



Effect of Enterprise Risk Management Adoption on the Firm Value in Malaysia's Annual Reports

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Abstract. This conceptual paper attempts to study relationship between enterprise risk management (ERM) adoption and firm value in Malaysia public listed companies. We propose that the ERM adoption is able to mitigate type II agency problem and urge firms to disclose quality firm-specific information. This move will eventually enhance the quality of financial reporting, thus affect firm value. Our sample of study covering all public listed firm in Bursa Malaysia from year 2014–2022. We will employ panel regression model to run our analysis. The findings have significant implications for Bursa Malaysia's decision to compel listed companies to publish their Statement of Risk Management and Internal Control in financial reporting.

Keywords: Enterprise Risk Management · firm value · agency theory · Bursa Malaysia

1 Introduction

Traditional risk management has previously separately managed individual risk categories in risk “silos”, unlike ERM which allows firm to manage wide range of risks using an integrated system which covers the entire enterprise [1]. Improved risk awareness from the implementation of ERM can assist in improved short-term and long-term decision making [1]. The disadvantage of traditional risk management of “silo” where each class of risk is managed in separate silo, which creates insufficient coordination among different risk management department and results in inefficiencies.

ERM has been defined as a portfolio view of all the risks that a company is required to face, these risks relate to multiple areas such as corporate governance, the distribution system, information technology, HR or the supply chain system, where the objective of ERM is to obtain systematic understanding of the correlation and interdependence between the risks [2].

Firms who are victims of cyber-attacks as a result of technological advancement can suffer significant losses. For example, TalkTalk, a UK telecommunications provider, is projected to have lost up to £60 million in revenue in 2016 [3]. The impact of cyber-attacks on businesses, according to the UK's Department for Digital, Culture, Media

and Sport (DCMS), includes temporary loss of access to files or networks; software and systems being corrupted or damaged; money being stolen; personal data being altered, destroyed, or taken; trade secrets or intellectual property being stolen, and so on [3].

Other than that, Media Prima Berhad, a Malaysian media related public listed company which operates television and radio stations was also hit by a ransomware cyber-attack in 2018 which prevented them from accessing their in-house emails [4]. The attackers demanded that the company pay 1,000 bitcoins to enable them to access their email system again. During that time, bitcoin was traded at US\$6,454 which amounted to RM27 million [4]. Ransomware attacks usually involve locking up a victim's computer system by encrypting the computer's data and demanding a large ransom amount to release it [4].

In the Malaysia Code on Corporate Governance (As at 28 April 2021) report, under section G10.2, it is stated that a company's board is required to disclose discussion on key risks areas such as finance, regulatory compliance, operations, reputation, sustainability and cyber security are being assessed as well as how controls are being implemented to reduce and control these risks [5]. As a result, organizations with superior risk management should be better prepared to deal with the danger of business risk such as cyber security attacks.

In Malaysia, risk management and risk disclosure requirements can be found in Bursa Malaysia listing requirements and Financial Reporting Act 1997 which states a company needs to disclose information such as financial position, operating activities, organization management, to allow its potential buyers and shareholders to evaluate the company's performance for the financial period [6]. Other than that, Bursa Malaysia also has listed extra specific requirement which is needed to be included by listed companies in Malaysia in their annual report which is a statement from the board of directors explaining the situation of the company's internal control, risk control and risk management [6].

