The Factors Affecting Effectiveness Of Risk Management Of Small And Medium Enterprises In Thailand

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Abstract

The purpose of this research was to look at the factors affecting the quality of risk management used by SMEs in Thailand, and to see how that quality relates to the success of those businesses. The study combined quantitative methods, such as survey responses from 545 SMEs and secondary data from the office of small and medium enterprises promotion's database, with qualitative methods, like in-depth interviews with 30 SMEs using best practice in risk management. Both sets of findings showed that the quality of risk management was influenced in a positive way by a set of six critical success factors, including size of the entity, investment in risk management information technology, investment in the development of human resources associated with risk management, risk management competency, risk management organizational structure, and risk culture. When compared to the other factors, risk culture consistently produced good findings across all statistical methodologies. Concurrently, findings from quantitative and qualitative studies corroborated a link between SMEs' risk management practices and their success. Thus, in order to improve performance, Thai SME entrepreneurs should improve the quality of risk management conducted by themselves, especially through cultivating a culture of risk management. This enhancement will generate a competitive edge, giving SMEs more capacity to contribute to Thailand's long-term economic growth.

Keywords: risk management; effective performance; small and medium sized enterprises.

Introduction

Small and medium sized enterprises (SMEs) play a significant role on the economy of Thailand. In 2022, the total asset value of the entire state

enterprise sector amounted to 12 trillion baht, generating a total income of five trillion baht, equaling 40 percent of the gross domestic product (GDP), gaining approximately 300 billion baht in profits. Since SMEs have been a driver of the development of the country as well as an instrument serving public policies from the past until the present, the government has given priority to the management of SMEs as efficient management is beneficial to the country, whereas poor management may cause severe damage. The severe competition caused by less government regulation, globalization, modern technologies, and other rapid environmental changes has had an effect on organizational performance and national competitiveness. In this circumstance, building a nation's fortitude and competitive edge is crucial. The objective of all Small and medium sized enterprises (SMEs) process flows is to respond to client satisfaction and deliver a high-quality product or service. The internal and external data flows must be precise, timely, and of high quality. Today, the private sector faces escalating costs, making it difficult for SMEs to provide high-quality products and services at low prices. The SME sector has shifted its focus from procurement to risk management. However, SMEs are under intense pressure to maintain low service costs and high product quality. SMEs in Thailand have been slow to adopt risk management strategies such as size of the entity, investment in risk management information technology, investment in the development of human resources associated with risk management, risk management competency, risk management organizational structure, and risk culture, despite the fact that other industries have successfully addressed these challenges through the implementation of such methods. Some specialists believe that the sluggish adoption rate is due to the unique characteristics of SME operations.

Risk management is the act of managing activities and work procedures to mitigate the possibility that the organization may be affected and the magnitude of damage is within a level that is acceptable, assessable, and verifiable by the organization (Gordon et al, 2009). Nevertheless, not only should the negative possibility be considered, but both the positive and negative perspectives should be addressed (Shrives & Linsley, 2003). Holmes (2002) described risk management as a process of cautiously operating activities to explore the possibility of gaining benefits for an organization by increasing the possibility of generating positive outcomes and mitigating negative outcomes.

During the last decade, enterprise risk management was a management technic that garnered much attention from the public and private sectors, possibly because many organizations had learnt from their loss after the 1997 economic crisis that poor enterprise risk management was a part of the failure. After the crisis, many organizations required loans and investments from foreign institutions to survive; therefore, they had to restructure in order to comply with

international standards. Risk management became an essential tool for those organizations (Shortreed, 2010).

Risk management is the new management approach that has gained broad acceptance and adoption in the business sector, especially after the major economic crisis in Thailand in 1997 and the 2002 Enron and WorldCom incidents. Since then, public and private organizations have practiced the good governance concept, including risk management.

The SMEs in Thailand operate under uncertainties that may affect their business, such as competition under rapid and strong economic changes, the advancement of information technology and its application in business, pressure on social and environment accountabilities, and the expectation of stakeholders regarding good governance. These factors have driven SMEs to consider establishing management and operation strategies that support the goals and objectives of their organizations. Thus, it is crucial for Thai SMEs to manage risks efficiently.

