International Journal of Business and Society, Vol. 23 No. 1, 2022, 614-632

THE MODERATING EFFECT OF HUMAN CAPITAL ON THE RELATIONSHIP BETWEEN ENTERPRISE RISK MANAGEMENT AND ORGANIZATION PERFORMANCE

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ABSTRACT

In today's challenging global economy, risk management is encountering a significant transformation. Organizations are switching their risk management method to enterprise-wide from the traditional compartmentalized approach. Enterprise risk management (ERM), which aims at increasing the sustainability of an organization and achieving competitive advantage, is gaining global attention and fast becoming an essential concern in all industries. Despite the importance of the knowledge embedded in people in the current knowledge-based economy, there remains a paucity of evidence concerning how human capital could influence the organization's ERM. Based on the Resource-based view (RBV) theory, this study analyses the correlation between ERM, human capital, and performance in Malaysian public listed companies (PLCs). For this study, 500 questionnaires had been distributed, and 116 responses were obtained. Structural Equation Modeling (SEM) had been used to assess the fitness of the conceptual model. This study found a significant relationship between ERM and organizational performance, and this relationship is moderated by human capital. This study contributes to the ERM literature by providing empirical evidence on the relationship of ERM, human capital, and organizational performance. Findings from this study also provide guidelines for managers, policymakers, and the regulatory bodies to evaluate the ERM practices in PLCs.

***Keywords**:* Enterprise Risk Management; Human Capital; Performance

Received: 20 November 2019
Accepted: 12 June 2021
https://doi.org/10.33736/ijbs.4633.2022

1. INTRODUCTION

To sustain in a dynamic business environment, organizations need to rely on their resources and capabilities to take proper flexible, responsive and timely response to unexpected risks. In managing those risks, organizations are facing new challenges as they exceed the traditional approach's capability. Thus, ERM is widely being employed to recognise and analyse risks from an integrated, company-wide perspective (Jalal-Karim, 2013). ERM is an organized method

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towards organization-wide risk management that can identify, evaluate, decide responses and report the opportunities and challenges that influence the organization (Sarens, 2009). Furthermore, ERM supports key management decisions by lowering earnings volatility, increasing earnings, and improving shareholder value (Lam, 2014). Abdullah et al. (2015) proved that investors react positively towards the risk management information. The voluntary risk management disclosure increases investors' confidence in the performance and prospects of the Malaysian firms Abdullah and Abdul-Shukor (2017). According to Malik et al. (2020) the effectiveness of ERM significantly and positively affects firm performance.

It has been debated that poor performance, which subsequently causes crisis, is due to insufficient effective ERM program (Aebi et al., 2012). In this knowledge-based and global economy, organizations have to assign managers with a great level of skills and knowledge to manage ERM effectively. An organization's performance and its corporate governance practices are highly being influenced by these attributes (Wong & Bajuri, 2013). Therefore, the enhancement of human resource's competitiveness, increase the chances of success. The exploitation of opportunities and minimization of threats related to risks by capable directors and senior managers will enhance organizational performance and the attainment of competitive advantage (Ames et al., 2018).

Furthermore, this also leads to a growing interest in human capital and an increasing dependence on knowledge-based assets where they become the new sources of a firm, a country, and a region's competitiveness (Mcguirk et al., 2015). Therefore, it is essential for organizations to assess the knowledge and skills of managers and to evaluate intangibles and innovation to sustain rapid economic growth and enhance international competitiveness (Corvello et al., 2013). Past studies have shown that the field of ERM is still evolving and more analyses have to be undertaken to examine the factors that influence ERM implementation, such as environmental certainty, technology maturity, and human capital (Yazid et al., 2011).

The aim of this study to analyze the relationship between ERM and organizational performance, as well as the human capital's moderating effect in the said relationship among PLCs in Malaysia. According to Berry-Stölzle and Xu (2015), the deployment of ERM in organizations provides a monitoring mechanism to address potential risk exposure effectively and increase stakeholders' value. The utilization of ERM allows organizations to handle their risks better, i.e. more effective, efficient and holistic. Hillman and Dalziel (2003) agree that the directors and managers are important human capital. Managers with high level of competence and knowledge have been found to be very motivated to give required advices and guidance for organizations (Gulati & Westphal, 1999). They argue that ample business experience could enhance the ability of directors to monitor firm's performance.

