soal selidik yang diberikan bagi menilai tahap pengetahuan sebelum kursus dan selepas tamat menghadiri kursus. Hasil dapatan menunjukkan sebelum aktiviti ini dijalankan, min yang diperolehi adalah sederhana iaitu 2.36. Namun begitu, selepas aktiviti ini dijalankan perolehan min 3.82 menunjukkan ia berada pada tahap yang tinggi. Begitu juga pada soalan bagi pengetahuan¹, menunjukkan min pada sebelum aktiviti adalah sederhana iaitu 2.09 manakala selepas aktiviti ini dijalankan min yang diperolehi adalah tinggi dengan bacaannya ialah 3.68.

Selanjutnya, para peserta kursus juga ditanya berkaitan dengan pengetahuan³ dan perolehan min 2.32 pada sebelum aktiviti menunjukkan ia berada pada tahap yang sederhana manakala min 3.86 pada setelah aktiviti dijalankan menunjukkan ia berada pada tahap yang tinggi. Kebanyakan para peserta kursus mengetahui perjalanan program yang dijalankan pada sebelum aktiviti dijalankan berada pada tahap sederhana apabila min yang diperolehi hanya 2.05 manakala setelah tamatnya aktiviti dalam kursus ini bacaan min menunjukkan ia berada pada tahap yang tinggi iaitu 3.86.

Jadual 3 : Aspek Pengetahuan Pengurusan Bencana

Bil	Aspek Pengetahuan	SEBELUM		SELEPAS	
		Min	Sisihan Piawai	Min	Sisihan Piawai
1	Aspek Pengetahuan I1	2.36	0.63	3.82	0.53
2	Aspek Pengetahuan I2	2.09	0.54	3.68	0.48
3	Aspek Pengetahuan I3	2.32	0.66	3.86	0.60
4	Aspek Pengetahuan I4	2.05	0.51	3.59	0.53
5	Aspek Pengetahuan I5	2.32	0.66	3.86	0.60
	Purata	2.23	0.71	3.76	0.52



Rajah 1: Pre dan Post test Modul Latihan Pengurusan Bencana

Berdasarkan kepada Jadual 3 dan Rajah 1 di atas, jelas sekali pelaksanaan latihan dalam modul ini dapat mempertingkatkan lagi pengetahuan para peserta kursus terhadap pengetahuan berkaitan dengan pengurusan bencana yang perlu dilakukan. Hasil dapatan min yang sederhana ketika aktiviti dijalankan memperlihatkan para peserta kursus mempunyai maklumat tentang pengurusan bencana sebelum menghadiri kursus ini.

Kesimpulan dan Penutup

Secara kesimpulannya, dapatan kajian ini menunjukkan pemimpin sekolah, mempunyai kesedaran diri yang memberi perhatian kepada persekitaran dengan berpengetahuan untuk membuat pertimbangan yang sewajarnya supaya tidak akan menimbulkan masalah yang akan mengganggu kerjanya sebagai pemimpin sekolah.

Dalam dunia pengurusan, setiap organisasi tidak dapat lari daripada risiko dan bencana yang akan mengancam reputasi dan kredibiliti organisasi. Pengurusan risiko boleh dirujuk kepada suatu proses mengenal pasti, mengukur, mengawal dan meminimakan risiko dan bencana yang mungkin timbul. Sehubungan itu, jalinan dan jaringan oleh pihak KPM dengan pihak swasta adalah sangat penting bagi menyokong pelbagai inisiatif yang dirancang dan dilaksanakan.

Kerjasama dan sokongan daripada pelbagai pihak berkepentingan amat diperlukan kerana jatuh bangun pemimpin terletak kepada sokongan persekitarannya. Beberapa cadangan sebagai persediaan untuk pemimpin pendidikan bagi memenuhi keperluan pada masa akan datang agar kita dapat mengharungi kemungkinan risiko krisis seumpama ini, disenaraikan seperti a) kompetensi pemimpin dan guru dari aspek ASK (*attitude, skill, knowledge*) perlu dipertingkatkan, diperbaharui dan anjal mengikut situasi; b) pasukan ERT (*emergency response team*) dan tindakan pemulihan perlu mantap dan tersedia; c) perlindungan insuran secara menyeluruh terutama aspek-aspek bencana dan perkara yang tidak sukar diramal.

