



Original Article

The Impact of Enterprise Risk Management and Sustainability Reporting on Business Performance of Listed Enterprises on Vietnam Stock Market

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Received 12 August 2021

Revised 23 November 2021; Accepted 25 December 2021

Abstract: Enterprise Risk Management (ERM) is becoming a critical issue in the current dynamic environment where organizations have been exposed to more risks from different perspectives. Additionally, Sustainability Reporting also emerges as one of the burning topics in recent management literature. This paper examines whether ERM implementation and Sustainability Reporting could bring any effect on the business performance of Vietnamese listed companies. The paper constructs the index to measure the level of ERM implementation of listed firms in Vietnam and uses the generalized least square method (GLS) to analyze the impact of these two concerns on business performance. The regression results indicate that there are significant positive relationships between ERM as well as Sustainability Reporting and the business performance of listed companies on the Vietnam stock exchange over the period 2016-2019. The result strengthens the previous studies that companies with more sustainability disclosure and more efficient ERM implementation are likely to be better in terms of financial performance and market performance. Moreover, there is growing support for the argument that companies will improve their performance by employing the ERM concept and enhancing sustainability transparency to stakeholders.

Keywords: ERM, Sustainability Reporting, business performance, ROA, Tobin's Q.

1. Introduction

Due to the globalization and COVID-19 pandemic, there is a large increase in the demand for ERM implementation in organizations in

developing countries to face a future full of uncertainty, risks, and challenges. ERM's importance markedly increased because of a series of corporate fraud, financial scandals, increasing the complexity of risks and pressure

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<https://doi.org/10.25073/2588-1108/vnueab.4664>

from regulatory bodies [1]. In practice, the interest in ERM has continued to grow in recent years due to numerous positive influences it brings to firms such as increasing the accuracy in terms of financial reporting and profitability [2], raising the board's awareness of the growing complexed risks in the business environment [3]. Moreover, ERM also emerges as a significant factor that stabilizes the efficiency and enhances business value by managing the company's overall risk portfolio.

Besides ERM, companies all over the world are also concerned about Sustainability Reporting, a burning issue across the globe. Companies are interested in finding out whether promoting sustainability development can lead to beneficial economic outcomes and favorable public image for the business. Recently environmental, social, and economic issues have received much attention and created various challenges, therefore, many firms are trying to build an effective sustainable system under the pressure from their stakeholders to demonstrate responsibility and sustainability [4].

Though, the empirical findings remain inconclusive whether there is a relationship between ERM and business performance as well as there is an impact of Sustainability Reporting on firm outcomes. Particularly, as ERM and Sustainability Reporting are immature in developing economies, these issues have still not been fully investigated with only a few empirical studies, namely Fitriana and Wardhani [5]. The paper provides a modest measurement of ERM (using content analysis method and the dummy variable of the presence of chief risk officers) as well as Sustainability Reporting (using a scale of 0-4 based on criteria developed by Al-Shaer and Zaman [6]).

In the context of Vietnam, most recently, the Ministry of Finance issued Circular No. 96/2020TT-BTC, which requires listed companies on Vietnam's stock market to publish information on sustainable development and risk management. However, the legal and institutional framework in Vietnam is still weak with a lack of shareholder activism, poor

investor protection, and poor regulatory enforcement and monitoring [7]. As a result, Vietnamese listed companies do not prioritize the application of ERM strategy as well as the disclosure of sustainable development. Consequently, these companies publish information about risk management and sustainability for the purpose of building a favorable image to stakeholders. Indeed, in the global business environment with continuous changes, ERM plays an important role in a firm's sustainable development through determining, measuring and controlling sustainability-related risks, which helps to achieve high performance. Similarly, the issuance of sustainability reports and information about risk management also responds to the challenges and growing expectations of the investors and other stakeholders. Especially in the current turbulent time of COVID-19 pandemic, in which Vietnamese listed companies have been facing a rapid decline in their performance, it seems to be extremely necessary for them to find out how the business performance can be steadily improved. Therefore, this study focuses on determining whether applying ERM strategy and sustainability disclosures have positive or negative effect on a firm's performance as an answer for this problem. While most prior studies on these two concerns focused on developed nations such as the United States, United Kingdom, China, Japan, the context of developing countries namely Vietnam drew a few attentions. Besides, Brown et al. [8] concludes that effective ERM can improve the transparency and lead to better management of the business. However, there is little investigation of the parallel effect of ERM and Sustainability Reporting on firm performance. Even though Shad et al. [9] build a model to integrate ERM implementation with Sustainability Reporting to examine their effect on business performance but the role of Sustainability Reporting is moderating only. Therefore, it gives the inspiration for studying the relationship between Sustainability Reporting, ERM and business performance in Vietnam.

