KNOWLEDGE MANAGEMENT CAPABILITY, TRUST, AND PERFORMANCE OF MANUFACTURING COMPANIES IN EMERGING ECONOMIES

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Abstract- Few studies investigated the Knowledge Management Capability (KMC) in emerging economies. This paper investigates the effect of KMC on the organizational performance (OP) of manufacturing public listed companies (PLCs) in Malaysia. It also tests the mediating effect of trust between KMC and OP. Data was collected from 98 senior executive top management of Malaysian PLCs. Using the Partial Least Square (PLS); the finding indicates that KMC has a significant effect on OP of Malaysian manufacturing PLCs. Its knowledge sharing component is the most significant followed by knowledge acquisition and utilization. Trust has a partial mediating role between KMC and OP. To increase the role of trust, managers are advised to link the KMC process to the Key Performance Indicator (KPI).

Keywords- Knowledge Management Capabilities, Knowledge Sharing, Trust, Organizational Performance, Manufacturing Sector

I. INTRODUCTION

During the last three decades, organizational performance (OP) has been one of the most highly researched dependent variables. A growing body of literature is still focusing on OP. Similarly, the studies that are pertaining to Public Listed Companies (PLCs) have increased. This is because a better OP of PLCs can enhance the Gross Domestic Product (GDP), reduce unemployment, and encourage the flow of Foreign Direct Investment (FDI) (Shah & Jan, 2014). At the individual and organizational level, a better performance is of extreme importance to stakeholders in general and shareholders in particular, as it helps to increase the value of the business, and offers the basis for distributing dividends, which in turn may attract investors (Müller, 2014).

One of the most recent driver of OP is the organizational knowledge. Knowledge is an intangible source that is rare, inimitable and creates competitive advantages for organizations as well as increases the organizational performance (Grant, 1996; Zainal et al., 2009; Alaarj, et al., 2016). Nevertheless, prior literature particularly on PLCs performance focused on using secondary approach and as a result focused on the data that can be extracted from annual reports such as gender of the executives, duality, paid up capital and size of the organizations. In addition, most of the previous studies focused on the high technological sector in developed countries (Alaarj et al., 2016).

Malaysian as an emerging economy has manufacturing base for international companies such as Intel, AMD, and electronic producers' companies. The manufacturing sectors contributes to 22.4% of the GDP of the country in 2017 and recorded a growth in sales of 13% in 2017 (The Star, 2017). In 2017, the country recorded a total of 1.07 trillion Ringgit Malaysia (RM1=$0.26) of approved investment in manufacturing sector. While the country is striving to create a diversified service-based economy, the manufacturing services is continuously playing an important role in the economy of the country. This is because the next wave of business and investment opportunities is high-value manufacturing. This area to large extent still untouched by local and foreigners investors. However, it is essential to sustain the service-based economy that the country desire to achieve in the long run (New Straits Times, 2017).

Previous studies in the country called for more studies in KM and its effect on OP. For example, the study of Sambasivan et al. (2009) calls for more studies in KM in manufacturing and other economic sectors in Malaysia. Other researchers in Malaysia have called to further the studies of KM in the country (Najib Razali & Juanil, 2011; Moshari, 2013). Therefore, studies that deal with KMC and OP are needed in the manufacturing sector (Alaarj et al., 2015). Trust is a new and emerging variable in the context of business management. Studies related to trust in business organizations are still in their infancy and there is a need for more studies in this domain (Wang et al., 2014). Majority of previous studies focused on trust in online environment (Alaarj et al., 2016). Trust is important to facilitate the organization's ability to enhance relationships, collect information related to market and technology development, and establish beneficial knowledge sharing internally and externally (Romijn and Albaladejo, 2002; Zainal et al., 2014). Collaboration, interaction, and exchange of knowledge are all

enabled once the organization creates a culture of trust (Sambasivan et al., 2011). Trust increases the willingness to share and use tacit knowledge (Holste & Fields, 2010). However, few studies tested the mediating role of trust. Consequently, the purpose of this study is to investigate the effect of KMC on the OP of Malaysian PLCs. It also aims to test the mediating role of trust between KMC and OP of Malaysian PLCs. The remaining of this paper discusses the literature review, methodology, findings, discussion, and conclusion.

II. LITERATURE REVIEW AND CONCEPTUAL MODEL

This section discusses the literature review of OP, KMC and trust. It also discusses the development of the conceptual model of this study.

2.1 Conceptual model

Building on the Knowledge Based View (Grant, 1996) and the model of Knowledge Management Capabilities (KMC) by Gold, Malhotra, and Segars (2001), this study proposed that the KMC and its dimensions could affect the organizational performance of PLCs. It also proposes that trust mediates the effect of KMC on OP. Figure 1 shows the conceptual model of this paper.

