

The Mediation Effect of Strategic Leadership in the Relationship between Knowledge Management, Competitive Intelligence and Business Strategy Formulation

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ABSTRACT

Business Strategy Formulation (BSF) from various diverse approach have been addressed in a number of previous researches that provided some distinct answers. However, the key to competitiveness is no longer based on the adoption of approach that have been successful in the past, but adapting and responding towards the rapid changes of business environments by taking the suitable approach depending on the conditions prevailing at that time to be leveraged in strategy formulation. The main objectives of this research were to propose a model of business strategy formulation that integrates Knowledge Management (KM), Competitive Intelligence (CI), and Strategic Leadership (SL) as leverage in the business strategy formulation (BSF), as well as establish the mediation effect of Strategic Leadership (SL). This research adopted a quantitative approach that fully utilized the survey method through an online platform for data collection. A questionnaire survey randomly distributed to 331 managers working at the local-owned MSC Status companies. All the collected data were analyzed using the SmartPLS software. The result of the study revealed that there was a direct effect of KM and CI on SL and BSF. Nevertheless, CI found to be the most crucial factor than KM for BSF, and KM is more critical than CI to improve SL. Meanwhile, SL indeed not only an indicator to BSF but also has mediating effect in the relationship between KM, CI and BSF. Overall, the findings of the research are meaningful to add new knowledge for the knowledge fields as well as a practical context to facilitate the strategy formulation.

Keywords: Knowledge Management, Competitive Intelligence, Strategic Leadership, Business Strategy Formulation

1. INTRODUCTION

Research on strategic planning and strategy formulation has become a major focus of academia and industry over the decades to improve the performance of organizations. Kithinji, (2012) revealed that previous studies have addressed business strategy formulation (BSF) from a number of different perspectives through the diverse application or approach of making strategy that provides distinct answers for BSF within organizations. Nevertheless in the new economy settings, the central position of strategic management literature focused more on the suitability approach for BSF in helping organizations to participate in the global market (Brauckhoff, 2012). The main reason behind this because entering the global market is no longer a choice but compulsion for organizations (Wheelen & Hunger, 2012) and the key to competitiveness no longer lie based on the adoption of applications that have been successful in the past or imitating the successful strategies done by competitors (Johnson et al., 2008) but adapting and responding with the rapid changes of dynamic business environments in taking the suitable management approach depending on the conditions prevailing at that time so that it can be leveraged in strategy formulation (Hashim, 2016). A different approach should be develop from time to time because the acceleration of changes in business environment conditions create an intense demand for suitable approach of BSF that can increase the performance of organizations (Karami, 2016).

In Malaysia, the rise of the fourth industrial revolution (IR4.0) and the global digital economy has forced the government to focuses on developing the country's digital economy (Yimie Yong, 2016). To achieve these national agendas, the government urged businesses especially from the ICT industry embark on the global market to accelerate the development of the country's digital economy or Digital Malaysia. As a key catalyst for Malaysian economic growth from the ICT industry, MSC status companies, play a major role in ensuring that the national agenda is achieved (MDEC, 2012). However, according to data obtained from Malaysia Digital Economy Corporation (MDEC) reported that 90% of local MSC Status Companies have still not entered the global market due to inevitable incompetency demonstrated to be the global players (MDEC, 2017). It is important for MSC Status Companies to expand globally because it was part of the original MSC Malaysia vision to develop a global ICT network and environment (MDEC, 2012) towards the transformation of the economy by tapping into the advantages of the digital era and elevate Malaysia to the best top 20 countries in the world (MDEC, 2017). Considering these issues are critical, MDEC is seeking to further stimulate the performance of the MSC Status companies to go beyond their home shores as the government needs a more competitive and global mind-set player to spur Malaysia Digital in meeting IR4.0.

Bank Negara Malaysia (2018) disclosed that digitalization has caused a massive impact on the development of the Malaysian economy. With the advent of digital disruptive and IR4.0, this has created an immerse challenges of entering the global market. Bank Negara Malaysia (2018) further revealed that Malaysian ICT companies have not fully capitalized on their critical resources to serves as a competitive advantage in becoming a “frontrunner” on the digital front as compared to other countries such as Estonia, South Korea, Japan, and Singapore. In additions, the digital and other disruptive technologies have caused an

increasing premium on higher-order cognitive skills of managers, such as complex problem-solving, socio-behavioral skills, reasoning, and self-efficacy that required to participate in the global market (World Bank Group, 2018). Hence it is important for Malaysian ICT companies to address the challenges of entering the global shores by revising business strategy through the appropriate application or approach that provides stable access to global markets (McKinsey Global Institute, 2016) and builds the required skills because it is critical for enabling Malaysia's successful transition into a high-income and developed nation (World Bank Group, 2018).