The theoretical framework presented in this study is different compared to the existing approach for studying ERM. It utilises the latest comprehensive instrument to measure ERM and explores the ERM practices among Malaysian PLCs. Moreover, this study applied the RBV theory to develop a comprehensive model that investigates both the organizational and human settings to provide explanations about ERM in managing risks. Such an important theory is also the highlight of this study because, to the best of the researchers' knowledge, none of the literature thus far has covered and investigated this area. Policymakers can further improve the standard of approval by regulating the conduct of ERM. Experts may find the need to review the principles of ERM effectiveness in managing risks. Additionally, senior management can benefit from the study

knowing that their support is positively associated with the perceived ERM effectiveness in managing risks. ERM helps top management to manage different types of risk effectively, to reply to unexpected threats, to ensure flexibility and to take the benefits of opportunities which in turn facilitate firms to gain competitive advantage (Armeanu et al., 2018).

2. LITERATURE REVIEW

2.1. ERM

The utilization of ERM by organizations is for analyzing risk behavior, recognizing and prioritizing on risks, and determining risks that are acceptable and avoidable (Hopkin, 2014). COSO (2004) states that the utilization of ERM helps the alignment of risk appetite and strategies, provision of improved risk response, integration of management's ideas, enhancement of corporate governance, reduction of surprises and losses in operation, seizure of opportunities and reduction in undesirable performance. The goal of ERM is to assist organizations achieving their objectives and improving their performance. Hence, there is a need for a reliable ERM measurement method to explore whether adopting ERM improves the financial performance of firms (Lundqvist, 2014). Nonetheless, there is research about the impact of ERM implementation on firm performance (Yazid et al., 2011).

ERM is about the upcoming evolution in corporate risk management. It attempts to overcome the imperfection of traditional risks management methods. Stokes (2004) posits that as risk management is shifting from only focusing on finance to strategic outlook on threats, the risk management should include ERM as part of its main elements. Liebenberg and Hoyt (2003) state that ERM allows the change in concentration of risk management from defensive to offensive and strategic. Dickinson (2001) emphasizes that the utilization of ERM will produce a resilient and flexible firm opened to significant changes. The deficiency in defining ERM may confuse a company when it looks to the implementation of ERM framework. COSO (2004) defines ERM as a process influenced by the directors, managers and other staff; utilized in a strategic environment and across corporation; designed to recognize occurrence that might have an impact, and handle risk to be manageable and provide a fair assurance in the attainment of goals. This study utilizes the ERM definition by COSO, whereby it is the most used and commonly adopted definition. Moreover, it is applicable to variety of industries, and indicates that ERM needs to be adopted by a corporation in all levels and utilized in a strategic environment to ensure the attainment of corporate goals (COSO, 2004).

2.2. ERM and Organizational Performance

The increased complexity and interlink of organizations as well as environmental factors have caused organizations to worry more on issues related to operations and social. ERM can be seen as a strategic management control system (Collier, 2009); where it consists of vital intangible resources as a result of their worth. In the long run, this assists organizations to gain competitive advantage (Ping et al., 2017). Additionally, ERM allows the managers to effectively handle uncertainties, as well as the inherent risks and opportunities. For example, ERM provides the admission to well-connected links of associates, sellers and purchasers. Consequently, this will provide an early warning related to the growing of troublesome risk, which may impact the

organization and its competitors. The access to this early warning system allows the organizations to prepare for any eventualities, differentiating it from its competitors; which consequently improves the capability to enhance value (Elahi, 2013). Optimal value is achieved when the managers formulate strategies and objectives to gain a maximum balance between growth and return's objectives, as well as the associated risks; and when there is efficient and effective utilization of resources in the attainment of corporate goals (Mcnally, 2013).

The ERM's adoption in an organization assists in the reduction of traditional risk management's deficiencies (Collier, 2009). Additionally, it is deduced that with the reduction of organization's risk through ERM, this consequently will improve performance and value of organizations (Gordon et al., 2009). Also, Collier et al. (2007) state that ERM is perceived as an instrument that improves performance, provides risks awareness, and might, reduce capital cost of organizations. Bromiley et al. (2015) and Lam (2014) agree that a comprehensive risk management allows organizations to deliver persistent excellent performance, and concurrently manage risks proactively. Study conducted by Florio and Leoni (2017), show that firms with advanced levels of ERM implementation present higher performance, both as financial performance and market evaluation. According to Abdullah and Shukor (2017) effective ERM systems lead to higher performance by reducing risk exposure. However, in spite of those views, evidence related to the correlation between ERM and performance remains limited (Farrell & Gallagher, 2015).