Various international studies have supported the positive impact of risk management on the performance of the organization. Besides being value-added to the enterprise, risk management creates a positive impact on other perspectives. PricewaterhouseCoopers (2004) emphasized that the effectiveness of risk management results in positive impacts; it allows the organization to consider the level of risk that it can accept or be willing to accept in order to create value-added for the stockholders. Risk management sets an operational framework for the organization to efficiently manage uncertainties, risks, and opportunities. This remark agrees with results of research conducted by the Economist Intelligence Unit (EIU) in 2007, where 218 executives around the world were surveyed concerning their approaches to risk management. The research found that the objectives of risk management were not only to avoid losses, but also to improve the reputation and enhance the competitive advantage of the organization. Likewise, Accenture (2011) stated that risk management is a source of competitive advantage, creating long-term profitable growth and sustained future profitability, and Pagach and Warr (2008) suggested that risk management can reduce the fluctuation of stock prices.

Despite a number of studies on the impact of risk management on the performance of the enterprise as well as the frameworks supporting the findings, most of them are foreign case studies. Research on the impact of risk management on corporate performance conducted in Thailand is limited, particularly in the non-financial dimension.

Although several parties trust the effectiveness of risk management in adding value and improving the performance of SMEs in Thailand, the efficient drivers for risk management effectiveness that have a positive impact on performance should be identified in order to enhance the competitive advantage of state enterprises, enabling them to

accommodate possible rapid and intense upcoming changes while being a tool for the sustainable development of the country.

Research Objectives

1. To study the factors affecting the effectiveness of the risk management of SMEs in Thailand, which are the size of the organization, investment in risk management support information technology (IT), investment in human resources associated with risk management, the risk management competency of the people in the organization, the risk management-related organizational structure, and risk culture; and

2. To examine the relation between the effectiveness of risk management and the performance of SMEs in Thailand.

3) to study the best practice in risk management of the SMEs chosen for the case study.

Research Methods

Population and sample

The population in this study comprises 13,924 companies from three business segments of small and medium sized enterprises; for instance, (1) retail and wholesale, (2) service, and (3) manufacturing, as listed in the Office of Small and Medium Enterprises Promotion database (Office of Small and Medium Enterprises Promotion, 2021)

Sample size

Multi-stage sampling is employed in this study. The unit of analysis is organizational level for a total number of 545 organizations. The selection process consisted of the following:

Step 1: Check the Criteria, this study's population totals 13,924 small and medium-sized businesses. With a five percent tolerable variation, a sample size of at least 389 organizations is required for data analysis. However, respondents pay little attention to data gathering via sent questionnaires, resulting in a poor response rate. To account for non-returned or incomplete questionnaires, the researcher predicts a response rate of 389+(389x0.4) = 545 organizations (Kalaya Wanitchbancha, 2008). As a result, the 545 organizations employed as samples in this study are sufficient and exceed the minimum sample size required for the Structural Equation Modeling (SEM) analysis.

Step 2: Choosing a Sample, to study, the researcher used the establishment classification criteria to select small and medium enterprises from the Office of Small and Medium Enterprises Promotion database. The researcher chose small and medium enterprises with 51-200 full-time employees and a fixed asset value of 50-200 million baht. Because many scholars have investigated the management tool in conjunction with their understanding of the context of organizations. A compilation of research on small and medium enterprises can clearly

explain the correlation of determinants for small and medium enterprises.

Step 3: Stratified Random Sampling, the researcher splits the list of medium firms into business segments using simple random sampling. The sample proportion to the number of organizations in each defined segment of 545 organizations is calculated using a list of business segments., as shown in Table 1.

Table 1. Population and Sample by Business Segment

Segment	Population (Amount)	Sample (Amount)
Retail and Wholesale	2,825	110
Service	5,205	204
Manufacturing	5,894	231
Total	**13,924**	**545**

Source: The Office of Small and Medium Enterprises Promotion, (2021).

Step 4: An in-depth interview conducted with the executives in charge of the risk management of SMEs in the sample group, which were 30 samples implementing best practice regarding risk management. An in-depth interview was the tool used to support the results of the quantitative research in proving the hypotheses of this study.