Consequently, the results of this study contribute significant implications. First, it provides an integrated measurement of ERM for Vietnamese firms by using the index method based on the disclosure of ERM implementation in the annual reports. Secondly, it also uses an index measuring Sustainability Reporting based on the latest version of GRI standards. Thirdly, it offers empirical evidence of the impact of both ERM and Sustainability Reporting on firm performance, which gives the motivation for managers to enhance their ERM system as well as CSR transparency to stakeholders.

2. Literature review

2.1. Enterprise Risk Management (ERM)

The first modern definition of risks was published by Knight [10], which was generally defined as “the probability of something undesirable happening”. Turning into the 2000s, the definition of risk might be more precise. ISO 31000 (2009) determined risks as the “effect of uncertainty on objectives and also often described by the event, a change in circumstances or a consequence”. One of the most practical and comprehensive definition of the word risk in the business context comes from Hopkin [2], in which a major risk to an organization is “an event with the ability to impact the mission, strategy, project, routine operation, objective, core process, key dependencies or the delivery of stakeholder expectations.”

ERM is considered to manage an organization’s risk with the integrated point of view. ISO 31000 defines ERM as “coordinated activities to direct and control an organization with regard to risk” and defines the risk management framework as a “set of components that provide the foundations and organizational arrangements for designing, implementing, monitor, reviewing and continually improving risk management throughout the organization”. In this study, the authors use the COSO ERM definition as “A process, effected by an entity's board of directors, management and other

personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risks to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives” [11]. ERM framework is organized into five components: (1) governance and culture; (2) strategy and objective-setting; (3) performance; (4) review and revision; and (5) information, communication, and reporting [3].

For the last decades, many critics have been conducted about the quality of the evaluation of the ERM system. As per Liebenberg and Hoyt [12], most researchers have obstacles in identifying whether firms engage in ERM or not. Therefore, it is extremely necessary to have an appropriate measurement of ERM implementation, which helps to provide a general review of the ERM situation of Vietnamese firms.

2.2. Sustainability Reporting

Sustainability Reporting is defined as the measurement, disclosure, and communication of information about sustainability issues which includes sustainable activities, company’s attitudes, and policies [13]. According to the GRI 2016, Sustainability Reporting is an overview of a company’s economic, environmental and social impacts caused by its daily activities. It demonstrates the company’s commitment to a sustainable global economy, which can help organizations measure, understand, and communicate their economic, environmental, social performance, and then set achievements for the firm as well as manage change more effectively. As per Slaper and Hall [14], there are three main dimensions of a firm’s Sustainability Reporting quality including social, environmental, and economic dimensions.

2.3. Previous studies about the effect of ERM and Sustainability Reporting on business performance

ERM and business performance

According to the increasing interest in the subject ERM, the concepts and their possible

linkage to business performance have been of the attention of practitioners and researchers. Overall, the relationship between ERM and the firm's performance was inclusive and lacked clarity, consensus in the findings [15]. Therefore, there is a debate on whether the implementation of the ERM system leads to an improvement in a firm's performance or not within the previous study regarding this relationship.

Smithson and Simkins [16] investigate the question "Is there a relationship between the use of risk management and the value of the firm?" by searching for all of the academic journals or working papers. At that stage, the authors found no evidence of ERM and its impact on the firm value after having reviewed ten studies published since 2001. Beasley et al. [17] establish a study on 123 insurance organizations in North America. They review the market response when firms declare the appointment of a CRO. The study finds that there is no aggregate significant market response to the appointment of CROs for either the financial service or non-financial service firms.

Farrell and Gallagher [18] find the opposite point of view. They use the data from the industry-leading Risk and Insurance Management Society Risk Maturity Model from 2006 to 2011 to measure firms' risk management on a five-point maturity scale. Their results suggest that firms with mature levels of ERM show a higher firm value, which is measured by Tobin's Q. Malik et al. [19] also agrees with a positive relationship between ERM and business performance and examine whether firm performance is impacted by the board-level risk committee in a firm. This study focuses on the keywords such as ERM, chief risk officer, enterprise-wide RM, risk committee, and corporate, integrated, strategic, and holistic risk management in listed firms' annual reports when probing for ERM implementation. The result shows that a firm with better performance of ERM is possible to achieve its strategic objectives such as strategy, processes, reporting, and compliance.

Brown et al. [8] attempted to highlight the need for risk management in all organizations, particularly companies operating at the higher end of the risk spectrum. In this study, due to the complexity of non-financial and financial risks in the current global finance, an appropriate governance mechanism and a risk management committee should be built in order to provide the board with direct contact with ERM at the group management level. The implementation of an effective ERM framework may increase monitoring costs and reduce agency costs for the firms [20]. Therefore, this might be a channel for firms to enhance their business performance.

