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The Effect of Enterprise Risk Management (ERM) Implementation on SMEs Performance in Malaysia

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ABSTRACT

This study aims to identify the effect of Enterprise Risk Management (ERM) implementation on SMEs performance in Malaysia. SME performance is used as a dependent variable, whereas eight (8) elements of ERM are based on the Committee of Sponsoring Organisations of the Treadway Commission (COSO) framework as the independent variables. Primary data were administered through questionnaires among 312 respondents from the main contributing sectors of SMEs; agriculture, construction, mining and quarrying, services and manufacturing across all states in Malaysia. This study employed six (6) analyses, including descriptive statistics, normality, reliability, correlation, multiple regression analysis and hypothesis testing. Results from correlation analysis indicated that the independent variables represented eight (8) elements of ERM, illustrating a positive, strong correlation with the dependent variable. Multiple regression analysis showed that ERM has a positive effect on SME performance. However, only three (3) of the ERM elements, namely event identification, risk assessment, and risk response, significantly affect SME performance. The information was gathered from a questionnaire of 312 respondents and there are only 177 respondents think that their company

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implemented ERM, whereas the remaining 135 do not think their company implements ERM. An ERM implementation in SMEs is expected to be able to find solutions to minimise the risks that SMEs may or may not face. Effective risk management can enable SME owners, managers and employees to achieve business objectives. As a result, risk management enhances the value of the business, increases profitability, and improves the overall performance of SMEs.

Contribution/Originality: This study is one of the few studies that has examined the impact of enterprise risk management (ERM) implementation on SME performance in Malaysia by focusing on a broader demographic sample that includes all five SME sectors in Malaysia.

1. Introduction

Small and Medium Enterprises (SMEs) are crucial in determining the growth of a country, yet it is the most volatile among all businesses. The Malaysian economy is composed of SMEs, which are the pillars of the economy as they are now becoming an essential source of employment in the current setting of businesses. According to the Malaysian Department of Statistics in the SME Annual Report 2019/2020, the contribution of these SMEs to Malaysia's gross domestic product (GDP) increased from 37.3% in 2016 to 38.9% in 2019. The substantial increase in participation of SMEs in Malaysia plays an important role in the economic growth of the country and a prominent statistic of 98.5%, or 907,065 SMEs, according to the 2016 Economic Census operate in Malaysia (Yakob et al., 2020).

The highest contributors among SMEs are sectors of agriculture, construction, services, mining & quarrying and manufacturing (DOSM, 2020). However, the COVID-19 pandemic and the restrictions of Movement Control Orders imposed by the government from March up to October changed the trends of SME growth. It has been forecasted that Malaysia's GDP and SME growth will decline if restrictions are not eased, and political instability is still at play. To reach the expected target of 41% in growth seems blurry as more businesses face growing internal and external risks and uncertainties during these tough times. Moreover, it must be highlighted that 70% of SMEs fail to sustain themselves within ten years of operations and the current situation will only alleviate that matter (Jalil, 2020).

Enterprise Risk Management (ERM) is pivotal for businesses as risk management skills and essential in managing SMEs in the market to prepare themselves from risks and uncertainties. The Committee of Sponsoring Organisations of the Treadway Commission (COSO) has established an updated framework that needs analysing by SMEs: Governance and Culture, Strategy and Objective Setting, Performance, Review and Revision and Information, Communication and Communication Reporting (Prewett & Terry, 2018). The benefits of ERM implementation are reducing the cost of capital, reducing earnings volatility, which enhances shareholders' and business owners' value, gaining competitive advantage, enhancing decision-making ability, and building confidence for investors (Kasim & Hanafi, 2017).

However, there are still uncertainties about how clear the benefits of ERM can be in developing countries. There is a need for further evaluation of ERM, especially for SMEs, where there is not much discussion about how risk mitigation can benefit them. In

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addition, ERM is not yet widely used by SMEs, which can lead to new risks such as cyber security threats, governance issues, and other internal risks that can threaten the reputation of emerging SMEs (Saeidi et al., 2020).