Research Instrument

Questionnaires are useful for conducting research. The following is the technique for producing a questionnaire:

1. Gather information from the literature, concepts, theories, and relevant studies to build a questionnaire.

2. Create the questionnaire's framework and questions.

3. Validity and reliability of the questionnaire should be checked:

- The questionnaire's content validity is assessed by having an expert review it using the Item Objective Congruence Index (IOC) approach. Questions with an IOC value of less than 0.5, on the other hand, will be disqualified.

- Verify accuracy by having people who aren't in the experimental sample fill out a questionnaire that has been changed to be consistent with the structural validity test, and statistically analyze the answers, which should have a Cronbach's alpha coefficient of at least 0.70. (Suchart et.al,2008). As a result, a confidence level of 0.925 indicates a high level of assurance.

4. Before using the questionnaire in research, improve its accuracy and precision.

5. The in-depth interviews conducted with a risk management director, or a representative of each enterprise were documented and recorded in order to analyze the concerned points.

Data Analysis

The following steps are used to process it in order to meet the objectives and put the research hypothesis to the test:

1. To analyze the characteristics of the variables using descriptive statistics, percentage, mean, and maximum, minimum, and standard deviation

2. To answer objective 1 of this research by proving hypothesis 1. The relation between the factors and risk management effectiveness was examined by applying analysis of variance (ANOVA) to test the nominal independent variables, and Pearson correlation coefficient (r) was used to measure the interval independent variables and the ratio scale.

3. To prove hypothesis 2 in order to find an answer to objective 1 by exploring the influences of the various factors on risk management effectiveness, applying stepwise regression for multiple regressing analysis, and finding the standardized regression coefficient (ß), which determined the influence of the independent variable on the dependent variable

4. To prove hypothesis 3 in order to answer objective 2 by finding the Pearson correlation coefficient (r) between risk management effectiveness and the performance of the state enterprises in Thailand.

5. The in-depth interviews conducted with a risk management director, or a representative of each enterprise were documented and recorded in order to analyze the concerned points.

Results

The fundamental data analysis results from the samples include gender, age, education, work tenure, and current title. Males make up 55.12 percent of the 545 respondents in this survey, while females make up 44.88 percent, according to them. The majority of respondents are between the ages of 41 and 50 (41.58 percent), with 51-60 years accounting for 27.72 percent. Finally, 4.95 percent of those who responded are under the age of 30. A master's degree is held by the majority of the samples (52.15%), followed by a bachelor's degree or equivalent (43.23 percent). A total of 0.99 percent of respondents had a postgraduate degree. When it comes to job tenure, the bulk of respondents (35.31 percent) have worked for 15 years or more, with 5-10 years coming in chevalier (31.02 percent). 7.26% of those who have worked for less than five years. The majority of respondents (23.76 percent) had the title of Vice President, followed by Assistant President (21.12 percent). The lowest proportion is 5.28 percent for Secretary.

Factors Affecting Risk Management Effectiveness

The average of the dependent variables for risk management effectiveness was 3.28 from the full score of 5. The data on the seven independent variables at interval and ratio scales revealed the following:

1) the average asset of the 545 SMEs was 254,712 million baht; 2) investment in risk management IT was approximately 16 million baht; 3) investment in the training of the people associated with risk management was 19,398 baht/person/annum; 4) the average score for risk competency was 3.37 from 5; 5) the risk culture variable comprised three dimensions: tone at the top, governance, and business decisions and rewarding. The averages of those three dimensions were 3.78, 3.80, and 2.94 out of 5 respectively.

The research applied 11 variables at nominal scale. The data suggested that the factors associated with good risk management were present in more than 80 percent of the SMEs. Regarding risk competency, there was participation of the main working groups and the appointment of a risk officer. There were dedicated risk management units that support the organizational structure element. Every component of the risk culture existed, from frequent meetings of the risk management committee, the CEO attending risk committee meetings, top executives attending risk committee meetings, assigning risk owners, defining clear targets, disclosure of risk information, and timeliness of financial statements.

Correlation between the Six Factors and Risk Management Effectiveness

To test the relationship between the six mentioned factors regarding risk management effectiveness, the researcher determined 18 variables under the six factors comprising 11 independent variables at a nominal level and seven dependent variables at interval and ratio levels. Eleven independent variables were used to test three factors: the risk competency of the people in the organization, organizational structure, and risk culture. Dependent variables were applied to test five factors: the size of the entity, investment in risk management IT, investment in the human resources associated with risk management, risk competency, and risk culture.