In order to bridge the gap, based on the Malaysia Code on Corporate Governance (As at 28 April 2021) report which contains on "risk management and internal control framework" in Principle B(II), under section 10.1 and 10.2, the board is required to establish and disclose the features of the framework of its company's risk management, as well as its internal control systems [5]. Other than that, the Malaysia Code on Corporate Governance (As at 28 April 2021) report, under section G10.1, also stipulate the board of the company should identify the company's risk appetite and tolerance, and continuously identify, monitor and assess the key company's risks to protect and safeguard the investment of its shareholders as well as the company's assets [5]. Bursa Malaysia issued the 2013 Bursa Malaysia Guidelines on Statement of Risk Management and Internal Control (Guidelines of Directors of Listed Issuers) which supersede the Statement on Internal Control (Guidance for Directors of Public Listed Companies) which was issued back in year 2000, and was effective for financial year ending on and after 31 December 2012 [7]. The differences between guidelines of 2000 and 2013 is that the 2000 guidelines focus entirely on internal controls while the 2013 guidelines include risk management practice as well [7]. The listing requirement by Bursa Malaysia will impart awareness on ERM adoption and improve the standard of ERM related disclosure and reporting. Better information environment derives from ERM adoptions and disclosure improves firm value as it increases the investors' confidence level of public institutional reporting.

Other than that, Malaysian Financial Reporting Standard (MFRS) where its MFRS 101 and 132 list out the requirements on risk disclosure [7]. The accounting standard requires risk that are specific such as exchange rate risk, interest rate risk, credit risk and market risk, which are more thorough and detailed, but does not go into detail of the risk management approach taken by the company [7]. MFRS101 paragraph 105(d)(ii) requires the company to disclose notes to help readers to assess on the financial risk management policies and objectives of the company financial statement [7]. MFRS101 paragraph 105(d)(ii) is more focus on financial risk that are quantifiable in nature like credit and financial risk, and not risk that are operational [7]. While the Bursa Malaysia guidelines are voluntary, MFRS 101 and 132 are mandatory requirement to be complied [7]. If MFRS101 and 132 are not complied, it will result in qualification of the accounts and a penalty will be imposed by the relevant authorities [7].

The obligations of the board of directors and management of the company towards risk management and internal control is set out in 2013 Bursa Malaysia Guidelines on Statement of Risk Management and Internal Control (Guidelines of Directors of Listed Issuers) [7]. The guideline includes guide on the important items necessary in maintaining a sound risk management system, and provides the process that is needed in assessing the risk management system effectiveness [7].

Companies currently are faced with uncertainty when running their operations. Companies with good risk management will increase its business certainty and in turn improve the company's firm value and competitive advantage [8]. Prevent and reducing risk to the lowest level so that a company is able to survive from its competitors is an important part of corporate strategy for risk management [8]. Implementation of ERM can help improve the quality of a company's risk management [8]. ERM is able to reduce the expenses such as regulatory scrutiny and external capital through improvement of its risk management disclosure [1]. The investor confidence level is determined based on the implementation of ERM in a company which brings improved risk management [8]. Implementing ERM is viewed as a good decision and is considered a great prospect by potential buyers who is considering making investing choices as ERM is able to reduce the risk of company failure [8]. Potential buyers will have higher confidence when making an investment in companies that implement ERM because these companies are able to minimize and manage their risk through ERM, including risk of failure [8]. Firm value can be increased through ERM as ERM is able to make systems within the companies where adverse risk can be predicted and managed [8].

Industrial enterprises have started to implement ERM in the last 10 years, however, the number of enterprises that are interested on the impact of implementing ERM on corporate value are few [9].

1.1 Potential Outcome for Practice

In light to the increase interest to improve risk management disclosure including Malaysia, this research is motivated to understand whether ERM is applicable in the Malaysian setting. As company moves away from traditional risk management system of independent "silo", this study can contribute new knowledge to market regulators and firms on the adoption of ERM disclosures in their financial reporting practice.

Previous studies found that 77% of ERM disclosure literature studies were carried out in more developed countries such as America, Germany and United Kingdom [7, 10]. Other than that, only 16% of ERM studies were performed on ASEAN countries while the remaining 7% were performed on middle east and other countries [7]. Therefore, this current research seeks to address the gap on the lack of ERM disclosure on firm value research carried out in developing countries such as Malaysia.

As such, this study is determined to investigate the impact of ERM disclosure on firm value creation based in Malaysia market environment. The result of this study will help in supporting the relevancy of 2012 Malaysia main marketing listing which companies are to include main features of its company's risk management framework and 2013 Bursa Malaysia Guidelines on Statement of Risk Management and Internal Control.