2.3. Human Capital, ERM, and Firm Performance

ERM is developed to improve the managers' capability in handling their risk portfolios (Beasley et al., 2008); and provides a vital capital to competitive advantage. The capabilities of managers in solving problems is human capital; it encompasses collective expertise, leadership, entrepreneurial and managerial knowledge and skills. Furthermore, a number of research has determined that it is likely managers who are of better capabilities and knowledge will explore opportunities; hence triggering the efforts to develop their businesses. This is because the managers are self-assured and feel invincible when risks are taken (Bromiley et al., 2015). Human capital is an organization's intangible asset, in which it encompasses the comprehension, capabilities and proficiency including instinct, general rules and subconscious values (Hitt et al., 2001), experience, image and know how (Hillman & Dalziel, 2003).

Top management team (TMT) is a significant strategic asset capable of impacting main organizational results that involves in a number of "pre-action" routines; and this encompasses agenda-setting, planning, information-processing, and decision-making (Simons et al., 1999). A number of organizational strategic outcomes are associated with TMT's characteristics and those are like organizational change and organizational performance (Boeker, 1997). Better TMT knowledge, capabilities, and cognitive ability will possibly result in shorter information search which consequently speeds up decision-making process (Mintzberg, 1973).

Managers are responsible in the establishment of organizational culture in which inter-department workers need to work together at attaining mutual goals (Le Meunier-Fitzhugh & Lane, 2009). Capabilities and knowledge give power to staff, whereby this will influence the organization's capacity to compete and to complete tasks (Pfeffer & Lammerding, 1981). Managers with

management expertise are more conscious about their organizations' internal strengths and are able to react swiftly or take actions as to take advantage of the volatile business world.

Hopkin (2014) states that for both managers and directors, ERM is an important element of their portfolios. During the 2008 economic downturn, TMT has made ERM their center of interest (Schneider et al., 2012). Ingley and Van Der Walt (2008) mention that both the directors and TMT have to ensure that the mechanisms used will strengthen cost standards, conduct codes, and other policies. Most researchers agreed that the strategies implemented by organizations can be attained by a good ERM system; and the effective adoption of the system will demand skilled and knowledgeable managers (Abd Razak et al., 2016).

It has been highlighted by COSO (2004) on the vital role of managers. It states that an organization's management is directly answerable for all that happened in an organization, and this includes ERM. It is natural that managers of different levels have their own set of ERM commitments which often vary considerably upon the organization's attributes. Moreover, (Beasley et al., 2008) emphasize that TMT's skill and knowledge, is positively related to ERM implementation and its effectiveness. Hoyt and Liebenberg (2011) and Kleffner et al. (2003), indicate skills of senior managers have been emphasized in the achievement of effective ERM practices. Colquitt et al. (1999) found the significance of skills, know-how and being answerable for risk management impact the adoption of ERM practices. The managerial skills of managers responsible for ERM will assist them in attaining superior organizational performance. ERM assists in the assurance of effective reporting and that laws and regulations are complied with; as well as preserving the organization's reputation and avoiding the related negative consequences (Francis & Richards, 2007).