Among the 11 nominal independent variables, risk competency and risk culture were the two variables found to have a statistically-significant correlation with risk management effectiveness. Those two factors included eight variables, consisting of one variable used to test the correlation with risk competency (having a risk officer (CPRO)) and seven variables for risk culture, comprising frequency of risk management committee meetings (CUTFRMC), the frequency at which the CEO attended risk management committee meetings (CUTFCEO), the frequency at which senior management (1st – 3rd most senior executives) attended risk management committee meetings (CUTF123), risk management responsibility assignment (CUGJD), clarity of targets (CUGTAR), risk information disclosure (CUGTRAN), and the timeliness of financial statements (CUGUPD) as illustrated in Table 2.

Table 2. Summary of the Variables Affecting Risk Management Effectiveness: Nominal Independent Variables

Independent Variable	Dependent Variable	F	Sig
CPRO	RMS	13.485	0.001
CUTFRMC	RMS	6.923	0.013
CUTFCEO	RMS	14.241	0.001
CUTF123	RMS	5.386	0.027
CUGJD	RMS	6.923	0.013
CUGTAR	RMS	4.719	0.038
CUGTRAN	RMS	4.954	0.033
CUGUPD	RMS	26.884	0.000

Seven independent variables at interval and ratio levels showed a positive relationship between risk management effectiveness and four factors: the size of the entity, investment in risk management IT, risk competency, and risk culture. The only factor that did not display a positive correlation was investment in the human resources associated with risk management, comprising six variables, which were asset (AS), investment in risk management IT (INIT), risk competency (CPSURVEY), tone at the top dimension of risk culture (CUTSURVEY), the governance dimension of risk culture (CUGSURVEY), and the business decision and rewarding dimension of risk culture (CUDSURVEY).

Table 3. Summary of Variables Affecting Risk Management Effectiveness: Interval and Ratio Independent Variables

Independent Variable	Relationship with Risk Management Effectiveness (RMS)	r	p
AS	+	.754	.000
INIT	+	.356	.033
CPSURVEY	+	.581	.000
CUTSURVEY	+	.495	.002
CUGSURVEY	+	.600	.000
CUDSURVEY	+	.636	.000

Influences of Variables on Risk Management Effectiveness

This study employed regression analysis and found that three interval and ratio independent variables among the seven variables could explain the variance of risk management effectiveness (RMS) at the rate of 76 percent. The three variables having a statistical significance in relation to risk management effectiveness were asset (AS), investment in risk management IT (INIT), and business decisions as a rewarding dimension

of risk culture (CUDSURVEY). Among these three variables, asset (AS) had most influence on risk management effectiveness, followed by the business decision and rewarding dimension of risk culture (CUDSURVEY) and investment in risk management IT (INIT), as illustrated in Table 4.

Table 4. Summary of Multiple Regression Analysis of Variables Affecting Risk Management Effectiveness

Independent Variable	Dependent Variable	Standardized Regression Coefficient (β)	t	p
Ln AS	RMS	.584	6.097	.000
CUDSURVEY	RMS	.354	3.681	.001
Ln INIT	RMS	.264	3.015	.005

This research examined the relationship between the variables for risk management effectiveness and the performance of SMEs, applying data on 545 SMEs during 2017 – 2022 to meet the objective 2 of the research. The variable for risk management effectiveness was developed from the risk management evaluation score (RMST). The variables applied to measure performance comprised the performance appraisal score (PAS), return on equity (ROE), and cost-to-income (CTI).

Employing descriptive statistics to explain the characteristics of the dependent and independent variables for the sample, the average of the dependent variables for risk management effectiveness evaluation of 545 SMEs was 3.57. SMEs in the manufacturing sector had the highest average, while the retail and wholesale sector had the lowest average. From the size of the enterprise perspective, Medium-size enterprises had the highest average, and small enterprises had the lowest average.

The average of the dependent variable for ROE was 5.49, with the manufacturing sector having the highest average and the retail and wholesale sector having the lowest average. Considering the size of enterprises, the medium-size ones had the highest average whereas the small-size ones had the lowest average.