The Resource-Based View (RBV) by Wernerfelt (1984) suggested organizations should proactively obtain and collecting its internal strategic resources to leveraged in strategy formulation for creating a positive outcome (Barney 1991; Grant, 1999; Raduan et al., 2009; Nemati et al., 2010; Tabares et al., 2015). The RBV theory provides the basis for solving the basic problem in strategy formulation based on the use of resources and organizational capabilities (Grant, 1999; Makadok, 2001; Tabares et al., 2015). The theory often emphasized that organizations should embrace the sources of competitive advantage inside the company instead of looking at a competitive environment for it before developing any business strategy (Hashim, 2016).

Until today, internal resources of organizations are still relevant as a part of the sources of competitive advantage for strategy formulation. Shafeey & Trott (2014) explained that the exploitation of existing resources and the development of new ones within the organizations provides unique value for strategy formulation. RBV's theory makes it easier for organizations to identify appropriate resources that can be treated as strategic assets and to interpret their ability to exploit those assets in order to achieve the right outcomes. Hence, organizations should proactively collect, obtain, and develop their resources to create a positive result for higher performance in order to maintain competitive advantages (Barney 1991; Grant, 1999).

However, RBV theory views that most of the resources are static where the focused more on the exploitation of internal resources has ignored the importance of the competitive environment that often changes over time. This statement was supported by Gellweiler (2018) that argued the rearrangement of two resources from both internal and external environment and the consequences of exploitation both resources has been neglected under RBV's. This might result to organizations unable to adapt, control, and respond to the dynamic business environments that keep changing. To stay relevance in marketplace and sustaining competitive advantage, managers at strategic level should consider combining knowledge and information resources from the internal and external environment to serve as strategic assets to facilitate business strategy formulation in addressing environmental challenges (Kamasak, 2017; Shujahat et al., 2017). Hence, there is prevailing need to revisit RBV view, in which, to achieve a competitive advantage organizations must consider the analysis of its competitive environment and be leveraged for critical analysis of skills also internal resources to make definite decisions during BSF (Gellweiler, 2018).

The differences sources of two resources encourage this research to integrate knowledge management and competitive intelligence into a single framework as the factors that might effects business strategy formulation. Knowledge Management (KM) is a

management concept associated with a practical activity designed to make the best use of the knowledge resources available to an organization to meet its strategic opportunities (Corfield & Paton, 2016). Meanwhile, Competitive Intelligence (CI) is a mechanism for tracking the external environment, gathering and evaluating data and information from a specific and strategic viewpoint that helps organizations to enhance their strategic decisions and remain competitive with their competitors (Bose, 2008). KM and CI are the practical management approach executed to unleash the organization's potential by nurturing effective and efficient management of knowledge and information resources from the internal and external environments (Andreeva & Kianto, 2012; Inkinen, 2016; Shujahat et al., 2017) to facilitate business strategy formulation.

This research seek to explore an integrative approach that would be able to combine the coordination of resources from different sources to become strategic resources for BSF and further to extend the RBV theory. The research question is there an effects of KM and CI on BSF? Thus, this research focuses to examine the effect of KM and CI in the BSF, without further propose the process of strategy formulation. Moreover, despite of diverse approaches of making strategy were introduced (Kithinji, 2012), very little is known about the suitable approaches for MSC Status Companies. As companies certified with MSC Status carried critical role to embark on the global market in accelerating the development of the Digital Malaysia, hence, it indicates significant urgency to propose a to propose new ways to chart the right approaches in business strategy formulation with the effort to make the MSC Status Companies become more competitive and able to expand its global existence.