Sustainability Reporting and business performance

Research examining the direct link between Sustainability Reporting and business performance mainly originated from the stakeholder theory and legitimacy theory. As per stakeholder theory [21], stakeholders can have effects on business decisions, in this way, make firms under more pressure to disclose sustainability issues. The legitimacy theory suggests firms are expected to operate in a way that meets societal expectations [22]. If the entity fails to behave by social standards, it will face threats to its legitimacy. Hence, firms with bad Sustainability practices will face threats of being seen as illegitimate. However, the empirical studies have still been inconsistent and incomprehensive.

On one hand, there are several studies that concluded with no relationship between Sustainability Reporting and business performance. Freedman and Jaggi [23] conclude that there is no evidence for a link between profitability and sustainable issues. Based on an analysis of 195 Spanish companies subject to the Kyoto Protocol, Pajuelo [24] discovers no empirically robust evidence for a significant relationship between companies' financial capacity-measured by profitability, indebtedness, and the disclosure of social and environmental information.

On the other hand, Bayoud et al. [25] results indicate that companies that had a larger amount

of sustainability information in annual reports would exhibit greater concern to enhance financial performance. To be more specific, the growing concern for environmental, consumer, community involvement, and employee benefit would lead to the improvement of the firm's achievement. Fitriana and Wardhani [5] also investigates 324 listed companies in Indonesia, Thailand, Singapore, the Philippines, and Malaysia during the 2013-2018 period and argue that ERM implementation could help the company reduce losses and uncertainties to be able to achieve its goals. Moreover, sustainability with high quality would lead to the improvement of the firm's operation indicators such as returns on assets and effective communication between the company and its stakeholders.

Lastly, there are several studies arguing a negative relationship between Sustainability Reporting and business performance [26, 27]. According to Moneva and Ortas [26], the GRI framework is used as the most effective method for Sustainability Reporting which is based on the stakeholder's engagement in the reporting process. The results of this research indicated that the involvement of a company in these aspects of sustainable development did not link with the level of share returns, which means it brought a negative effect to the business's performance.

3. Research methodology

3.1. Hypothesis development and research model

Based on the Agency theory which is used to explain and identify issues in the relationship between business principles and their agents, an effective ERM should be built with the intention of reducing agency costs which come from the conflicts of interest between these two parties. As a consequence, ERM framework might have an impact on the overall firm's performance and shareholder value by minimizing the self-interested behavior of managers. In the study of [1], they conduct a hypothesis that the implementation of a proper ERM system will have a significant positive effect on business

performance, though imitating and maintaining an ERM system in an organization might be costly. Additionally, Malik et al. [19] also concluded that the company's performance would be strengthened by the establishment of an ERM system. Taking into consideration of the theory and existing studies, the study proposes the following hypothesis:

H1: Implementing an ERM system will have a positive impact on business performance (represented by ROA).

Based on stakeholder theory, sustainability disclosure could create value for both the firms and the stakeholders [28]. The essence of stakeholder theory is based on the belief that the main objective of organizations is to create and maximise stakeholder's value [29]. In line with the stakeholder's theory, Sustainability Reporting incorporates both internal and external factors into consideration [9]. Internal factors relate to economic sustainability and company's internal abilities toward sustainable development such as vision, mission and employee strategy. Social and environmental sustainability are considered as external factors which maintain the firm's status, reputation and reliability with the investors and society [30]. The reporting on economic, social and environmental aspects means that the firms accomplish the stakeholder's involvement and their daily activities match with the value system of society and environment. According to [5], a positive effect of Sustainability Reporting in a company's development was proved in the Asia context. Therefore, this study proposes the following hypothesis:

H2: Sustainability Reporting will have a positive impact on business performance (represented by ROA and Tobin's Q).

The research model is illustrated as below:

$$\text{Business performance}(it) = \alpha_1 \text{ERM}(it) + \alpha_2 \text{SR}(it) + \alpha_i \text{Control variables}(it) + \varepsilon(it)$$

Sample and data collection

The population of this research is the listed firms on Vietnam stock market and its sample is 150 Vietnamese companies in nine main industries including industrial, consumer goods,

supply of materials, food and beverage, utilities, banking, pharmaceutical, information technology and petroleum industry during the 2016-2019 period. These four years are chosen because since 2016, Vietnam's government has endorsed several programs about sustainable development according to the National Integrated Finance Framework, outlined at the Conference Addis Ababa International. This research uses a non-probability sampling method and the sample has been determined based on the firm's great tendency to publish information about ERM and sustainability. These companies have ability to provide details about identification and solutions for incoming risks as well as about sustainable development such as company's strategy, management structure, corporate social responsibilities and several sustainable activities. The information regarding these two concerns has been obtained through keyword searches in the annual reports of these listed firms.