Based on previous studies, many researchers have investigated and concluded that ERM has a strong relationship with organisational performance. Therefore, this paper will conduct an empirical study on the impact of Enterprise Risk Management (ERM) implementation on the performance of SMEs in Malaysia. The results of the study will provide information on whether the hypotheses of positive significant relationships among variables are accepted or not. In addition, the results will be used to find a common ground for enterprise risk management to cater to the various stakeholders that are unique to each type of SME's business.

Research objectives of the study have been identified, mainly focusing on the following:

i. To identify the implementation of Enterprise Risk Management (ERM) in Small and Medium Enterprises (SMEs) in Malaysia.
ii. To examine the relationship between Enterprise Risk Management (ERM) and the performance of Small and Medium Enterprises (SMEs) in Malaysia.
iii. To analyse the effect of Enterprise Risk Management (ERM) implementation on the performance of Small and Medium Enterprises (SMEs) in Malaysia.

The research questions formulated from the aforementioned objectives are as follows:

i. What is the implementation status of Enterprise Risk Management (ERM) in Small and Medium Enterprises (SMEs) in Malaysia?
ii. What is the relationship between Enterprise Risk Management (ERM) and Small and Medium Enterprises (SMEs) performance in Malaysia?
iii. What is the effect of Enterprise Risk Management (ERM) implementation on the performance of Small and Medium Enterprises (SMEs) in Malaysia?

2. Literature Review

2.1. Enterprise Risk Management (ERM)

Enterprise Risk Management (ERM) is an integrated framework commonly used by organisations to mitigate risk. COSO advocates that organisations should focus on and incorporate ERM to properly identify and manage risks in organisations while building and protecting stakeholder value (Shad & Lai, 2019). The reason organisations implement ERM because risk management is not just an internal matter, as external stakeholders also want to know the risks they are investing in. These are mainly market and environmental risks that systematically occur outside the control of the organisation and where risk management plays a role by providing a guide to management (Beretta & Bozzolan, 2004).

The components of ERM are also answered in detail, giving companies a guideline to follow, depending on whether or not it corresponds to the nature of the company's business. In addition, it states that integrating ERM into companies brings several benefits, including increasing opportunities, managing and identifying risks, improving positive outcomes, and reducing inconsistencies in performance while maintaining the efficiency of resources. Thus, by implementing ERM, companies' exposure to risk can be efficiently managed and controlled, helping them achieve their goals (Yazid et al., 2011).

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2.2. Small and Medium Enterprises (SME) performance in Malaysia

SME Corporation Malaysia highlighted that 98.5% of businesses in Malaysia are SMEs and the gross domestic product (GDP) grew from 5.9% in 2017 to 7.2% in 2018 due to the contribution of SMEs (Yakob et al., 2020). According to data from the Department of Statistics Malaysia in 2011, SMEs contributed to 32.5% of GDP, 19% of exports, and 57% of jobs created in Malaysia. Even though growth has declined slightly in recent years, the contribution of SMEs to GDP has increased exponentially year after year. There are many sectors where SMEs contribute to GDP growth, such as services, manufacturing, mining and quarrying, construction, and agriculture, with services being the largest contributor to the country's GDP in 2019 (DOSM, 2020).

However, previous studies have shown that up to five years after startup, only 30% of SMEs are able to sustain themselves in the market, which is considered a relatively low number and represents a huge opportunity cost for what can actually be contributed to a country's GDP (Ifekwem et al., 2011). A few factors that affect the performance of SMEs are individual factors emphasised by the owners or entrepreneurs. For example, most SME owners choose to manage their businesses themselves due to the high cost of hiring qualified managers. This may also prove to be a wrong decision, as a large number of responsibilities can easily overwhelm them, such as operational activities and production planning, which require a lot of attention and research, and failure to take care of all issues may inevitably lead to the closure of the business (Adisa et al., 2014).