Additions to that, without denying that strategic leadership is playing an important role in ensuring the success of an organization, there is a need to closely examine the effect of strategic leadership on BSF. This is because most of the previous studies only focused on building a strategic leadership (Dimitrios et al., 2013; Goldman et al., 2015; Norzailan et al., 2016; Sarfraz, 2017) and the role of strategic leadership (SL) in organizations as general (Schoemaker et al., 2013; Mahdi & Almsafir, 2014) without empirically evident its effect on business strategy formulation. A number of previous studies were widely discussed the role of SL in increasing organization performance (Wang et al., 2012; Dobson, 2014). However, there are persevere challenges to explain the role of SL in the strategic management process (Jabbar & Hussein, 2017) and it is not well understood as leverage in the strategic management process to drive the organization's performance (Najmi et al., 2018). The research questions is there an effect of SL on BSF? Hence, this study attempts to test the effect of SL on BSF in order to evaluate the role of SL in the strategic management process, specifically BSF.

As for that matter, it is also important to discover whether SL has a significant mediating effect in the relationship between KM and CI with BSF. This is because, SL playing an important role in BSF (Norzailan et al., 2016) and should optimize the knowledge and information from internal and external environment as the basis for making informed decisions during BSF that would generate value for organizations (Giampaoli et al., 2017). Knowledge and information that managed through KM and CI can be utilized not only for strategy formulation (Snyman & Kruger, 2004; Halawi et al., 2006; Dishman & Calof, 2008; Nasri, 2011; Gatsoris, 2012; Bashouri & Duncan, 2014; Dayan et al., 2017; Calof, 2017), but

also to improve strategic leadership in shaping the decision-making for BSF (Shujahat et al., 2017; Imran et al., 2017).

The research questions are is there an effects of KM and CI on SL? And does SL mediates the relationship between KM, CI, and BSF? Hence, the purposes of this study is to examine the effects of KM and CI on SL, as well as to determine whether SL mediates the relationship between KM, CI, and BSF.

This research will propose a model that is formed from KM, CI and strategic SL, that might have tendency to directly affect BSF. The development of a single framework that combining all three factors for BSF perhaps could become an approach suitable on the condition prevailing at given time to better facilitate organizations, in this context of study is MSC Status companies producing a sound business strategy for competitive run.

2. METHOD

This study adopted quantitative approaches for data collection and analysis as it is often used to address research objectives through numerical assessment that involves statistical measurement and analysis (Zikmund et al., 2013). The research is conducted in a non-contrived setting that applied the natural environment where the events proceed normally. Thus, this study choose questionnaire survey for data collection and utilizing an online platform through e-mail for data collection. The questionnaire developed using the measurement adopted with some modifications from previous studies such as knowledge management was derived from Cheng (2017) and Imran et al. (2017), competitive intelligence was taken from Garcia-Alsina et al. (2016) and Chevallier et al. (2016), and business strategy formulation was adopted from Brauckhoff (2012) and Cofrancesco (2016).

The questionnaire were distributed to 331 number of sample from companies that certified with MSC Status. The sample were chosen randomly based on the list obtained from the MSC Malaysia Directory. The respondents of this research are those from the Top Management Team such as the Heads of Business Units, Boards of Directors, Senior Executive Officers, Strategic Leaders, General Managers or Owners of the companies. At the end of data collection, 223 questionnaire were returned that representing an effective response rate of 67% for this study. Cook et al., (2000) asserted that any studies which utilized e-mail for collecting the data would expect to have the response rate between 25% and 30% without follow-up and double-up the response rate with scheduled reminders sent to the respondents. Thus, the response rate of 67% was considered acceptable for this research. Moreover, as the collected data was analyzed using Smart-PLS, the response rate (n = 223) considered enough to achieve an adequate level for the statistical analyses. Hair et al. (2011) emphasized that a 30% response rate regarded as sufficient for survey research to employed PLS-SEM.

3. RESULTS AND DISCUSSION

a. Measurement Model Analysis

In assessing the quality of the measurement model to validate and confirm the dimensionality of the constructs, convergent and discriminant validities were performed (Hair et al., 2017; Ramayah et al., 2018). The result for the convergent validity as presented in Table 1 indicated that all indicators have passed the minimum requirement of the convergent validity and achieved the significant level of consistency. This decision was made based on recommendation from Hair et al., (2017) that suggested the value of factor loadings should greater than 0.7 in a well-fits model to reach the statistical significance. Besides that, the value for an AVE should more than 0.5, and the Composite Reliability and Cronbach's alpha should higher than 0.7 (Hair et al., 2017).

To examine the discriminant validity, the Heterotrait-Monotrait Ratio of Correlations (HTMT) were executed. The findings of the analysis depicted in Table 2 shows all the values fulfill the criterion of HTMT 0.90, which indicates the discriminant validity has ascertained. The decision was made based on the HTMT value that shown less than 0.90 (Henseler et al., 2015; Ramayah et al., 2018).