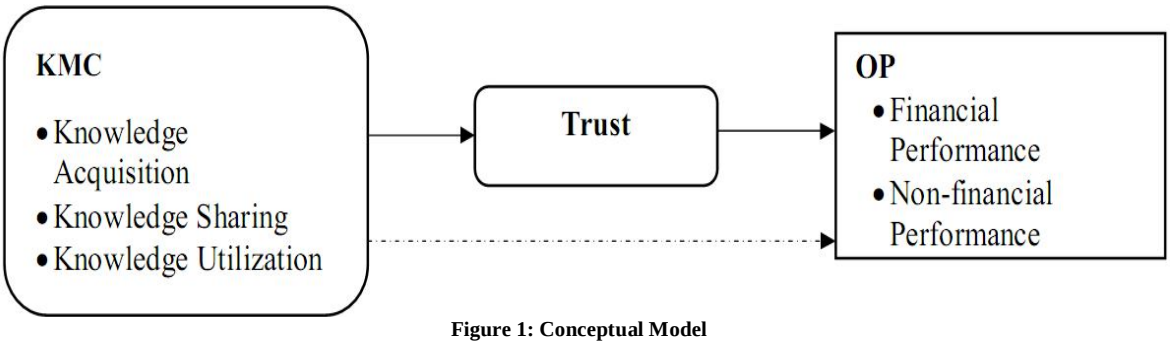

Figure 1: Conceptual Model

2.2 Hypotheses development

This section discusses the hypotheses development of this study. Mainly, the section discusses organizational performance, KMC and trust as a mediator.

2.2.1 Organizational Performance

According to Richard et al. (2009), OP is the ultimate dependent variable of interest for researchers concerned with the management area. In contrast to the dominant role, that OP plays in management fields, is the limited attention paid by researchers to what performance is and how it is measured (Richard et al., 2009). Lebas and Euske (2007) defined the OP as a set of financial and non-financial indicators, which offer information on the degree of achievement of objectives and results. Popova and Sharpanskykh (2010) pointed out that performance could be estimated based on quantitative and qualitative approach. The balanced Scorecard (BSC) developed by Kaplan and Norton (1992) focused on evaluating the performance from four main perspectives that include the financial, learning and growth, customer satisfaction, and internal business process. Several researchers described this categorization as a financial and non-financial perspective (Ayoup et al., 2013; Ibrahim, 2015).

Evans and Davis (2005) pointed out that researchers have used many different criteria to measure performance and they concluded that the measurements of performance must be chosen according to the research topic. Kaplan and Norton (1996) pointed out the possibility of having misled indication of continuous improvement and innovation if only financial accounting measures are used to evaluate performance. Tseng and Lee (2014) investigated the effect of supply chain strategy and KMC on OP of Taiwanese manufacturing companies using financial and non-financial indicators. In addition, Ashnai et al. (2016) investigate the mediating role of trust in supply chain using financial and non-financial outcome as a dependent variable. This paper is using the financial and non-financial indicators as dimensions of the organizational performance.

2.2.2 Knowledge Management Capabilities (KMC)

Achieving improved performance is not only dependent on the successful deployment of tangible assets and natural resources but also on the effective management of knowledge (Lee & Sukoco, 2007). KMC is defined as the ability of an organization to leverage existing knowledge through continuous learning to create new knowledge (Bose, 2003). Researchers operationalized KMC differently, for example, Chen and Fong (2012) incorporated acquisition, dissemination, and utilization. Similarly, Liu and Deng (2015) included acquisition, conversion, application, and protection as dimensions of KMC. Sambasivan et al. (2009) included acquisition and application as KMC. In this study, KMC is operationalized as knowledge acquisition, knowledge sharing, and knowledge utilization. This is because KMC is a continuous process that starts by

acquiring the knowledge, then sharing the knowledge among organizational member, and lastly, utilizing the knowledge in decision-making. KMC was found to reduce the negative effect of environmental uncertainty on organizational performance (Alaarj, Mohamed, & Bustamam, 2017a)

Previous studies examined the effect of KMC on organizational performance outcomes. For example, Liu et al. (2004) conducted a study to identify the relationship between KMC and competitiveness in Taiwan's industries. KMC dimensions such as knowledge obtaining, refining, storing and sharing strongly affected the competitiveness. Wu and Chen (2014) attempted to develop and test a model that represents the KM value in Taiwanese manufacturing companies. They incorporated creation, transferring, integration and application. The findings indicate that KMC affect the business process capabilities.

Zheng et al. (2011) found that KMC has significant effect on innovation performance. Tseng and Lee (2014) investigate the effect of KMC processes such as transfer and protection on dynamic capabilities and OP. KMC processes enhanced the dynamic capabilities, which in turn improved the OP of Taiwanese technological companies. Lai and Lin (2012) tested whether the KMC enhances the innovation and new product development in Taiwanese manufacturing companies. The findings showed that knowledge creation, acquisition, knowledge diffusion, and integration affect the technology innovation. Gharakhani and Mousakhani (2012) found that KMC processes affect significantly the sales growth, quality improvement, and customer satisfaction. In this study, it is hypothesized:
H1: KMC has a significant effect on the OP of Malaysian PLCs.