The study of ERM on firm value can help industry companies to understand on company value base on the impact of financial risk management, which can assist companies' executive in their financial decisions, production operations as well as business projects to maximize the value of the company [9].

This paper is prepared as follows, the following section writes on the theoretical background and hypothesis development, while the final section elaborates on data and methodology employed.

2 Literature Review and Hypothesis Development

Past literatures were reviewed in depth on firm value and ERM were performed.

2.1 Firm Value

Improving its shareholders and owners' welfare to improve the value of the company is the main objective of a company [8]. The price that an interested buyer is willing to pay is known as the firm value [8]. Managers of a company is required to fulfil the wishes of its shareholders which is to increase their welfare [8]. Therefore, by improving the welfare of its shareholders, this can in turn be seen in the increase of the company market share prices [8]. Firm value is defined as the owners and shareholders' prosperity situation [8]. Research shows that ERM is positively associated with better firm value enhancement. [11] states that efficient ERM implementation helps management exploit opportunities, improve information processing and communication, increase company reputation, responsibility, assurance, and governance, and contribute to enhanced business planning and performance [11]. Study by [12] discovered a link between ERM and firm performance.

2.2 Enterprise Risk Management

As a whole, ERM is able to combine every type of risks by identifying and understanding multiple risks, and ensure all risk management activities in every operating unit in the company is coordinated [8]. This differs from traditional method where company value certain risk separately base on the unit of their business, and choosing on the way to manage them [13].

Firm value can be added through the ERM consolidation approach in multiple ways. First, Companies are able to understand the entire view of their company's risk portfolio by assessing all of its risks [8]. Secondly, based on their own risk appetite, companies are able to prioritize risk factors through ERM [13]. Finally, activities that must be performed to complete business activities with measurable risk can be guided by using ERM to assist companies to make decisions on it. There, ERM allows company to be much more prepared to face these risks.

2.3 Agency Theory

This study employs agency theory in developing the hypothesis that are to be tested.

Agency theory is the theory which provides the explanation on the relationship between the agent (manager) and the principal (shareholder) in a company. In this theory, it found that the desire and goals between the principal and agent is different, therefore resulting in conflict. Agency theory is framework used to put in place the chances that companies which are involved in a competitive environment would look to comply with voluntary disclosure requirements [14, 15], which in turn would reduce agency cost. Past literature has concluded that as the company size grow bigger (or turn into public listed companies), agency conflict has higher chance to happen [16].

In western countries such as USA and UK, ownership structure is more spread out, which creates agency problem between the manager and shareholders. Managers who are the agent of the company, will tend to make decisions in his own favor by allocating firms resources for his own benefit, which will not maximize the shareholders' wealth. Therefore, the conflict between the agent as managers who runs the company operations and principal as the company owners is commonly known as **type I agency problem** [17].

However, when the manager ownership of the share increases to a condense level where the largest owner has effective control over the company, the agency problem changes from principal-agent conflict to the conflict between controlling shareholders and public minority shareholders [18]. Therefore, **type II agency problem** or principal-principal problem is when the conflict is between the controlling shareholder and minority shareholder [19]. When the controlling shareholders possess concentrated share ownership allowing them to have effective control, this will result in the expropriation of minority shareholders [18, 20]. It was found that as many as 93% of companies in the continent of Asia has concentrated shareholding owned by the controlling shareholders [20]. For example, based on Malaysia's neighboring country of Jakarta, it was found that 99% of the companies that were listed in the Jakarta Stock Exchange has shareholding structure which are concentrated [17]. The Malaysia public listed companies are controlled mostly by family-controlled and government owned companies similar to other emerging economy [21]. Other studies have found that family-owned companies are more secretive in nature, which is due to the fact that they have lower amount of disclosure, as these companies do not depend on external financing to an extent [21–24]. The top twenty shareholders in Malaysia own about 73% of shareholdings on average [21]. A study conducted in 2006 which studied a sample size of 347 Malaysian listed companies from 1996 to 2000 has found that 31% of the companies are controlled by a single shareholder, who owns an average of 62% of the firms' outstanding shares [25]. Another