To sum up for all the result from the assessment, it shows that the constructs in the proposed model are highly correlated among them as it has pass the minimum criterion of the convergent and discriminant validities aspect. It can be concluded that the items and dimensions of the constructs have successfully reflected a good fit of the model through given the sample data. Therefore, it can confirm that the constructs in the proposed model were suitable for further use in the subsequent model testing.

TABLE 1 : HTMT Discriminant Analysis for Measurement Model

Latent Variables	Knowledge Management	Competitive Intelligence	Strategic Leadership
Knowledge Management			
Competitive Intelligence	0.539		
Strategic Leadership	0.179	0.135	
Business Strategy Formulation	0.163	0.285	0.877

TABLE 2: Convergent Validity for Measurement Model

Items		Outer Loadings	Average Variance Extracted (AVE)	Cronbach's Alpha	Composite Reliability
Knowledge Management	KMP01	0.941	0.826	0.981	0.983
	KMP02	0.968			
	KMP03	0.967			
	KMP04	0.978			
	KMP05	0.955			
	KMP06	0.948			
	KMC01	0.925			
	KMC02	0.940			
	KMC03	0.955			
	KMC04	0.954			
	KMC05	0.933			
KMC06	0.915				
Competitive Intelligence	CI01	0.806	0.727	0.953	0.960
	CI02	0.818			
	CI03	0.806			
	CI04	0.844			
	CI05	0.855			
	CI06	0.899			
	CI07	0.899			
	CI08	0.885			
	CI09	0.852			
Strategic Leadership	SL01	0.709	0.719	0.943	0.953
	SL02	0.846			
	SL03	0.907			
	SL04	0.880			
	SL05	0.873			
	SL06	0.872			
	SL07	0.815			
	SL08	0.864			
Business Strategy Formulation	BSF01	0.827	0.687	0.934	0.946
	BSF02	0.850			
	BSF03	0.880			
	BSF04	0.903			
	BSF05	0.846			
	BSF06	0.714			
	BSF07	0.815			

	BSF08	0.782			
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b. Structural Model Analysis

The initial assessment was executed is multicollinearity analysis. As can see in Table 3, it indicated that there was no collinearity issue raised in the model of this study because the inner VIF values for all constructs were less than 3.3 and 5 (Diamantopoulos & Sigouw, 2006 as cited in Ramayah et al., 2018). The VIF values for KM is 1.470, CI is 1.445, and SL is 1.099, which demonstrated that multicollinearity issues were not a problem for the model in this study.

TABLE 3: Multicollinearity Analysis for Structural Model

Exogenous Factor	Business Strategy Formulation
Knowledge Management	1.470
Competitive Intelligence	1.445
Strategic Leadership	1.099

The finding for path coefficient analysis were the recorded in Table 4. Based on the result in Table 3, CI yielded at $\beta = 0.226$, $t = 5.244$, $p = 0.000$ is the most important predictor than KM with $\beta = 0.107$, $t = 2.913$, $p = 0.004$ on BSF. Meanwhile, SL also has a strong positive influence on BSF based on high t-value yielded at $\beta = 0.783$, $t = 26.211$, $p = 0.000$. The result indicated that KM and CI have a positive significant influence on SL and BSF. At the same time, the results disclosed that SL also has a positive influence on BSF. Therefore, it can be concluded that all the variables were positively significant correlated among them in the proposed model.

TABLE 4: Path Coefficient Analysis for Structural Model

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values
Knowledge Management → Business Strategy Formulation	0.107	0.109	0.037	2.913	0.004
Knowledge Management → Strategic Leadership	0.320	0.319	0.078	4.087	0.000
Competitive Intelligence → Business Strategy Formulation	0.226	0.225	0.043	5.244	0.000
Competitive Intelligence → Strategic Leadership	0.283	0.290	0.073	3.496	0.001

Strategic Leadership → Business Strategy Formulation	0.783	0.785	0.030	26.211	0.000
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As for the assessment of the model's predictive accuracy, the coefficients of determination score (R²) for SL and BSF were 0.100 and 0.723 respectively. From the result reported in Table 5, it shows that 10% of the SL's variable was explained by the variables of KM and CI by the given sample data. Meanwhile, 72% of BSF's construct was explained by all three other exogenous constructs. Although SL has a weak level of variance, it still can be accepted for model testing because the value did not fail to accurately model the data and the model did not found to have multicollinearity issues. This situation is common in social or behavioral sciences especially in cross-sectional data because it might influence by other factors or phenomena from the given sample data (Sanchez & Maroney, 2015). In a nutshell, both SL and BSF indicated a satisfactory fit and consistently good for the use in the model testing for the present investigation based on the computed result.