2.2.2.1 Knowledge Acquisition
The term acquisition refers to an organization's capability to identify, acquire and accumulate knowledge that is essential to its operations (Gold et al., 2001; Zahra & George, 2002). Researchers suggested a positive link between knowledge acquisition and performance measures. For example, Song (2008) found that knowledge acquisition practices were significantly related to organizational improvement. The study of Chen and Fong (2012) found that knowledge acquisition is linked positively to KMC and OP. Yang et al. (2014) found that knowledge acquisition has a significant effect on OP of projects in Taiwan. Mills and Smith (2011), Chen and Fong (2015), Liu and Deng (2015) and Alaarj et al. (2016) found that knowledge acquisition has a significant effect on the organizational outcome. In this paper, it is hypothesized:

H1a: Knowledge acquisition has a significant effect on OP of Malaysian PLCs.

2.2.2.2. Knowledge Sharing
Jackson et al. (2006) defined Knowledge sharing as the fundamental means through which employees can contribute to knowledge application, innovation, and ultimately the competitive advantage of organizations. Studies that investigated the effect of knowledge sharing on organizational outcomes such as competitiveness, innovation, and financial and non-financial performance found that knowledge sharing is essential for organizations to achieve superior performance. For example, Liu et al. (2004) found that knowledge sharing is the most important variables that affect the competitiveness of Taiwanese companies. Similarly, the study of Chang and Chuang (2011) revealed a significant effect of knowledge sharing on business strategy of manufacturing companies in Taiwan. Gharakhani and Mousakhani, (2012), Kuzu and Özilhan (2014), and Alaarj et al. (2016) found a significant effect of knowledge sharing on organizational performance. In this study, it is expected that the knowledge sharing will affect positively the OP of Malaysian PLCs.

H1b: Knowledge sharing has a significant effect on OP of Malaysian PLCs.

2.2.2.3 Knowledge Utilization
Knowledge utilization indicates the extent to which the pool of available knowledge and expertise is activated and exploited within organization (Sung & Choi, 2012). Chen and Fong (2012, 2015) incorporated knowledge utilization as a component of KMC and they found that the effect of knowledge utilization on business performance is significant. Ganzaroli et al. (2016) investigated the effect of knowledge utilization on the post-performance of merger and acquisition and found that the effective utilization of acquired knowledge positively affects both acquirers' explorative and exploitative performance of post-merger. Teerajetgul and Chareonngam (2008) found that the utilization of knowledge in the construction project has increased the project success in Thailand. In this study, it is hypothesized:

H1c: Knowledge acquisition has a significant effect on OP of Malaysian PLCs.

2.2.3 Mediating role of Trust
Few researchers investigated the mediating role of trust (Alaaraj, Mohamed, & Bustamam, 2018). For example, Wat and Shaffer (2005) found that trust has a mediating role between perceived fairness and leader-member exchange, and organizational citizenship behavior in Hong Kong investment banking. Kath et al. (2010) investigated the role of trust and its outcome for organization. Findings indicated that trust played a partial mediating role between safety climate and safety motivation and between safety motivation and job satisfaction. In

addition, trust mediated fully the relationship between safety climate and turnover intention.

Niu (2010) investigated the mediating role of trust in high tech industries and found that trust played a partial mediating role between industrial cluster and involvement in knowledge obtaining. Yoon et al. (2016) investigated the mediating role of trust in hotels industries in US. The findings showed that trust mediated the effect of environmental management strategy on organizational citizenship behavior. Similarly, Nohe and Michaelis (2016) found that trust mediated the effect of leader charisma on team organizational citizenship behavior of large companies in Germany. In Saudi Arabia, Tlaiss and Elamin (2015) found that trust in the immediate supervisor played a mediating role between organizational justice and trust in the organization. Rezvani et al. (2016) found that trust mediates the relationship between emotional intelligence and project success in Australian defense industry. Alaarj et al. (2016) tested the mediating role of trust between KMC and organizational performance and found partial mediating role. In service sector, trust was found to mediate the effect of KMC on organizational performance in Malaysia (Alaarj, Mohamed, & Bustamam, 2017b). Accordingly, in this paper, it is hypothesized:

H2: Trust mediates the effect of KMC on OP of Malaysian PLCs.

III. METHODOLOGY

3.1 Population and Sampling

This paper is a quantitative in nature. The population is the PLCs in Malaysia. In particular, manufacturing sector. There are almost 400 manufacturing companies in Malaysia and this includes Electrical and electronic (E&E); petroleum, chemical, rubber, plastic, non-metalic mineral products, basic metal and fabricated metal. A purposive sampling was deployed because this paper is only focusing on the executive senior top management. This is because Gold et al. (2001), Mills and Smith (2011) and Alaarj et al. (2016) indicated that those individuals have the required knowledge about the strategic operations in organizations.

3.2 Instrument of this study

The items of this paper were measured using 10 points where (1) refers to strongly disagree, and (10) refers to strongly agree. Table 1 provides a description of the measurements of this study along with the number of items, Cronbach's Alpha, and source of the measurement.

Table 1: Source of Measurements

Construct	Element/dimensions	No. items	No. items after validation	Alpha	Source
KMC	Knowledge acquisition	3	4	0.799	Yang et al. (2014)
	Knowledge sharing	7	5	0.812	Cockrell and Stone (2010)
Construct	Element/dimensions	No. items	No. items after validation	Alpha	Source
	Knowledge utilization	4	4	0.752	Chen and Fong (2012)
	Trust	4	4	0.820	Huff and Kelley, (2005)
Organizational performance	Financial	4	4	0.782	Tseng and Lee (2014)
	Non-financial	10	10	0.742	Tseng and Lee (2014)

Two experts in knowledge management and organizational performance validated the instrument. As a result, some items were deleted. Next, a pilot study was conducted on 33 PhD students in Malaysia. Results of Cronbach's Alpha are given in Table 1 showed that all the measurements are reliable.