2.3. ERM and SME performance

Various internal and external factors can influence the performance of SME in the business (Afriyie, 2019). However, internal variables such as ERM are seen to be more important as the organisation has the ability to manipulate internal variables to produce competitive advantages, which then impact the company's efficiency. In the past, several studies have explored the relationship between the implementation of ERM and the performance of SMEs. For example, a study conducted by Gatzert and Martin (2015) shows that the introduction of ERM improves SMEs' profitability, as measured by profits, share prices, and cost finance reductions. This result also indicates that ERM increases the company's capital performance.

Furthermore, many studies suggest that certain employers do not view risk as a significant factor affecting organisational performance. Others try to identify risks, but most business owners do not know what risk management is and how to minimise these risks. From the results, it appears that each entrepreneur understands and assesses each risk that was considered important to their risk management and business performance activities. It can be seen that the understanding and ability to manage risk seem to be influenced by the risk management approach chosen (Huang et al., 2013).

3. Methodology

This section presents the methodological point of view of the research to satisfy the objectives that exist in this study. The technique of purposive sampling is used to identify specific targets that can provide information or meet certain criteria. The study targets employees, managers, and business owners of SMEs as respondents because it is assumed that they are more responsive to business activities in terms of strategy, operations, finance, law, and human resources.

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3.1. Data Collection Methods

The method of data collection for this study is the use of primary data using a quantitative method, such as a questionnaire, and transferred to the Statistic Package of the Social Sciences (SPSS) to analyse the variables. These variables are the eight (8) elements of enterprise risk management (ERM) with small and medium enterprise (SME) performance as the dependent variable.

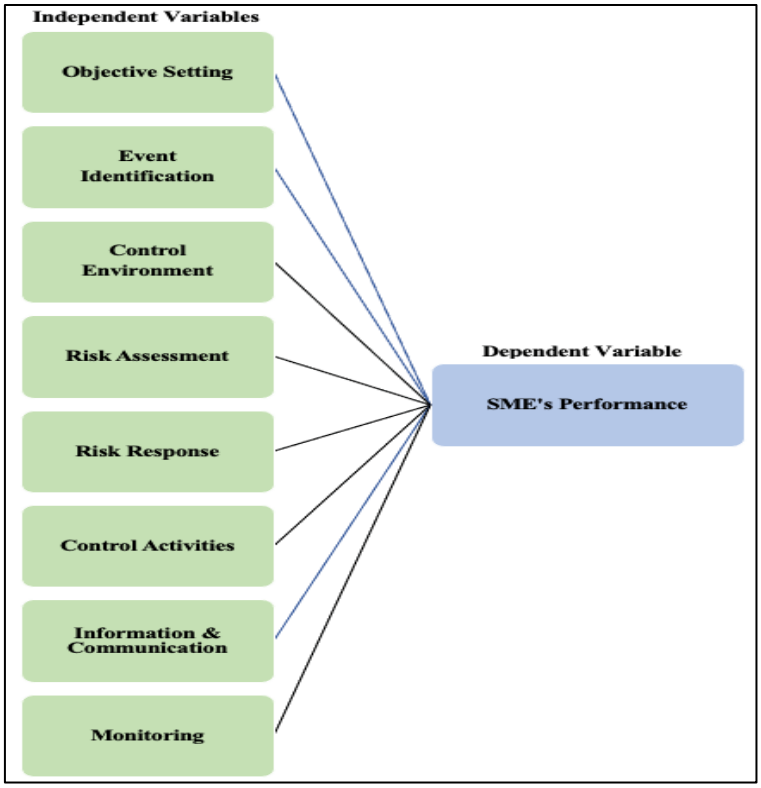
3.2. Population and Sample Size

The target population of the research paper is employees, managers and owners of Small and Medium Enterprises (SMEs) in five (5) major sectors across all states in Malaysia: agriculture, mining and quarrying, manufacturing, construction and services. Therefore, 350 targeted respondents will be the sample and collected from the population of the five (5) sectors mentioned.