In addition, the assessment of effect size (f²) and predictive relevance (q²) as recorded in Table 6, each path can be considered as having moderate for each path in the structural model (Henseler & Chin, 2010). To conclude, the findings disclosed that overall the model in this study demonstrates an acceptable fit and high predictive relevance based on given the sample data.

TABLE 5: Coefficients of Determination Score (R²)

Endogenous Variable	R Square	R Square Adjusted
Strategic Leadership	0.100	0.091
Business Strategy Formulation	0.723	0.719

TABLE 6: Effect size (f²) and Predictive Relevance (q²)

Factors	f ²	Remarks	q ²	Remarks
Knowledge Management → Strategic Leadership	0.083	Moderate	0.058	Reached predictive relevant
Competitive Intelligence → Strategic Leadership	0.065	Moderate		
Knowledge Management → Business Strategy Formulation	0.028	Moderate	0.468	Reached predictive relevant
Competitive Intelligence → Business Strategy Formulation	0.128	Moderate		
Strategic Leadership → Business Strategy Formulation	2.013	Moderate		

c. Mediating Analysis

The indirect effect assessment confirmed SL mediated the relationship of KM → BSF at $\beta = 0.251$, $t = 4.069$, $p < 0.05$, and CI → BSF at $\beta = 0.222$, $t = 3.3536$, $p < 0.05$. All the indirect effect analyses were also supported by the bootstrapping confidence interval, where all the 95% of confidence intervals value of lower limit and upper limit for both indirect effects do not straddle a zero in between (Hayes & Scharkow, 2013; Ramayah et al., 2018). Thus, the findings as reported in Table 7 disclosed that the mediation effects were statically significant.

TABLE 7: Mediation Effect Assessment

Path	Std. Beta	T Values	Confidence Interval (BC)	
			LL	UL
Knowledge Management → Strategic Leadership → Business Strategy Formulation	0.251	4.069**	0.337	0.143
Competitive Intelligence → Strategic Leadership → Business Strategy Formulation	0.222	3.536**	0.109	0.315

Note: ** $p < 0.05$, BC = Bias Corrected, UL = Upper Level, LL = Lower Level

4. CONCLUSION

The objectives of this research are to examine the effects of knowledge management, competitive intelligence and strategic leadership on business strategy formulation. At one go, this study aims to explore the mediating effect of strategic leadership in the relationship between knowledge management, competitive intelligence, and business strategy formulation. From the findings using real data shown that there was a direct effect of knowledge management and competitive intelligence on business strategy formulation. This research provides evidence validating that the combination of knowledge and intelligence could be leverage by strategic leadership competence to facilitate strategy formulation. It means that the more dedicated the companies practicing both knowledge management and competitive intelligence approaches, the better the process of business strategy formulation can be executed. Nevertheless, competitive intelligence found to be the most crucial factor than knowledge management for business strategy formulation. This is due to the fact that business environment proactively change cannot be ignored where organizations are demanded to strengthens their business strategy in gaining and sustaining competitive advantage.

Moreover, the findings of this research also concluded that knowledge management and competitive intelligence were demonstrated to have significant effects on shaping the strategic leadership to accomplish the strategic task successfully. However, it found that knowledge management is more critical than competitive intelligence to improve strategic

leadership. Knowledge management and competitive intelligence provide managers with a mass of information gathered from the internal and external environment of organizations to improve their strategic competencies in order to manifest better strategic leadership. Hence managers should proactively adopt these two management approaches in getting benefits that could be used to advancing the strategic conduct. In the end, managers at strategic level should recognize the fact that managing knowledge and intelligence will provide significant value on improving strategic leadership.

Meanwhile, strategic leadership indeed is not only an independent position at the strategic level but also serves as a vital mechanism that exploits and leverages knowledge management and competitive intelligence on the business strategy formulation. The good the strategic leadership is, the better the process of business strategy formulation. It means managers should possess specific competencies in business strategy formulation so that a good and complex business strategy could be produced for the competition in a broad market in promoting the success of the organizations.

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