3.3 Data Collection

The actual data collection survey was conducted from June 10, 2015 to March 1, 2016. The questionnaire sent to PLCs and requested to be answered by a senior top management executive. A follow up procedures and reminders were sent. As a result, a total of 101 response were received. These considered a small sample size, however, the responses satisfy the rule of thumb of using partial least square (PLS) which states that a ten responses for each indicator is sufficient (Hair, Hult, Ringle, & Sarstedt, 2017). A test for non-response bias was conducted between the early responses and late responses and the analysis of independent t-test showed there is no significant difference between respondents in waves one and three, implying there was no presence of non-response bias.

3. Findings

The data analysis was conducted using SPSS version 22.0 and Smart PLS version 3.2.7. The descriptive information of the respondent as well as missing value, outliers, normality, and multicollinearity were conducted using SPSS. Measurement model and structural model were conducted using Smart PLS.

4.1 Data examination

Data was examined for missing value, outliers, normality, and multicollinearity. No missing value

was recorded. However, three of the responses were removed due to outliers' issue resulting in 98 complete and usable responses. Skewness and Kurtosis of the data were less than absolute one implying that the data was normally distributed. In addition, the variation inflation factor (VIF) for all variables was less than 5 and the Tolerance was greater than 0.20 indicating that there are no multicollinearity issues (Hair et al., 2017).

4.2 Respondents Profile

A total of 98 respondents have participated in this study. The majority of the respondents are younger than 40 years with overall mean of age 37 years. There are divided between male and female with bachelor's degree and experience of less than 15 years.

4.3 Measurement Model

Researchers suggested for checking the measurement model to check the factor loading, reliability, composite reliability and convergent validity as well as discriminant validity (Hair et al., 2014; Lowry and Gaskin, 2014). The convergent validity is achieved once the average variance extracted (AVE) is greater than 0.50.

4.3.1 Convergent Validity

For factor loading, reliability, and composite reliability, the threshold is 0.70 (Hair et al., 2014). Table 2 shows that all the factor loading is greater than 0.70 and no items was deleted. The reliability of the measurement was achieved as well as the composite reliability with value of each variable greater than 0.70. AVE is greater than 0.50 indicating that the convergent validity was achieved.

Table 2: Result of Measurement Model

Construct	Variable	Items	Factor loading >0.70	Reliability>0.70	Composite reliability >0.70	AVE>0.50
Knowledge management capabilities	Knowledge acquisition	KA1-KA4	0.78-0.83	0.83	0.86	0.65
	Knowledge sharing	KS1-KS5	0.79-0.89	0.84	0.85	0.73
	Knowledge utilization	KU1-KU4	0.76-0.84	0.85	0.86	0.69
Trust	Trust	TR1-TR4	0.75-0.92	0.82	0.84	0.76
Organizational performance	Financial performance	FP1-FP4	0.77-0.93	0.83	0.85	0.73
	Non-financial performance	NFP1-NFP10	0.78-0.81	0.83	0.84	0.69

Note: KA: knowledge acquisition, KS: Knowledge sharing, KU: knowledge utilization, FP: financial performance, NFP: non-financial performance.

4.3.2 Discriminant Validity

For the discriminant validity, researcher also suggested that the square root of AVE should be greater than the cross loading of other variables. Table 3 shows that the square root of AVE (bold and underlined) is greater than its row and column. i.e. greater than the cross loading. Thus, the variables have discriminant validity.

Table 3: Discriminant Validity

	FP	KA	KS	KU	TR	NFP
Financial Performance	**0.89**					
Knowledge Acquisition	0.50	**0.82**				
Knowledge Sharing	0.48	0.56	**0.86**			
Knowledge Utilization	0.46	0.48	0.52	**0.83**		
Trust	0.41	0.36	0.54	0.29	**0.87**	
Non-Financial Performance	0.66	0.54	0.51	0.44	0.50	**0.82**

Note: KA: knowledge acquisition, KS: Knowledge sharing, KU: knowledge utilization, FP: financial performance, NFP: non-financial performance.

4.4 Hypotheses Testing

The hypotheses of this paper are tested using the structural model of Smart PLS. Based on the suggestions of Hair et al. (2014), 5000 bootstraps were used and the coefficient as well as the R-square (R^2) of the models were reported.

3.4.1 Direct effect

The direct effect of the main hypothesis H1 and the sub hypotheses is presented in Table 4.