3.3. Conceptual Framework and Hypothesis Development

A conceptual framework named Committee of Sponsoring Organisations of the Treadway Commission (COSO)'s Enterprise Risk Management (ERM) is used to properly recognise and manage risks in organisations at the same time to build and protect the value of stakeholders (Prewett & Terry, 2018). Eight (8) elements of ERM, namely objective setting, event identification, control environment, risk assessment, risk response, control activities, information and communication, and monitoring, are used as independent variables against the dependent variable, SME performance. This conceptual framework can be seen in Figure 1 below. These variables were expected to be the predictor of SME performance. Hypothesis development for these independent variables is discussed next.

Figure 1: Conceptual Framework



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H_1: Objective setting has a positive impact on SME performance

Hypothesis 1 (H_1) states that objective setting (OS) has a positive impact on SME performance, but it is not significant because the p-value 0.664 is greater than 0.05. This result is consistent with Rao (2007) who found in a study of executives and managers based on surveys that the relationship between ERM and goal setting is not satisfactory.

H_2: Event identification has a positive impact on SME performance

Hypothesis 2 (H_2) states that event identification (EI) has a positive impact and significance on SME performance because the p-value of 0.001 is less than 0.05. According to Lagat and Tenai (2017), there is a favorable correlation between risk identification and business performance. Internal and external events that impact a company's objectives need to be defined, distinguishing between risks and opportunities, according to the COSO integrated ERM framework.

H_3: Control Environment has a positive impact on SME performance

Hypothesis 3 (H_3) states that the control environment (CE) has a positive impact on SME performance, but is not significant because the p-value of 0.070 is greater than 0.05. Beasley et al. (2006) claim that effective ERM implementation enables firms to anticipate risky events, thereby minimising business surprises and volatility, which in turn helps to increase the value of the firm.

H_4: Risk assessment has a positive impact on SME performance

Hypothesis 4 (H_4) states that risk assessment (RA) has a positive impact and significance on SME performance when the p-value of 0.014 is less than 0.05. According to Curtis and Carey (2012), risk assessment is important because it provides companies with an overview of how important each risk is to achieve their overall objectives.

H_5: Risk response has a positive impact on SME performance

Hypothesis 5 (H_5) states that risk response (RR) has a positive impact and significance on SME performance because the p-value of 0.005 is less than 0.05. According to Vollmer (2015), a cost-effective and efficient risk response plan helps to balance risk mitigation with the expected benefits of the strategic program.

H_6: Control activities has a positive impact on SME performance

Hypothesis 6 (H_6) states that control activities (CA) positively impact SME performance but are not significant. Nevertheless, the regression coefficient beta value of internal control is negative with a p-value of 0.610, which is greater than 0.05. Normally, improved control activities are expected to increase efficiency and positively impact firm performance (Tseng, 2007). However, the result of this study shows the opposite. This could be due to the fact that more stringent control activities are associated with certain cost-benefit trade-offs.

H_7: Information and communication have a positive impact on SME performance

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Hypothesis 7 (H_7) states that information and communication (IC) have a positive impact on SME performance but it is not significant with a p-value of 0.185 greater than 0.05. Improving information about the organisation's risk profile is another potential source of value created by ERM. According to Alawattegama (2017), decisions tend to be more informed and effective when communication is thorough and accurate.

H_8: Monitoring has a positive impact on SME performance

Finally, hypothesis (H8) states that monitoring ERM functions has a positive impact on SME performance, but it is not significant with a p-value of 0.378 greater than 0.05. These results are contrary to Alawattegama (2017), who claims that the implementation of ERM functions has a positive and significant impact on firm performance.