On average, cost-to-income was 90.60%. Examining by sector, the retail and wholesale sector showed the highest average and the service sector held the lowest value. Medium-size enterprises had the highest average while the small-size enterprises had the lowest cost-to-income average.

The entire SMEs in Thailand had an average of 2.64 scores at independent variable for risk management effectiveness. The highest average by sector was in the manufacturing sector, and the lowest was found in the retail and wholesale sector. Medium-size enterprises

showed the highest average, while small-size enterprises had the lowest average.

The multiple regression analysis revealed a positive correlation between risk management effectiveness and the performance appraisal score and ROE, whereas the correlation between risk management effectiveness and cost-to-income was found to be negative.

Medium-size enterprises and those in the financial institution sector displayed a correlation between risk management effectiveness and performance in all three variables.

Case Study of the SMEs Implementing Best Practice in Risk Management

In order to verify the results of the quantitative analysis in order to find answers to objectives 1 and 2 of this study, the author conducted in-depth interviews with executives of 30 entrepreneurs implementing best practice in risk management. The interviews disclosed that the majority of the executives that oversaw the risk management of the selected enterprises agreed that the size of an entity and investment in risk management IT were factors unlikely to be associated with risk management effectiveness. They suggested that the factors likely to have positive a relationship with risk management effectiveness were investment in the human resources associated with risk management, organizational structure, and risk competency and risk culture. In their opinions, risk competency and risk culture had a greater impact on the efficiency of risk management compared to the other two factors. Regarding the questions asked during in-depth interviews to answer objective 3 of the research, the majority of the executives and a member of the staff agreed that risk management effectiveness had positive impacts on the performance of SMEs in Thailand. However, the financial impact might be indiscernible at profit centric organizations. Furthermore, risk management effectiveness not only affected present performance, but also created future business opportunity.

Discussion

The conclusion can be drawn that all six factors had positive impacts on risk management effectiveness as displayed in Table 5. The six factors having a positive impact on the effectiveness were medium-size enterprises, SMEs that invest more in risk management IT and human resource development with higher competency of personnel, better organizational structure and risk culture perform better in risk management.

Table 5. Analysis of the Relationship between the 6 Factors and Risk Management Effectiveness Employing Different Statistical Techniques

Statistical Analysis Technique	Relationship between Risk Management Effectiveness and 6 Factors					
	Asset (AS)	**Investment in IT (INIT)**	**Investment in Human Resource Development (INHRTRA)**	**Risk Competency**	**Structure**	**Risk Culture**
Quantitative Method						
ANOVA				✓ (CPRO)	×	✓ (CUTFRMC. CUTFCEO, CUTF123, CUGJD, CUGTAR, CUGTRAN, CUGUPD)
Correlation	✓	✓	×	✓ (CPSURVEY)		✓ (CUTSURVEY) (CUGSURVEY) (CUDSURVEY)
Multiple Regression	✓	✓	×	×		✓ (CUDSURVEY)
Qualitative Method						
In-depth interview	×	×	✓	✓	✓	✓

✓ Positive relationship found × Relationship not found

Table 5 illustrates the agreement in every statistical technique employed for the factors that had a positive correlation with risk management effectiveness. The correlations found the most in the analysis of risk culture emphasized the significance of the relationship. The intensity of the relationship lessened regarding the risk competency of the people in the organization, the size of the entity, investment in IT, organizational structure, and investment in the human resources associated with risk management. (McKinsey, 2010; Deloitte, 2010; KPMG, 2011; PricewaterhouseCoopers, 2012; IRM, 2012) The relation of risk

management effectiveness with organizational structure and investment in human resources was discovered only through in-depth interviews. The interviewed executives commented that SMEs with a higher ratio of members of the director sitting in a risk management committee could manage risk better (IRM; 2012). Furthermore, more effective risk management was found in the state enterprises that established three tiers of a risk management organizational structure: namely, the committee, the risk management committee consisting of members of the directors and the management, and the internal working group consisting of the organization's management (KPMG, 2011).