Table 4: Result of Direct Effect Hypotheses

	β	St.d	T Values	P-Values	Remark
KMC -> Organizational Performance	0.51	0.08	5.62	0.00	Sig
Knowledge Acquisition -> Organizational Performance	0.24	0.07	3.52	0.00	Sig
Knowledge Sharing -> Organizational Performance	0.28	0.09	3.17	0.00	Sig
Knowledge Utilization -> Organizational Performance	0.21	0.07	3.02	0.01	Sig
$R^2 = 0.49$					

Sig: significant

For the first main hypothesis, the effect of KMC on OP is positive and significant (β=0.51, T=5.62, P<0.001). Thus, H1 is accepted. For the first sub-hypothesis, this study predicted the effect of knowledge acquisition is positive and significant. Table 4 showed that the hypothesis is supported (β= 0.24, T= 3.52, P<0.01). Thus, H1a is accepted. Similarly, for the second sub-hypothesis, the effect of knowledge sharing is positive and significant (β=0.28, T=3.17, P<0.01). Thus, H2b is accepted. For the third sub-hypothesis, it was predicted that knowledge utilization has a positive and significant effect on OP, Table 4 showed that the hypothesis is positive and significant (β=0.21, T=3.02, P=0.01). Thus, H1c is accepted.

3.4.2 Mediating Effect of Trust

The result of mediating effect testing is presented in Table 5. According to Lowry and Gaskin (2014), the direct effect before entering the mediator must be compared with the direct effect after entering the mediator. Mediation occurs when the direct effect reduced. If the direct effect turned into insignificant, thus, the mediation is full and if it remained significant, the mediation is partial. However, if the indirect effect is insignificant, there is no mediation.

Table 5: Mediating effect of trust

	B	St.d	T Values	P-Values	Remark
Mediating effect of trust between KMC and OP					
KMC -> Organizational Performance	0.42	0.09	4.72	0.00	Sig
KMC -> Trust	0.43	0.10	4.31	0.00	Sig
KMC -> Trust -> Organizational Performance	0.24	0.06	4.01	0.00	Sig
$R^2 = 0.54$					

Sig: significant

Based on the Table 5, the direct effect of KMC on OP reduced from 0.51 (Table 4) to 0.42 (Table 5). Thus, the mediation occurs, however, it is partial mediation because the effect is still significant, and the indirect effect is significant (KMC -> Trust -> Organizational Performance). Therefore, H2 is accepted and trust partially mediated the effect of KMC on OP.

5. Discussion

This study has filled the gaps and responded to researchers to further the studies in KMC and its effect on OP. It also tested the mediating role of trust between KMC and OP in the context of manufacturing companies in Malaysia. The findings of Smart PLS confirmed the prediction of the hypothesis. As predicted, the effect of KMC on OP is positive and significant. Accordingly, the first main hypothesis (H1) was accepted. KMC is important to improve the OP of Malaysian manufacturing PLCs. Mastering the KMC processes will lead to better OP. In particular, companies that have mechanisms to acquire knowledge, share it, and utilize it in decision-making and improvement of internal process as well as solving problem, will enjoy better OP. The findings of this study are in agreement with the findings of previous studies such as Gold et al. (2001), Chen and Fong (2015), Chang and Chuang (2011), Mills and Smith (2011), and Alaarj et al. (2016). This has led to a conclusion that the increase in KMC will lead to positive increase in the OP of the Malaysian PLCs.

The findings indicated that the knowledge acquisition is an important element of KMC and has the significant effect on OP. A better quality acquired knowledge will lead to the application of the right knowledge to formulate the right decision. Knowledge sharing is the most important capability of KMC and it has the strongest effect on OP. The involvement in activities that increase the knowledge sharing would lead to better OP. Knowledge utilization comes in importance after knowledge sharing and knowledge acquisition. This is because the utilization of knowledge is linked to the process of first acquiring the knowledge then sharing it among organizational member and finally is the utilization of knowledge in business process and decision-making. The above findings are in agreement with the findings of other researchers such as Gold et al. (2001), Mills and Smith (2011), Alaarj et al. (2016), Ganzaroli et al. (2016), and Teerajetgul and Chareonngam (2008).

The second hypotheses assumed that trust plays a mediating role between KMC and the OP of Malaysian PLCs. The findings of mediation analysis showed that trust has a partial mediating role between KMC and OP. Thus, companies that create trusting culture will increase the ability to explain the relationship between the variables. Knowledge acquisition and knowledge sharing are individual behavior that take place among closely related co-workers or formally in workshops and question and answer (Q&A) session. This could possibly explain the mediation role of trust between KMC and OP. Managers at the PLCs should implement clear policies regarding the knowledge activities. The managers are advised to link the Key Performance Indicator (KPI) to the KMC activities such as acquiring, sharing, and utilizing the knowledge. In agreement with our findings, trust was found to mediate the effect of perceived fairness and leader-member exchange on the organizational citizenship behavior in Hong Kong investment banking (Wat & Shaffer, 2005), partially mediated the relationship between safety climate and safety motivation and between safety motivation and job satisfaction and fully between safety climate and turnover intention (Kath et al., 2010). Organizational trust also mediated the effect of industrial cluster on involvement in knowledge obtaining (Niu, 2010), emotional intelligence and project success (Rezvani et al., 2016).