4. Result

4.1. Descriptive Statistics

Based on the descriptive statistics of SME's background information collected from the questionnaire, there were a total of 312 respondents received across all states in Malaysia; 53.5% of respondents were female and 46.5% were male. The majority of respondents were aged between 25 to 34 years old with 31.4%, followed by those aged under 24 years old, aged between 35 to 44 years old, aged between 45 to 54 years old and aged over 55 years old with 22.1%, 19.2%, 17.3% and 9.9% respectively. Furthermore, 52.9% of respondents were SME employees, 23.7% were SME managers, and the remaining 23.4% were SME owners. As for SME sectors, 71.2% of respondents were from the services sector, 13.8% of respondents were from the manufacturing sector, 11.2% of respondents were from the construction sector, 3.2% of respondents were from agriculture, and 0.6% of respondents were from the mining and quarrying sector. Moreover, 51% of respondents worked in SME that operated for more than six years, followed by 21.2% of SME operating between 4 to 5 years, 15.1% of SMEs operating between 2 to 3 years, and 12.8% of SME operating less than a year.

When looking into capacity or the number of employees in SME, 34.6% of SMEs have employees between 101 to 200, followed by 25% SMEs have employees between 51 to 100, 16.3% SMEs has employees less than 5, 12.8% SMEs have employees between 21 to 50, 11.2% SME has employees between 6 to 20. Next, looking into SME location across Malaysia, 34.6% of respondents were from Selangor, 22.8% were from Kuala Lumpur, 7.1% were from Johor, 6.4% were from Kelantan, 5.4% from Penang, 4.8% from Negeri Sembilan, 3.5% from Melaka and Putrajaya, 3.2% from Kedah, 1.9% from Perak, 1.6% from Terengganu, 1.4% from Pahang, Sabah and Sarawak, 1% from Perlis, 0.3% from Labuan. Lastly, a preliminary identification question was asked to see whether the SME has or has not implemented ERM. Out of 312 respondents, 177 respondents think that their company implements Enterprise Risk Management (ERM), whereas the remaining 135 respondents do not think their company implements ERM.

4.2. Normality Analysis

The normality test in Table 1 shows the results of the Kolmogorov-Smirnov statistic of ERM elements and SME performance. This determines if the score distribution is normal. Normality is indicated by a non-significant result (Sig. value greater than 0.05). The Sig. value, in this case, is 0.000, indicating that the assumption of normality has been breached.

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In bigger samples, this is quite common. Because of the discrete nature of the data, increasing sample sizes do not ensure that data will be closer to a normal distribution. Instead, data can be more skewed or ramping (Pallant, 2016). According to Julizar et al. (2014), for small, medium and big sample sizes, the likert scale data has a low coefficient of variation for all variables, indicating that the observed values are quite homogeneous.

Table 1: Normality Test of ERM Elements and SME Performance

	Kolmogorov-Smirnov[a]		
	Statistic	**df**	**Sig.**
Objective Setting	.302	312	.000
Event Identification	.302	312	.000
Control Environment	.302	312	.000
Risk Assessment	.302	312	.000
Risk Response	.301	312	.000
Control Activities	.301	312	.000
Information & Communication	.301	312	.000
SME Performance	.302	312	.000

4.3. Reliability Analysis

Reliability analysis was used in this study to evaluate whether the elements indicating ERM and SME performance were consistent with each other. Cronbach's alpha is a measure of internal consistency, or how closely a group of things are related. It is considered an indicator of the reliability of a scale. Table 2 shows the Cronbach's alpha coefficients for eight ERM elements and SME performance. In general, reliability of less than 0.6 is considered weak, 0.7 acceptable, and 0.8 good. The Cronbach's alpha coefficient values for all eight (8) ERM elements and SME performance in this study were above 0.8, indicating that all ERM elements and SME performance are reliable and internally consistent. A sound internal control system such as ERM can help ensure that an organisation's objectives are met. At the same time, the company remains profitable, achieves long-term financial goals, and management reports are accurate.