study in 2007 which studied the top 150 listed Malaysian firm from year 2000 found that 43% of the companies on were controlled by a single shareholder [26]. Finally, a study in 2010 which studied the ownership structure of 300 non-financial Malaysian listed companies from 2001 to 2007 found that 96.8% of these companies are closely-held, of which 52.3% are controlled by the insiders while 24.8% are controlled by outsiders [27]. Base on the Companies Act 2016, section 136(1)(a), a substantial shareholder is defined as having more of equal to 5% (direct or indirectly) of the total nominal amount of the total voting shares in the company. Therefore, it can be concluded that Malaysia public listed companies' shareholdings are concentrated in nature where the largest owner has effective control over the company.

2.4 Relationship Between ERM and Firm Value

We propose that the ERM is able to mitigate type II agency problem, improve the information environment and in turn creates firm value. ERM will mitigate the opportunistic behavior of owner-managers which is prevalent in Malaysian firms. The availability of ERM is able to improve the transparency of financial reporting, improve information disclosure, increase the investors' confidence level of public institutional reporting, which will ultimately improve firm value.

Based on previous research, [8] concluded that implementing ERM has significant positive effect on firm value. Another research base on United States insurance companies found that there is a positive relationship between the use of ERM and firm value [1].

In another studies where 77 industry enterprise that are listed on the stock market in Vietnam from 2012–2018, the study concluded that ERM has a positive relationship with firm value [9]. The authors found that companies who conduct risk management will result in higher firm value of the company, compared to companies who did not conduct risk management [9]. When companies choose to conduct financial risk management, this will result in good control over its financial risk, which can improve the value and performance of the company.

A recent study by [28], concluded that ERM has a positive effect on firm value, and found that implementation of ERM can safeguard and improve the firm value and achieve company's goal.

Another study by [29], found that ERM adoption have a positive effect on firm value base on Indonesian finance companies from the Indonesia Stock Exchange. The authors found that ERM disclosure convey to stakeholders that the company has great commitment on managing risk. Therefore, ERM disclosure displays good and positive indicator to investors enabling them to determine the company's prospect.

However, not every research on ERM adoption and firm value resulted in the same findings.

A recent study by [30] on companies listed on Indonesian Securities Market concluded that ERM adoption has a negative effect on firm value. The authors found that investors finds information related to risk disclosed to be unfavourable, resulting in the investors aware of the danger arising from the company. The negative effect due to ERM can due to the nature of voluntary disclosure of ERM, where ERM disclosure that is

incomplete and minimal in annual reports indicate company's lack of knowledge related to risk management.

Based on the study of [31], the authors found no support on ERM adoption having any impact on firm value, and concluded that ERM and firm value is indeed conditional base on proper matches between ERM adoption and contingency variables.

Another research also concluded that ERM adoption had no effect on firm value, and found that ERM adoption has little impact on firm performance on a wide range of variables chosen [31]. In earlier research by the same authors, they concluded that ERM adoption has no positive or negative impact on stock price reaction [32].

Finally, a study conducted on 82 publicly traded insurers obtained from Thomson-Banker One database, found that firm value does not increase when company adopts ERM [2].

The link between ERM adoption and firm value remains unclear. The endeavour to explore the nexus ERM disclosure and firm value based on Malaysian context is still scant. As a result, the purpose of this study is to shed light on this research field by examining if ERM disclosure affects firm value in the Malaysian setting. The following is our initial hypothesis:

H1: There is an impact between ERM adoption and firm value.

3 Data and Methodology

The sample of study includes all publicly listed companies on Bursa Malaysia from 2014 through 2022. The majority of the data will be collected by hand, with financial data coming through databases such as Datastream or Bloomberg terminal.