CONCLUSION

The purpose of this study was to investigate the effect of KMC on the OP of Malaysian manufacturing sector companies. The study also tested the mediating role of trust. The findings indicate that KMC is essential for the OP and trust has partially mediated the effect of KMC on OP. This study deployed a purposive sampling technique, and this has limited the findings to those who have participated in this study. For future work, researchers are recommended to use random sampling technique so that the findings can be generalized. The finding was derived from manufacturing sector only, researchers are recommended to investigate other sectors such as education and public sector because few studies were found in this domain. This study could explain a moderate percentage of the variation in OP, future studies are recommended to include more variables such as business strategy and uncertainty to enhance the explanatory power of OP. Lastly, future studies are recommended to study the KMC among business partners such as to test the moderating effect of knowledge sharing among business partners' strategies.

REFERENCES

[1] Alaaraj, S., Mohamed, Z. A., & Bustamam, U. S. B. A. (2018). External Growth Strategies and Organizational Performance in Emerging Markets: The Mediating Role of Inter-Organizational Trust. Review of International Business and Strategy, 28(2).

[2] Alaarj, S., Abidin-Mohamed, Z., & Bustamam, U. S. B. A. (2016). Mediating Role of Trust on the Effects of Knowledge Management Capabilities on Organizational Performance. Procedia - Social and Behavioral Sciences, 235, 729–738. https://doi.org/10.1016/j.sbspro.2016.11.074

[3] Alaarj, S., Mohamed, Z. A., & Bustamam, U. S. A. (2017a). Do Knowledge Management Capabilities Reduce the Negative effect of Environment Uncertainties on Organizational Performance? A Study of Public Listed Companies in Malaysia. International Journal of Economic Research, 14(15), 443–456.

[4] Alaarj, S., Mohamed, Z. A., & Bustamam, U. S. A. (2017b). The Effect of Knowledge Management Capabilities on Performance of Companies : A Study of Service Sector. International Journal of Economic Research, 14(15), 457–470.

[5] Alaarj, S., Zainal, A. M., & Bustamam, U. (2015). The Effect of Knowledge Management Capabilities on the Performance of Malaysian Large-Scale Organizations: An Empirical Study. Advances in Global Business Research, 12(1), 1024–1038.

[6] Ashnai, B., Henneberg, S. C., Naudé, P., & Francescucci, A. (2016). Inter-personal and inter-organizational trust in business relationships: An attitude-behavior-outcome model. Industrial Marketing Management, 52, 128–139. https://doi.org/10.1016/j.indmarman.2015.05.020

[7] Ayoup, H., Omar, N., & Abdul Rahman, I. K. (2013). Implementation of Balanced Scorecard (Bsc) in a Malaysian Glc : Perceptions of Middle. Asia-Pacific Management Accounting Journal, 7(2), 99–126.

[8] Bose, R. (2003). Knowledge management-enabled health care management systems: Capabilities, infrastructure, and decision-support. Expert Systems with Applications, 24(1), 59–71. https://doi.org/10.1016/S0957-4174(02)00083-0

[9] Chang, T.-C., & Chuang, S.-H. (2011). Performance implications of knowledge management processes: Examining the roles of infrastructure capability and business strategy. Expert Systems with Applications, 38(5), 6170–6178. https://doi.org/10.1016/j.eswa.2010.11.053

[10] Chen, D. N., & Liang, T. P. (2011). Knowledge evolution strategies and organizational performance: A strategic fit analysis. Electronic Commerce Research and Applications, 10(1), 75–84. https://doi.org/10.1016/j.elerap.2010.10.004

[11] Chen, L., & Fong, P. S. W. (2012). Revealing performance heterogeneity through knowledge management maturity evaluation: A capability-based approach. Expert Systems with Applications, 39(18), 13523–13539. https://doi.org/10.1016/j.eswa.2012.07.005

[12] Chen, L., & Fong, P. S. W. (2015). Evaluation of knowledge management performance: An organic approach. Information & Management, 52(4), 431–453. https://doi.org/10.1016/j.im.2015.01.005

[13] Cockrell, R. C., & Stone, D. N. (2010). Industry culture influences pseudo-knowledge sharing: a multiple mediation analysis. Journal of Knowledge Management, 14, 841–857. https://doi.org/10.1108/13673271011084899

[14] Evans, W., & Davis, W. (2005). High-performance work systems and organizational performance: The mediating role of internal social structure. Journal of Management, 31(5), 758–775.

[15] F. Hair Jr, J., Sarstedt, M., Hopkins, L., & G. Kuppelwieser, V. (2014). Partial least squares structural equation modeling (PLS-SEM). European Business Review, 26(2), 106–121. https://doi.org/10.1108/EBR-10-2013-0128

[16] Ganzaroli, A., De Noni, I., Orsi, L., & Belussi, F. (2016). The combined effect of technological relatedness and knowledge utilization on explorative and exploitative invention performance post-M&A. European Journal of Innovation Management, 19(2), 167–188.