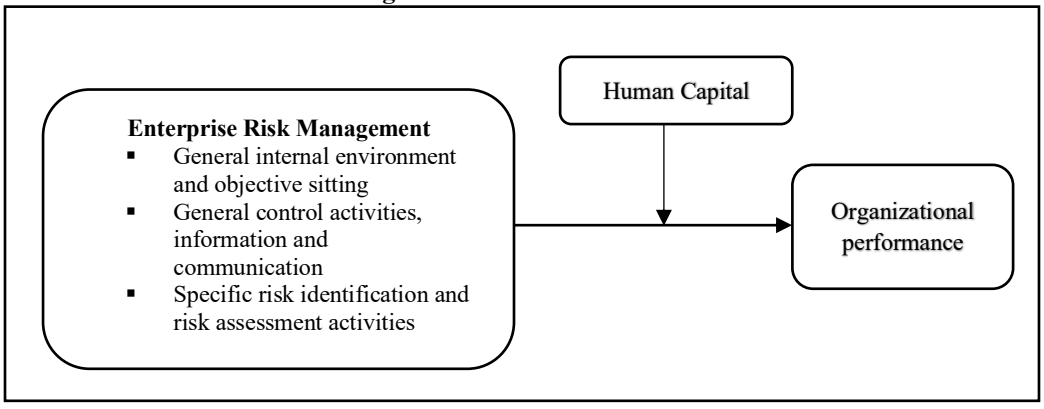
3. RESEARCH FRAMEWORK

Contingency theory has been used in previous studies to explain the framework of ERM (Mikes & Kaplan, 2015) and the relationship between ERM and organizational performance (Gordon et al., 2009). The RBV has emerged as one of the fundamental theories in strategic management literature (Akio, 2005). The RBV provides a framework for how an organization can gain competitive advantage through its resources and capabilities (Kamboj et al., 2015). The RBV focuses on internal factors that have an effect on organizational performance to achieve competitive advantage (Al-Dhaafri et al., 2016). The RBV explains that organizations' resources and capabilities enable organizations to develop and execute strategies for efficiency improvement and competitive advantage sustainability (Lonial & Carter, 2015). By applying the RBV theory, this study argues that ERM is an organizational process that represents a resource in the organization that takes a significant role in organizational planning and control that leads to organizational performance. ERM can contribute to the improvement of firm performance by promoting more strategic consideration of risk and its effective implementation, which, according to the RBV, can create a long-term competitive advantage (Nocco & Stulz, 2006).

Capabilities are primary to the success of the firm, and through an organization's processes, resources are converted into value, which contributes to the competitive advantage (Kamboj et al.

2015). They transform inputs into outputs of greater worth (Wade & Hulland, 2004). The presence of capabilities enables resources to be used more efficiently, and the possibility of creating output arises (Akio, 2005). As mentioned by Daud et al. (2011) and Viscelli et al. (2016), the senior managers' capabilities and knowledge impact the effectiveness and execution of ERM. For this study, the managerial capabilities are represented by human capital. In line with the RBV theory, human capital is expected to strengthen the relationship between ERM and performance. Figure 1 shows the research framework.

Figure 1: Research Framework



The above research framework depicts the ERM (independent variable) impact on organizational performance (dependent variable); and the moderating role of human capital in this relationship. Previous studies provides a strong theoretical foundation that ERM adoption will improve and enhance organizational performance (Gordon et al., 2009; Soltanizadeh et al., 2016; Abdul Rasid et al., 2014).

3.1. Impact of ERM on Firm Performance

The strategic management control system is the attention to strategic characteristics and goals of ERM. It assists the organization in its direction and the avoidance of problems and unexpected events (Collier, 2009). In the long run, ERM that consists of vital intangible resources, which are because of their worth, and difficult to copy, will assist organizations in the attainment of competitive advantage (Ping et al., 2017). Advantages accrue from the integration of ERM across the organization. It can help reduce the shortcomings from the consideration of risk management in each function or division (Collier, 2009), and disregard the effect on each other (Hoyt & Liebenberg, 2011).

Collier et al. (2007) state that ERM is presumed to be an instrument that improves performance, provides risk awareness, and might, lower capital cost. Meanwhile, Bromiley et al. (2015) and Lam, 2014) agree that the view of a unified method in risk management results in organizations to persistently deliver excellent performance, and at the same time risks are proactively managed. The literature has provided a theoretical foundation evidence where adoption of ERM improves

organizations' performance (Salinah, 2016; Soltanizadeh et al., 2016; Abdul Rasid et al., 2014). Based on these arguments, the hypothesis is proposed as follows:

H1: ERM has a positive impact on organizational performance.

3.2. Impact of Human Capital on ERM, and Firm Performance

Skilled and knowledgeable managers have better possibility in discovering new opportunities and triggering changes to develop the organizations because they have more self-assurance and feel powerful while taking risk (Bromiley et al., 2015). TMT is organizations' vital asset, it involves in "pre-action" routines encompassing the setting of agendas, planning, processing of information, and making decisions (Simons et al., 1999). The attributes of TMT are connected to few strategic firm outcomes like organizational change and organizational performance (Boeker, 1997).

Hopkin (2014) states that ERM is important to the portfolios of senior management and directors. The 2008 economic downturn has made ERM the center of TMT's concern (Schneider et al., 2012). Ingley and Van Der Walt (2008) mention that directors and TMT have to assure that the mechanisms must improve costs, conduct codes, and other policies. Many studies agree that organizational strategies may be attained through effective ERM practices; and its effective implementation requires highly skilled and knowledgeable managers (Abd Razak et al., 2016).