Seterusnya, aspek yang berkaitan dengan pengurusan risiko perlu juga diterapkan secara berkesan agar kesediaan dan tindakan pemimpin di semua peringkat di sekolah lebih efektif. Sebagai rumusannya tahap kesediaan dan kepekaan pemimpin pendidikan terhadap perubahan persekitaran perlu sentiasa tinggi dan dinamik dalam menggalas tanggungjawab melaksanakan tugas seharian. Perubahan yang berlaku dengan cepat, mendadak dan tidak dijangka juga memerlukan pemimpin mempunyai efikasi sendiri yang tinggi untuk menghadapi perubahan tersebut (Maurer, R. 2014).

Oleh itu, pemimpin pendidikan perlu bertanggungjawab untuk memastikan keselamatan warga sekolah dalam pengurusan bencana yang berlaku dalam kawasan sekolah. Pemimpin sekolah juga perlu memikirkan kaedah untuk mengatasi masalah tersebut dan guru boleh terus mengajar serta murid boleh terus belajar. Jika berlaku risiko sekalipun, guru-guru masih lagi dapat menyumbang kepada pendidikan berkualiti di samping mengurangkan kadar keciciran daripada berlaku. Maka, pemimpin pendidikan seharusnya bertindak ke arah peningkatan efikasi sendiri agar dapat menangani perubahan sebagaimana yang diperlukan oleh pihak KPM.

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Date: 25-26 September 2021

Venue: Penang, Malaysia

Website: <https://submit.confbay.com/conf/pimc3> @ <http://3pimc2021.egax.org/>

Email: pimcconferences@gmail.com; conference2@egax.org



6th ICSHT 2021

**6th International Conference on Social Sciences, Humanities and Technology 2021
(6th ICSHT 2021)**

Date: 23-24 October 2021

Venue: Sabah, Malaysia

Website: <https://submit.confbay.com/conf/icsht6> @ <http://icsht2021.egax.org/>

Email: icshtofficial@gmail.com; conference2@egax.org



4th Langkawi International Multidisciplinary Conference 2021 (4th LIMC 2021)

Date: 20-21 November 2021

Venue: Langkawi, Malaysia

Website: <https://submit.confbay.com/conf/limc4> @ <http://4limc2021.egax.org/>

Email: limcconf2019@gmail.com; conference2@egax.org



4th IRCMST 2021

4th International Research Conference on Multidisciplinary in Social Sciences and Technology (4th IRCMST 2021)

Date: 27-28 November 2021

Venue: Kuala Lumpur, Malaysia

Website: <https://submit.confbay.com/conf/ircmst4> @ <http://4ircmst2021.egax.org/>

Email: ircmstofficial@gmail.com; conference2@egax.org



5th IRCHST 2021

5th International Research Conference On Humanities, Social Sciences and Technology (5th IRCHST 2021)

Date: 11-12 December 2021

Venue: Kota Bharu, Kelantan, Malaysia

Website: <https://submit.confbay.com/conf/irchst5> @ <http://5irchst2021.egax.org/>

Email: irchstofficial@gmail.com; conference2@egax.org



3rd IRCASE 2021

3rd International Research Conference on Applied Sciences and Engineering 2021 (3rd IRCASE 2021)

Date: 11-12 December 2021

Venue: Kota Bharu, Kelantan, Malaysia

Website: <https://submit.confbay.com/conf/ircase3> @ <http://3ircase2021.egax.org/>

Email: ircaseofficial@gmail.com; conference2@egax.org



5th ICIEL 2021

5th International Conference on Islamic, Education and Law 2021 (5th ICIEL 2021)

Date: 18-19 December 2021

Venue: Ipoh, Perak, Malaysia

Website: <https://submit.confbay.com/conf/iciel5> @ <http://iciel2021.egax.org/>

Email: icielofficial@gmail.com; conference2@egax.org



**International Virtual Conference on Social Sciences, Engineering and Technology 2021
(IVCoSET 2021)**

Date: 8 September 2021

Venue: Online

Website: <https://submit.confbay.com/conf/ivcoset2021> @ <http://ivcoset2021.egax.org/>

Email: ivcosetofficial@gmail.com; conference2@egax.org



**International Virtual Conference on Engineering, Innovation and Social Sciences 2021
(IVCEIS 2021)**

Date: 2 December 2021

Venue: Online

Website: <https://submit.confbay.com/conf/ivceis2021> @ <http://ivceis2021.egax.org/>

Email: ivceisofficial@gmail.com; conference2@egax.org



**International Virtual Conference on Social Sciences, Education and Innovation 2021
(IVCoSEI 2021)**

Date: 14 June 2021

Venue: Online

Website: <https://submit.confbay.com/conf/ivcosei2021> @ <http://ivcosei2021.egax.org/>

Email: ivcoseiofficial@gmail.com; conference2@egax.org

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