Firm value is defined as the value where interest buyers (investor) are willing to pay base on the value given by the financial market (market price) [8]. Firm value is measured through the Tobin's Q ratio [8].

The Tobin's Q formula is as follow:

$$Q = \frac{(\sum \text{Outstanding shares} \times \text{Closing price}) + \text{Total liabilities}}{\text{Total assets}}$$

We utilise information extraction approach to identify firm's ERM adoption. By following [1, 7], the ERM adoption will be analyzed and identified from annual reports, public documents, and firm website. ERM adoption is identified based on the keywords such as "enterprise risk management", "strategic risk management", "corporate risk management", "consolidated risk management", "holistic risk management", "integrated risk management", "risk management committee", "risk committee", and "chief risk officer", "group risk management department" and "group-wide risk management".

To test hypothesis 1, the following Model 1 is estimated to examine the effect of ERM adoption on firm value by controlling for firm size, firm growth, firm leverage, firm age, while Year and Sector are the fixed effects and ε the residual of the regression:

$$\begin{aligned} \text{Firm Value} = & \beta_0 + \beta_1\text{ERM} + \beta_2\text{Size} + \beta_3\text{Growth} \\ & + \beta_3\text{Leverage} + \beta_6\text{Age} + \text{Year} + \text{Firm} + \text{Industry} + \varepsilon \end{aligned} \quad (1)$$

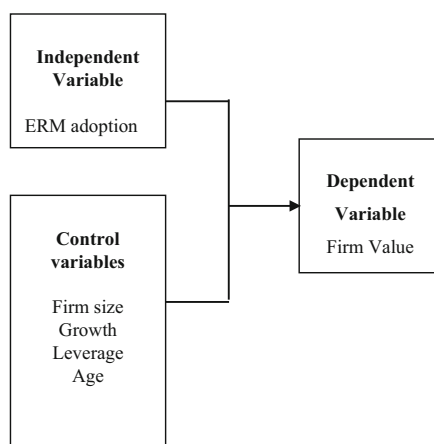


Fig. 1. The relationship between ERM adoption and firm value.

Table 1. Description of the control variables

Control Variable	Description
Firm size	natural logarithm of total assets [1]
Growth	Current period net sales – previous period net sales)/previous period net sales [9]
Leverage	Leverage ratio can be measured by taking the full debt owned by the corporate with the overall equity (debt to equity ratio) [30]
Age	The duration of time the firm was founded and listed. The age of the firm will be calculated based on the difference between the year of research and the year of recording or the year of IPO (first issue). Number of months will be used as the measurement of the firm's age [33]

where ERM the measure of ERM adoption, determined by availability of executive position, committee or department such as Chief Risk Officer, Risk Committee or Risk Department, ERM department or anything relevant. Size, Growth, Leverage and Age are the control variables. We also control for possible year, firm and industry effects in Model (1).

Figure 1 depicts the relationship between ERM adoption and firm value while Table 1 provides the description of the control variables.

The influence of ERM adoption on firm value is investigated using a panel regression model.

4 Expected Outcome

It is expected that ERM adoption will improve the information environment of Malaysian firms by encouraging the controlling owner-managers to disclose quality firm-specific information, improve the information environment, boost investors' confidence towards firms' financial reporting and improve firm value eventually. As the Malaysia Code on Corporate Governance (As at 28 April 2021) report under section Principle B(II) "Risk Management and Internal Control Framework" indicates the importance of proper risk management, therefore the adoption of ERM by Malaysian firms will strengthen the company's corporate governance base on the institutional policy laid out by the Securities Commission Malaysia [5]. This in turn will improve transparency in Malaysian debt and equity market.

5 Conclusion

This paper model the relationship between ERM adoption and firm value based on Malaysian setting. The outcome of the study is expected to provide crucial feedback for policy makers in Bursa Malaysia concerning the relevancy of urging listed firms to incorporate Statement of Risk Management and Internal Control in the annual reports.

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