It has been highlighted by COSO (2004) on the importance of managers where all organizational activities, including ERM, are the direct responsibility of the managers. Moreover, (Beasley et al., 2008) emphasize on the capabilities and knowledge possessed by TMT on ERM's execution and effectiveness. The study results of (Hoyt & Liebenberg, 2011) are similar with (Kleffner et al., 2003), where they also highlight that the capabilities of senior managers result in perceived effective ERM practices. These studies are consistent with (Colquitt et al., 1999) whereby it proved on the significance of skills and know-how, and how being answerable for risk management impact ERM practices. As such the following hypothesis is proposed:

H2: Human capital moderates the relationship between ERM and performance

4. RESEARCH METHODOLOGY

4.1. Population and Sample Selection

This study's population is 808 companies listed on Bursa Malaysia's main board. The reasons of choosing PLCs are 1) supervised environment, 2) business scale, 3) information is easily assessed, 4) easy to get completed and updated PLCs' list (Manab et al., 2010; Salinah et al., 2014). In view that a significant amount of investments is needed for ERM (Makarova, 2014), it is presumed that PLCs are more likely to implement ERM. This study includes all the industries as other studies have financial institutions as part of their samples of Malaysian PLCs (Salinah, 2016; Soltanizadeh et al., 2016).

This study adopts stratified random sampling for the sampling procedure. In line with previous studies (Callahan & Soileau, 2017; Jalal-Karim, 2013), the respondents of this study is the internal

auditor. The internal auditor function, especially the chief audit executive, is frequently tasked with the leadership of ERM implementation (Viscelli et al., 2016). While there is a debate about internal auditor involvement in ERM, there is agreement that the internal auditor should never "own" risk, because owning the risk would jeopardize the independence and objectivity of the internal auditor in evaluating risk (Jackson, 2005). An accompanying instruction states that the questionnaire should be answered by the internal auditor or passed to the most relevant person in risk management.

Table 1: Sample Selection and Response Rate

Industry	Population		Response		
	No.	Percentage (%)	Questionnaire distributed	No.	Percentage (%)
Industrial Products	250	31	155	46	40
Trade/Services	169	21	105	21	18
Consumer Products	113	14	70	13	12
Properties	80	11	50	11	10
Construction	50	8	30	9	8
Manufacturing	48	6	30	7	6
Finance	40	5	25	4	3
Plantations	32	4	20	3	2
Technology	24	3	15	2	1
Total	808	100	500	116	100

Table 1 provides the summary of sampling method and the response rate. Microsoft Excel was used to create random sampling using the RAND function. The advantage of stratified random sampling is to provide the same opportunity to the whole population unit to be included in the selected sample, which provides a high level of generalizability (Bryman & Bell, 2015). The data for this research were collected through two-stages; (1) distributed 260 self-administered questionnaires within one month's period with 72 responses; (2) distributed 240 questionnaires through emails and 44 responses were recorded. The t-test results of non-response bias analysis show no significant difference between the means. In total, out of 500 questionnaires distributed, 116 responses were recorded, which represents 23.2% of the sample. The response rate is considered reasonable for the case of-Malaysian environment as the normal rate of response is between 15% and 30% (Al Lami et al., 2019).

4.2. Measurement of Variables

Measurements on ERM, human capital and performance were adapted from previous researchers. Before the actual survey, the validity and reliability of the questionnaire had been pre-tested to improve the survey design. To ensure the questions' clarity, a pilot test had been carried out. Table 2 provides the questionnaire items on ERM.

Table 2: Measurement of ERM

	No.	General Internal Environment and Objective Setting
A	1	Code of ethics
	2	Training in ethical values for employees of all levels
	3	Compensation policies intended to align the interests of managers and shareholders' balance
	4	Formally defined remuneration policies of executive management