Table 2: Reliability Test

Enterprise Risk Management	**Cronbach's Alpha**
Objective Setting	0.988
Event Identification	0.988
Control Environment	0.987
Risk Assessment	0.990
Risk Response	0.987
Control Activities	0.990
Information & Communication	0.989
Monitoring	0.991
SME Performance	0.991

4.4. Correlation Analysis

The strength and direction of the linear relationship between the two variables in this study, i.e., the eight (8) components of ERM and SME performance, were measured using Pearson correlation. When the correlation coefficient is between 0.25 and 0.50, there is a low degree of correlation. If the correlation coefficient is between 0.50 and 0.75, it is classified as moderate. If the correlation coefficient is above 0.75, there is a high degree of

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correlation. Multicollinearity exists when the independent variables are significantly correlated (r=0.9 and higher). The results of the correlation analysis show that the effect of the independent variables representing eight (8) elements of ERM on the dependent variable SME performance has a strong positive correlation as the values are all greater than 0.9. This indicates that as the independent variables improve, SME performance also improves. Another assumption for a strong positive correlation between the variables is that all 8 ERM elements belong to the same group or category in the COSO framework. However, Pearson's correlation does not tell us anything about the causal importance of the independent variables. The regression coefficients need to be examined to determine the impact of ERM implementation on SME performance.

4.5. Regression Analysis

The impact of ERM on SME performance was examined using regression tests, as shown in Table 3 below. The R^2 value obtained from the regression is 0.972 (adjusted R^2 = 0.986), which means that ERM is responsible for almost 97.2 percent of the variation in SME performance. This value is indeed quite high, as other factors can also have an impact on SME performance.

Table 3: Analysis of Variance (ANOVA) Between ERM Elements and SME Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.986	0.972	0.971	0.43988

a. Predictors: (Constant), Monitoring, Objective Setting, Risk Response, Event Identification, Information & Communication, Control Environment, Risk Assessment, Control Activities
b. Dependent Variable: SME Performance

Table 4: Coefficient Results Between ERM Elements and SME Performance

Model	Unstandardised Coefficients		Unstandardised Coefficients	t	Sig.
	B	Std. Error	Beta		
1					
(Constant)	0.028	0.038		0.751	0.453
OS	0.031	0.071	0.031	0.434	0.664
EI	0.251	0.075	0.251	3.355	0.001*
CE	0.145	0.080	0.146	1.819	0.070
RA	0.202	0.081	0.204	2.475	0.014*
RR	0.228	0.080	0.228	2.855	0.005*
CA	-0.945	0.088	-0.045	-0.510	0.610
IC	0.104	0.079	0.105	1.330	0.185
GC	0.071	0.081	0.072	0.883	0.378

Dependent variable: SP, SME Performance

As a rule of thumb, the regression coefficient for variables is considered significant if the P-value is less than 0.05. In this study, event identification (EI), risk assessment (RA), and risk response (RR) were the only items that had a significant effect on SME performance at the 95% confidence level among the eight ERM components used in this study, as shown in Table 4. The beta coefficient of 0.25 means that each unit improvement in event identification increases SME performance by 0.25 units. These results are consistent with Beasley et al. (2006) study that minimising business surprises reduces the volatility of

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returns and increases firm value. In another study, event identification and firm performance were positively related (Lagat & Tenai, 2017).

The beta coefficient value of 0.20 indicates that each unit improvement in risk assessment would increase SME performance by 0.20 units. Risk assessment is critical because it is how companies determine how critical each risk is to achieve their overall goals (Curtis & Carey, 2012). The beta coefficient value of 0.23 indicates that each unit improvement in risk response would increase SME performance by 0.23 units. According to Vollmer (2015), a cost-effective and efficient risk response plan helps to balance risk mitigation with the predicted benefits of the strategic program. In summary, event identification, risk assessment, and risk response have a direct impact on the performance of SMEs in Malaysia. However, other elements of ERM such as goal setting, event identification, control environment, control activity, information and communication, and monitoring were not significantly.