[17] Gharakhani, D., & Mousakhani, M. (2012). Knowledge management capabilities and SMEs' organizational performance. Journal of Chinese Entrepreneurship, 4(1), 35–

49. https://doi.org/10.1108/17561391211200920
[18] Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge management: an organizational capabilities perspective. J. of Management Information Systems, 18(1), 185–214. https://doi.org/10.2307/40398521
[19] Grant, R. (1996). Toward a knoweldge-based theory of the firm. Strategic Management Journal, 17(S2), 109–122. https://doi.org/10.1002/smj.4250171110
[20] Hair, J. F., Hult, T. M., Ringle, C. M., & Sarstedt, M. (2017). A primer on partial least squares structural equation modeling (2nd ed.). Thousand Oakes.
[21] Hendricks, K., Hora, M., Menor, L., & Wiedman, C. (2012). Adoption of the balanced scorecard: A contingency variables analysis. Canadian Journal of Administrative Sciences, 29(2), 124–138. https://doi.org/10.1002/CJAS.229
[22] Holste, J. S., & Fields, D. (2010). Trust and tacit knowledge sharing and use. Journal of Knowledge Management, 14(1), 128–140. https://doi.org/10.1108/13673271011015615
[23] Ibrahim, M. (2015). Investigating the use of the four perspectives of balanced score card (BSC) as technique for assessing performance by Nigerian banks. Journal of Accounting and Taxation, 7(April), 62–70. https://doi.org/10.5897/JAT2014.0148
[24] Jackson, S. E., Chuang, C.-H., Harden, E. E., & Jiang, Y. (2006). Toward Developing Human Resource Management Systems for Knowledge-Intensive Teamwork. In Research in Personnel and Human Resources Management (Vol. 25, pp. 27–70). https://doi.org/doi:10.1016/S0742-7301(06)25002-3
[25] Kaplan, R. S., & Norton, D. P. (1992). The Balanced Scorecard - Masures That Drive Performance. Harvard Business Review, 70(1), 71–79. https://doi.org/00178012
[26] Kaplan, R. S., & Norton, D. P. (1996). The Balanced Scorecard Translating Strategy In Action (Kaplan & Norton, 1996, Harvard Business School Press).pdf. Proceedings of the IEEE. https://doi.org/10.1109/JPROC.1997.628729
[27] Kath, L. M., Magley, V. J., & Marmet, M. (2010). The role of organizational trust in safety climate's influence on organizational outcomes. Accident Analysis and Prevention, 42(5), 1488–1497. https://doi.org/10.1016/j.aap.2009.11.010
[28] Kuzu, Ö. H., & Özilhan, D. (2014). The Effect of Employee Relationships and Knowledge Sharing on Employees' Performance: An Empirical Research on Service Industry. Procedia - Social and Behavioral Sciences, 109(July 2016), 1370–1374. https://doi.org/10.1016/j.sbspro.2013.12.639
[29] Lebas, M., & Euske, K. (2007). A conceptual and operational delineation of performance. Business Performance Measurement: Theory, 65–79.
[30] Lee, L. T., & Sukoco, B. M. (2007). The Effects of Entrepreneurial Orientation and Knowledge Management Capability on Organizational Effectiveness in Taiwan: The Moderating Role of Social Capital. International Journal of Management, 24(3), 549–572.
[31] Liu, P. Lo, Chen, W. C., & Tsai, C. H. (2004). An empirical study on the correlation between knowledge management capability and competitiveness in Taiwan's industries. Technovation, 24(12), 971–977. https://doi.org/10.1016/S0166-4972(03)00061-0
[32] Lowry, P. B., & Gaskin, J. (2014). Partial least squares (PLS) structural equation modeling (SEM) for building and testing behavioral causal theory: When to choose it and how to use it. IEEE Transactions on Professional Communication, 57(2), 123–146. https://doi.org/10.1109/TPC.2014.2312452
[33] Mills, A. M., & Smith, T. a. (2011). Knowledge management and organizational performance: a decomposed view. Journal of Knowledge Management, 15(1), 156–171. https://doi.org/10.1108/13673271111108756
[34] Moshari, J. (2013). Knowledge Management Issues in Malaysian Organizations : the Perceptions of Leaders. Journal of Knowledge Management, Economics and Information Technology, III(5), 1–13. https://doi.org/10.1016/B978-0-7506-3699-5.50013-3
[35] Müller, V.-O. (2014). Do Corporate Board Compensation Characteristics Influence the Financial Performance of Listed Companies? Procedia - Social and Behavioral Sciences, 109, 983–988. https://doi.org/10.1016/j.sbspro.2013.12.575
[36] Najib Razali, M., & Juanil, D. M. (2011). A study on knowledge management implementation in property management companies in Malaysia. Facilities, 29(9/10), 368–390. https://doi.org/http://dx.doi.org/10.1108/MRR-09-2015-0216
[37] New Straits Times. (2017). The Changing landscape of manufacturing sector. Retrieved January 15, 2018, from https://www.nst.com.my/business/2017/09/282055/changing-landscape-manufacturing-sector
[38] Niu, K. (2010). Organizational trust and knowledge obtaining in industrial clusters. Journal of Knowledge Management, 14(1), 141–155. https://doi.org/10.1108/13673271011015624
[39] Nohe, C., & Michaelis, B. (2016). Team OCB, leader charisma, and organizational change: A multilevel study. The Leadership Quarterly. https://doi.org/10.1016/j.leaqua.2016.05.006
[40] Ong, T. S., Teh, B. H., Lau, C. K., & Shyan Wong, S. L. (2010). Adoption and implementation of Balanced Scorecard in Malaysia. Asia-Pasific Management Accounting Journal, 5(1), 21–40. https://doi.org/10.1097/ADM.0b013e3181d41ddb
[41] Popova, V., & Sharpanskykh, A. (2010). Modeling organizational performance indicators. Information Systems, 35(4), 505–527. https://doi.org/10.1016/j.is.2009.12.001
[42] Rezvani, A., Chang, A., Wiewiora, A., Ashkanasy, N. M., Jordan, P. J., & Zolin, R. (2016). Manager emotional intelligence and project success: The mediating role of job satisfaction and trust. International Journal of Project Management, 34(7), 1112–1122. https://doi.org/10.1016/j.ijproman.2016.05.012
[43] Richard, P., Devinney, T., & Yip, G. (2009). Measuring organizational performance: Towards methodological best practice. Journal of.
[44] Romijn, H., & Albaladejo, M. (2002). Determinants of innovation capability in small electronics and software firms in southeast England. Research Policy, 31(7), 1053–1067. https://doi.org/10.1016/S0048-7333(01)00176-7
[45] Ruzita, J. (2010). The influence of perceived environmental uncertainty, firm size, and strategy on multiple performance measures usage. African Journal of Business Management, 4(10), 1972–1984.
[46] Sambasivan, M., Loke, S. P., & Zainal, A. M. (2009). Impact of knowledge management in supply chain management: A study in Malaysian manufacturing companies. Knowledge and Process Management, 16(3), 111–123. https://doi.org/10.1002/kpm
[47] Sambasivan, M., Siew-Phaik, L., Zainal, A. M., & Choy Leong, Y. (2011). Impact of interdependence between supply chain partners on strategic alliance outcomes. Management Decision, 49(4), 548–569. https://doi.org/10.1108/00251741111126486
[48] Shah, S. Q., & Jan, R. (2014). Analysis of Financial Performance of Private Banks in Pakistan. Procedia - Social and Behavioral Sciences, 109, 1021–1025. https://doi.org/10.1016/j.sbspro.2013.12.583
[49] Song, J. H. (2008). The effects of learning organization culture on the practices of human knowledge-creation: An empirical research study in Korea. International Journal of Training and Development, 12(4), 265–281. https://doi.org/10.1111/j.1468-2419.2008.00311.x
[50] Sung, S. Y., & Choi, J. N. (2012). Effects of team knowledge management on the creativity and financial performance of organizational teams. Organizational Behavior and Human Decision Processes, 118(1), 4–13. https://doi.org/10.1016/j.obhdp.2012.01.001
[51] Teerajetgul, W., & Chareonngam, C. (2008). Tacit knowledge utilization in Thai construction projects. Journal of Knowledge Management, 12, 164–174. https://doi.org/10.1108/13673270810852467
[52] The Star. (2017). Malaysia's manufacturing sector continues to grow. Retrieved January 18, 2018, from