	5	Formally defined standards for hiring and firing of executive management
	6	Training available to employees of all levels
	7	Performance targets for employees of all levels
	8	Formally defined responsibilities for executive management
	9	Formally defined audit committee responsibilities
	10	Written document describing the role and responsibilities of the board are applied
	11	Formal strategy to pursue the mission
	12	Performance goals set to assess whether the firm is achieving its objectives
	13	System to ensure that policies and procedures that are in place to manage the achievement of the firm's objectives/plan are functioning and effective
		General Control Activities, Information and Communication
B	1	Authorization procedures in place to ensure appropriate individuals review the use of policies and procedures
	2	Independent verification procedures to ensure the use of policies and procedures
	3	Channels of communication to report suspected breaches of laws, regulations, and other improprieties
	4	Channels of communication with customers, vendors, and other external parties
	5	Documentation and records to verify the use of policies and procedures
	6	Monitoring of the firm's internal environment, processes, and control activities
		Specific Risk Identification and Risk Assessment Activities
C	1	Consideration of financial events
	2	Consideration of strategic risk events
	3	Consideration of the likelihood that strategic risk events will affect the firm’s ability to achieve its objectives
	4	Consideration of compliance events
	5	Consideration of the likelihood that compliance events will affect the firm’s ability to achieve its objectives
	6	Consideration of technology events
	7	Consideration of the likelihood that technology events will affect the firm’s ability to achieve its objectives
	8	Consideration of economic events
	9	Consideration of reputation events
	10	Consideration of the likelihood that reputation events will affect the firm’s ability to achieve its objectives
		Holistic Organization of Risk Management
D	1	Determine the correlation and portfolio effects of combined risks
	2	Determine the quantitative impacts risks may have on key performance indicators
	3	Formal report submitted to board level at least annually on the current state of risk and effectiveness of risk management
	4	Key risk indicators or indicators aimed at emerging risks (not historical performance)
	5	Centralized technology-enabled process to obtain risk-related information
	6	Verification of the completeness, accuracy, and validity of risk-related information
	7	Formal policy about how risk should be managed
	8	Risk response plan for all of the significant events the firm has identified
	9	Alternative risk responses for each significant event
	10	Communication to all stakeholders, internal and external, of the importance of risk management
	11	An assessment of the firm's risk management function done by an independent
	12	Frequent and structured updates of risk-related information
	13	A formally written risk management philosophy
	14	A formal written statement of the firm's risk appetite
	15	A board level committee with responsibility for risk management oversight

16	A senior manager designated with the responsibility to oversee risk and risk management
17	Centralized department or staff function dedicated to risk management
18	The internal risk assessment group or internal audit function is given the responsibility to evaluate the ongoing effectiveness of the firm's risk management
19	Allocated risk owners who have primary responsibility and accountability for managing risk within their respective areas

In Table 3, five items are employed to evaluate human capital based on the original discourse related to human capital established by (Subramaniam & Youndt, 2005), based on Snell and Dean (1992). This measurement has been used to measure the human capital in many studies such as (Prajogo & Oke, 2016; Nieves & Quintana, 2016).

Table 3: Measurement of Human Capital

No	Human capital
1	Our managers are highly skilled
2	Our managers are widely considered the best in our industry
3	Our managers are creative and bright
4	Our managers are experts in their particular jobs and functions
5	Our managers develop new ideas and knowledge

This study adopts the measure of organizational performance from (Subramaniam et al. (2011) as shown in Table 4. Table 5 provides the summary of this study's variable measurements.

Table 4: Measurement of Organizational Performance

No.	Organizational performance
1	Resource allocation and utilization
2	Management reporting
3	Communication within the organization
4	Relationships with suppliers
5	Management of organizational change
6	Reputation
7	Recognition and uptake of opportunities
8	Employee confidence in carrying out their duties

Table 5: Summary of Variable Measurement

Variables	Dimension	Items	Source	Scale
ERM	General Internal Environment and objective setting	13	(Lundqvist, 2014)	1- Does not exist
	General Control Activates, information and communication	6		5– Extremely implemented
	Specific risk identification and risk assessment activities	10		
	Holistic Organization of Risk Management	19		
Human capital		5	(Subramaniam and Youndt, 2005)	1- Strongly disagree 5- Strongly agree

Variables	Dimension	Items	Source	Scale
Organizational performance		8	(Subramaniam, et al., 2011)	1-No improvement 5- Significant improvement

5. DATA ANALYSIS

The partial least squares (PLS) method with reflective indicators in Smart-PLS3 is used in this study together with SPSS for the descriptive statistics.

5.1. Demographic Analysis

The demographic analysis shows that most of the respondents are from industrial products (39.6%); male (59.5%); with more than 20 years of professional experience exceeding 20 years (47.4%); and work as auditors (35%).

5.2. Measurement Model

In establishing latent variables through certain indicator variables, measurement model has been utilized. The model's reliability, internal consistency reliability, convergent validity, and discriminant validity are then assessed (Henseler et al., 2014). To measure reliability, this study uses Cronbach's alpha and composite reliability (CR). In exploratory studies, Cronbach's alpha, namely CR ranging from 0.60 to 0.70 can be accepted. Meanwhile, for advanced studies, values from 0.70 to 0.90 can be considered as satisfactory. It is found that all the variables' Cronbach's alpha has value exceeding 0.70, which ranged from 0.794 to 0.951. This means the items have high reliability, and that the variable and measurement are reliable and consistent.

Henseler et al. (2014) states that to measure internal consistency or construct reliability, CR is more desirable Hair et al. (2014) state that the value of CR must exceed 0.708, and value less than 0.60 is considered as lacking internal consistency. For this model, its latent variables have all exceeded the threshold, which subsequently indicating that the construct reliability is satisfactory.