The study's conceptual framework led to the formation of eight hypotheses to gather evidence on the effect of ERM implementation on SME performance.

Table 5: Summary of Hypothesis Testing

Hypothesis	Relationship	B	Sig.	Result
H1	OS → SP	0.310	0.664	Reject
H2	EI → SP	0.251	0.001*	Accept
H3	CE → SP	0.145	0.070	Reject
H4	RA → SP	0.202	0.014*	Accept
H5	RR → SP	0.228	0.005*	Accept
H6	CA → SP	-0.945	0.610	Reject
H7	IC → SP	0.104	0.185	Reject
H8	MG → SP	0.071	0.378	Reject

Table 5 above summarizes the results of the hypotheses of the study. Based on the results, H_2, H_4 and H_5 were accepted and had a positive impact on SME performance. On the other hand, hypotheses H_1, H_3, H_6, H_7 and H_8 were rejected and had no significant influence on SMEs' performance.

5. Discussion

The results of the correlation analysis show that the independent variables represented by eight (8) elements of ERM on the dependent variable SME performance and have a strong positive correlation. However, Pearson's correlation coefficient does not tell us anything about the causal significance of the independent variables. Therefore, the regression coefficients need to be examined to determine the impact of ERM implementation on SME performance. The multiple regression analysis shows that ERM positively affects SME performance. However, only three of the ERM elements, namely event identification, risk assessment, and risk response, have a significant impact on SME performance.

This finding is consistent with Alawattegama's (2017) study in Sri Lanka, which found that several elements of ERM such as goal setting, event identification, control environment, control activity, information and communication, and monitoring were rated as insignificant. This could be related to some of the constraints that SMEs face in

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implementing ERM. Since the owners, managers, and employees of SMEs are not familiar with risk management principles, thus their risk management strategies are not available in their respective companies. In addition, ERM implementation involves significant costs, which can be a barrier for small businesses with limited resources. In addition, the impact of ERM implementation on SME performance has yet to be determined. As a result, ERM adoption may not be a priority for SMEs.

6. Conclusion

This paper aims to test whether the implementation of ERM can improve the performance of SMEs in Malaysia. It is estimated that the independent variable, ERM implementation, has a positive relationship with the performance of SMEs in Malaysia through the contribution of GDP. At the end of the study, ERM implementation will add value by helping firms to improve price-earnings ratio and reduce the cost of capital by reducing information asymmetry among SMEs.

A total of 312 responses were received from all states in Malaysia. Of the 312 respondents, only 56.7% or 177 respondents agree that their company has implemented ERM while the remaining 43.3% or 135 respondents disagree that their company has implemented ERM. The results of the multiple regression analysis show that ERM has a positive impact on the performance of SMEs. However, only three elements of ERM, namely event identification, risk assessment, and risk response, have a significant impact on SME performance, while the remaining five elements, namely goal setting, event identification, control environment, control activity, information and communication, and monitoring were not significant.

On the other hand, this study suggests that the adoption of ERM in SMEs can improve firm performance. However, ERM has not been effectively implemented in SMEs compared to large companies such as listed companies. In fact, many companies, especially SMEs, are not prepared for extensive risks such as increasing medical expenses, employee benefits, and cyber risks (Saeidi et al., 2020). ERM in SMEs should be able to provide solutions to minimise the risks that SME organisations are or are not exposed to. SME managers and owners can benefit from excellent risk management in achieving their business objectives. Risk management strategy has become an important issue for SME entrepreneurs in managing their respective organisations due to the impact of ERM implementation.

The findings of this study can serve as a basis for policymakers or the Malaysian government in highlighting and establishing the implementation of ERM as a prerequisite for the continuity of organisations, especially SMEs, to promote business growth and longevity.

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Conflict of Interests

The authors declare no conflict of interest in this study.

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