The cause of the difference between the results of quantitative and qualitative analysis regarding the relationship between risk management effectiveness and the six factors affecting risk management may be a limitation of statistical methods such as the data collection for the quantitative analysis of investment in IT and human resources. The majority of the SMEs had not implemented a financial data collection system for investment in risk management that clearly recorded or distributed the cost of each activity (Bungartz, 2010). Further, only a few respondents provided information on investment in IT. The measurement of organizational and risk culture is complicated. Quantitative measurement did not facilitate in-depth analysis like the qualitative method, which provided more details. On the contrary, the qualitative method applied to the asset variable might have been influenced by the opinions of the interviewees, compared to the accountability of the empirical data collected using the quantitative method.

The differences in the sample group used for the quantitative and qualitative analysis should be considered when comparing the results of both methods. The data collected for the quantitative methods belonged to the entire enterprise sector; thus, the data reflected an overview picture of the SMEs in Thailand. The researcher selectively collected the information from 30 SMEs practicing best practice in risk management to serve the objective of the research in exploring the factors that these 30 leading enterprises consider having an impact on the effectiveness of risk management. The purpose of employing this method was to provide other SMEs with a shortcut to improve their risk management effectiveness by learning from the best.

Table 6 answers objective 2 of this research, which aimed to examine the relationship between risk management effectiveness and the performance of SMEs. The results from both the qualitative and quantitative research methodology confirmed the relationship as displayed in the table. The SMEs that performed more effective risk management showed better performance than the enterprises practicing less effective risk management (Bowditch and Buono, 2004), as reflected by the variables for the performance appraisal score, ROE, and cost-to-

income (William, 2008). In addition, the medium-size enterprises and those in the financial institution sector displayed correlations of risk management and performance in every variable tested (Schein, 1999).

The in-depth interviews disclosed that the majority of the executives supported the findings from the quantitative analysis. The interviews also indicated that the relationship between risk management effectiveness and financial performance might not be apparent in enterprises whose mission is not to generate financial benefits. Most importantly, SMEs with better effectiveness in risk management performed better than enterprises showing less effective risk management at present and had more future business opportunities (Hellriegel et al.,2001).

Table 6. Analysis of the Relationship between Risk Management Effectiveness and the 3 Variables for Performance

Statistical Analysis Technique	**Relationship between Risk Management Effectiveness and 3 Variables for Performance**			**Remarks**
	PAS	**ROE**	**CTI**	
▪ **Quantitative Method**				
Correlation	**+**	**+**	**-**	All 3 variables found in large state enterprises and financial institution sector
▪ **Qualitative Method**				
In-depth interview	**+**	**+**	**-**	Having a positive impact on future business opportunities

Conclusion and Suggestions

1. The findings from the research can be applied to the development of an appraisal system and criteria to assess risk management by emphasizing the factors proven to have impacts on or have a relationship with risk management effectiveness. The SMEs in Thialand can adopt the system and criteria as guidelines for their risk management. Risk culture is a critical element of risk management that should be emphasized apart from process. Every statistical analysis method employed in the research indicated that in order to improve the quality of risk management operations, people in the organization need to be aware of risks when making any decision.

The other five factors—size of the entity, investment in risk management IT, the risk competency of the people in the organization, investment in the human resources associated with risk management,

and risk management organizational structure—cannot be ignored despite only certain statistical analyses suggesting a relationship between these factors and risk management effectiveness.

2. The results displaying a relationship between risk management effectiveness and the performance of SMEs should be adopted to drive better performance by improving risk management effectiveness beyond the standard average as quickly as possible. This should be a priority, particularly with SMEs in the manufacturing sector since it can have a high impact on both financial and non-financial outputs. Though financial contributions are not apparent in SMEs in other sectors, they have a significance regarding overall performance. The reason why financial contributions are obscure in sectors other than that of the financial institution may be because it is not the mission of some enterprises in other sectors to generate profits, or they may be established to serve service purposes.

3. A database for SME performance should be updated to render benchmarking data of significant information such as economic profit (EP) in order to enhance research and study or to distribute the information to interested agencies. Moreover, the database should be accessible to the public.

4. In-depth interviews allow monitoring agencies to obtain valuable recommendations. For example, the performance appraisal system used to evaluate SMEs should be flexible and suitable to the evaluated enterprises. In addition, the appraisal criteria should calculate the worthiness of the activity in comparison with investment to achieve such criteria.

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