As for indicator reliability that employs outer loading, it is accepted that higher outer loadings must be within similar group of convergent validity; and they must be statistically significant exceeding 0.708 (Hair et al., 2014). In determining the reliability of each item, a study needs to examine the loadings and their constructs; whereby items less than 0.40 have to be deleted. Meanwhile, to enhance the CR or average variance extracted (AVE) values, those of values from 0.40 to 0.70 have to be considered for deletion (Hair et al., 2014).

The subsequent step is the evaluation of construct validity (i.e. convergent and discriminant validity). Convergent validity is related to the degree of measures of similar construct correlating

positively with each other (Hair et al., 2014). In establishing convergent validity, these considerations are needed: (1) indicator's factor loading, and 2) AVE (Hair et al., 2014).

Hair et al. (2014) recommend "standardized loading estimates should be 0.5 or higher, and ideally 0.7 or higher". In testing convergent and discriminant validity, PLS can be utilized. The items' factor loadings must be higher than the threshold level of 0.6, where this indicates convergent validity (Gefen & Straub, 2005). A total of 7 items, which is A6, B1, B2, B3, D1, D7 and D8 were deleted. The results show that every item loading exceeded 0.50 and significant at 0.01 level. Hence, confirming convergent validity at indicator level. The AVE values were higher than the recommended cut-off value of 0.5, i.e. ranging from 0.541 to 0.789 indicate adequate convergent validity to this study's measurement model.

Table 6: Discriminant validity of the constructs

Constructs	AVE	CR	ERM-A	ERM-B	ERM-C	ERM-D	HC	performance
ERM-A	0.541	0.934	**0.736**					
ERM-B	0.708	0.879	0.493	**0.842**				
ERM-C	0.585	0.933	0.404	0.435	**0.765**			
ERM-D	0.581	0.933	0.407	0.686	0.435	**0.712**		
HC	0.789	0.937	0.313	0.268	0.174	0.238	**0.865**	
Performance	0.56	0.91	0.5	0.588	0.527	0.571	0.268	**0.748**

5.3. Structural Model

For this study, to attain the R^2 value, the Smart-PLS algorithm function was utilized. For firm performance, the R^2 prior to moderating effect was 0.503 (i.e. 50.3%); and post moderating effect was 51.2%. Therefore, this indicates that the independent variable could explain 51.2% of organizational performance variance. Generally, R^2 needs to reach certain value as to provide optimal explanatory power (Chin, 2010). Nonetheless, Henseler et al. (2009) state that a R^2 value that is moderate or average is sufficient provided that several exogenous latent variables explained the endogenous latent variables. Table 7 provides the R^2 value.

Table 7: R^2 Value

	R Square	R Square Adjusted
Performance	0.513	0.500

5.4. Hypothesis testing

Path coefficients are normally used in PLS to indicate the extent of the relationship between the independent and dependent variables (Hair et al., 2014). Additionally, the bootstrapping method had been used to obtain t-values. An acceptable t-value is one that is larger than 1.96. Therefore, t-value > 1.96 is considered significant (Henseler et al., 2014).

H1: ERM has a significant impact on organizational performance.

The result is depicted in Table 8, (β = 0.637, t = 9.789, p =0.001). Thus, this hypothesis is supported, hence indicating that the organizational performance of Malaysian PLCs is significantly and positively being influenced by ERM. Therefore, H1 is supported.

H2: Human capital will moderate the relationship between ERM and performance

The results are shown in Table 8, (β = 0.209, T = 2.087, P =0.018). Thus, this hypothesis is supported, indicating that knowledgeable and skilled PLCs' managers play vital role in ERM practices' adoption. Therefore, H2 is supported.

Table 8: Results

Path	Original Sample (β)	Sample Mean (M)	Standard Deviation (STDEV)	t-Value	p-Value	Results
ERM => OP	0.637	0.644	0.065	9.789	0.001	SIG
ERM A => OP	0.204	0.212	0.085	2.395	0.008	SIG
ERM B => OP	0.215	0.208	0.108	1.986	0.024	SIG
ERM C => OP	0.255	0.255	0.073	3.482	0.001	SIG
ERM D => OP	0.236	0.243	0.096	2.454	0.007	SIG
Moderating effect of HC => ERM*OP	0.21	0.192	0.098	2.145	0.016	SIG

6. FINDINGS AND DISCUSSION

6.1. ERM and Performance

It is the study's first objective to analyze the effect of ERM on Malaysian PLCs' organizational performance. In general, the results show that there is a positive correlation between ERM and performance (b = 0.637, t = 9.789, p < 0.001). Nonetheless, previous studies find that the results of this relationship is mixed. Studies have examined the impact of the sophistication of ERM on performance. It is agreed that risk management improves performance as it assists organizations in avoiding loss, bankruptcy and image costs (Baxter et al., 2013). It also assists in the enhancement of decision-makings (Farrell & Gallagher, 2015) and procedures related to capital distribution (Baxter et al., 2013).