https://www.thestar.com.my/business/business-news/2017/05/12/manufacturing-sector-continues-to-grow/

[53] Tlaiss, H. A., & Elamin, A. M. (2015). Exploring organizational trust and organizational justice among junior and middle managers in Saudi Arabia: Trust in immediate supervisor as a mediator. Journal of Management Development, 34(9), 1042–1060. https://doi.org/10.1108/JMD-10-2014-0129

[54] Tseng, S.-M., & Lee, P.-S. (2014). The effect of knowledge management capability and dynamic capability on organizational performance. Journal of Enterprise Information Management, 27(2), 158–179. https://doi.org/10.1108/jeim-05-2012-0025

[55] Wang, L., Law, R., Hung, K., & Guillet, B. D. (2014). Consumer trust in tourism and hospitality: A review of the literature. Journal of Hospitality and Tourism Management, 21, 1–9. https://doi.org/10.1016/j.jhtm.2014.01.001

[56] Wat, D., & Shaffer, M. a. (2005). Equity and relationship quality influences on organizational citizenship behaviors: The mediating role of trust in the supervisor and empowerment. Personnel Review, 34, 406–422. https://doi.org/10.1108/00483480510599752

[57] Yang, L. R., Huang, C. F., & Hsu, T. J. (2014). Knowledge leadership to improve project and organizational performance. International Journal of Project Management, 32(1), 40–53. https://doi.org/10.1016/j.ijproman.2013.01.011

[58] Yoon, D., Jang, J., & Lee, J. (2016). Environmental Management Strategy and Organizational Citizenship Behaviors in the. International Journal of Contemporary Hospitality Management, 28(8).

[59] Zahra, S. S. a., & George, G. (2002). Absorptive Capacity: A Review, Reconceptualization, and Extension. The Academy of Management Review, 27(2), 185. https://doi.org/10.2307/4134351

[60] Zainal, A. M., Abdullah, H. H., Othman, R., Uli, J. (2009). Make or Buy Strategy and Origin of Sourcing Materials and Their Relationship with Firm Performance. International Review of Business Research Papers, 5(3), 142–155.

[61] Zainal, A. M., Ann, H. J., & Yee, W. P. (2014). Strategic Management (2nd ed.). Kuala Lumpur: Oxford University Press.

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