Beasley et al. (2008) state that a CRO appointment will affect the feedback from equity market for non-financial organizations, but otherwise for financial firms. Hoyt and Liebenberg (2011) discovered a positive correlation between company worth and appointment of CRO. Meanwhile, the migration of silo-based to ERM and company worth has been found to be positive by Mcshane et al. (2011). Additionally, Baxter et al. (2013) discovered that in US banks and insurance companies, company worth is positively associated with ERM quality only during global economic downturn. The study's result aligned with Daud et al. (2011) and Ping and Muthuveloo (2015).

In general, the evidence shows that ERM adoption strengthen organizational performance through the lowering of unimpressive profitability possibility. Thus, consequently causing loss opportunity

in pursuing profitable projects when there is a chance of growth. This study foresee that organizations will improve with ERM, and that it is highly likely for those that had encountered bad financial performance, and susceptible to default risk. This also shows that ERM adoption is possible if organizations have greater opportunity of growing because it assists them in attracting and retaining firm-specific investments, particularly if they are operating in extremely competitive and technical sectors.

6.2. ERM, Performance and Human Capital

The second objective is the examination of human capital's moderating effect on the ERM-performance relationship. The findings have indicated that human capital positively impacts the correlation between ERM and performance. The model had been significant ($T = 2.145$, $p < 0.001$), indicating the importance of managers in enhancing ERM execution. It emphasized on the significant role played by organizational resources in improving performance and attaining competitive advantage; as well as the vital role of humans (Peteraf & Bergen, 2003). Park et al. (2005) discovered that performance is not significantly being affected by human capital, but through innovation and process capital, human capital indirectly has a great effect on performance.

There has to be more concentration on the development and enhancement of intangible resources, where in knowledge-based economy they are more suitable and promising. In its transition to k-economy, Malaysia needs the investments in knowledge infrastructure. Hence, acknowledging this significance, through the Ninth Malaysia Plan the government has emphasized on human capital development through the enhancement of the thinking and intellectual capacity of Malaysians (Bontis et al., 2000). A new perspective has been provided by this study whereby human capital needs the best consideration in relation to its distribution to maximize ERM effectiveness in an organization.

7. CONCLUSION

Rationally, the study has attained its objective of analyzing the direct impact of ERM practices on PLCs' performance. Additionally, it analyzes the human capital's moderating effect on the correlation of ERM and performance. The findings support that skills and knowledge factor is vital to Malaysian PLCs because human capital plays a main role in enhancing ERM execution.

The theoretical framework presented used the current comprehensive tool in measuring ERM. Additionally, RBV theory has been applied in developing a complete model that examines organizational and human settings, where this is to furnish information related to the management of risk by ERM. This study's results indicate that ERM acts a resource in risk management where human capital's skills and knowledge factor has positive moderate effect on attaining greater long-term performance, and competitive advantage (Jalal-Karim, 2013).

This study contributes by providing helpful findings to the practitioners and researchers of ERM. Meanwhile, for policymakers, it is for the improvement in approval standards through regulation of ERM conducts and incentives in ERM implementation. The experts agreed there is a need to review ERM attributes in its effectiveness to manage risks. Moreover, senior managers may benefit by knowing that perceived ERM effectiveness has positive correlation with their support.

Upcoming studies would find it beneficial to tackle this study's limitations. First, the model that was developed, specifically the ERM dimensions in risk management and moderating effect of human capital had empirical indicators that can both be analyzed from pre- and-post ERM adoption aspects. In particular, more insights can be attained through these indicators in longitudinal studies. This is a cross-sectional study where the variables' relationships in the framework at a certain time are examined. A longitudinal study is beneficial as it provides information on the changes in the variables, pre- and post-ERM adoption. Furthermore, future studies are recommended to analyze every component of ERM and introduce other factors related to the ERM adoption, such as risk culture.

ACKNOWLEDGEMENT

We would like to record our gratitude to UKM for funding part of this research project (EP-2018-001).

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