3.2. Variables and measurement

Business performance

In this research, business performance is assessed through the use of two main financial performance measures, one accounting based and one market based. The accounting-based measure is ROA which is widely utilized for evaluating the firm's economic performance [31]. In our study, ROA is computed by taking Net Income over Total assets. Besides, we use one market based measurement of business performance as Tobin's Q, which is calculated as (Market value of equity + Book value of liabilities)/Book value of Total assets, in which, the market value of equity = share price x the number of outstanding shares.

ERM

In this study, we use ERM index to measure ERM. According to Mikes and Kaplan [32], ERM index was formed by each author through ERM-specific components which secondary data is used to find. ERM index uses the multiple ERM dimensions to measure ERM implementation by searching publicly available

information [33]. ERM index can be developed based on several international ERM frameworks such as COSO, ISO 31000... and by gathering each type of risk or risk components. Gordon et al. [34] had a similar measurement strategy when they determined an ERM index's categories such as strategy, operation, reporting, and compliance, and data gathered from publicly published information. In order to build an appropriate and effective ERM index in the Vietnam context, this study bases on two previous indexes Sithipolvanichgul (2016)'s ERM evaluation index [35] and Lundqvist's survey dimension [36]. The index includes Internal Environment (maximum 5 points), Event identification (maximum 5 points), Risk assessment (maximum 5 points), Risk response and Control activities (maximum 4 points), Information and Communication (maximum 3 points). Each item in each part is measured based on 0-1 scale. The maximum points for this index is 22. Data is collected from annual reports and websites of the listed companies. The score for ERM of each company is measured as follows:

$$\text{ERM index} = \frac{\text{Scored points}}{\text{Maximum points}}$$

Sustainability Reporting

The authors use the index developed by Anh [37]. The index contains the information disclosed by contents as follows: (1) Information disclosed on governance structure (maximum 6 points); (2) Information disclosed of the vision, the strategic commitment of managers, and management mechanisms in the enterprise (maximum 6 points); (3) The reliability of the report (maximum 6 points); (4) Information disclosed of CSR outcome indicators on the economy (maximum 12 points), environment (maximum 32 points), and society (maximum 80 points). The total score of the index is 142 points.

The Sustainability Reporting index, which is measured as follows:

$$\text{Sustainability Reporting index} = \left(\frac{\text{Scored points}}{\text{Maximum points}} \right) * 100\%$$

Firm size

There is a positive relationship between firm size and firm's performance which was proved

in previous studies. The larger firm will have more potential opportunities because they can reduce the information asymmetry among the investors, which can increase the performance as well as expand a company [38]. However, Lee [39] shows the nonlinear relationship meaning that gains in profitability are reduced for larger firms. Therefore, firm size (SIZE) is an important control variable of the relationship between the ERM, Sustainability Reporting and firm's performance. In this study, firm size is measured by the natural logarithm of firm's total assets.

Tangible assets

Lee [39] indicates that capital intensity (i.e. fixed assets scaled by total revenue) is significantly but negatively associated with firm value as capital intensity may increase firm risk. On the other hand, the strength of an entity's tangible assets is also a useful indicator of the borrowing capacity of the firm as in the event of liquidation these assets can be realized by creditors. Accordingly, the quality and quantity of tangible assets acquired by firms in certain industries indicate the competitive strength of the firm's performance. Hence, the tangible assets are a control variable for the model and measured as the fixed asset divided by total asset.

Financial leverage

High leverage ratio leads to the high cost, higher financial risk for the firms, then lower profitability. However, Salim and Yadav [40] found out the relationship between financial leverage and performance to be negative when performance was measured using Return on

Assets (ROA) and Return on Equity (ROE) and positive when using Tobin's Q ratio. Therefore, it is reasonable for financial leverage to be one of the main control variables in this study. Financial leverage is measured by the percentage of total debt to total assets.

4. Findings

4.1. Descriptive statistics

Descriptive statistics regarding all the variables employed in the regression models illustrated in Table 1. During the four-year period, ROA has the mean value of 0.054 or 5.4% for all the companies with minimum value of -41.81% and maximum value of 46.79%. Because the ROA is calculated by the ratio of net income to total assets, the positive of the mean value means that on average, most of the chosen listed companies gain profit during the period shown. Regarding the control variables, LEV, which is measured by the ratio of total debt to total assets, has the mean of 0.579. This demonstrates that over a half of the firm's assets were funded by debt on average. Another control variable is SIZE, which represents the total assets of the company. SIZE has a relatively high mean value of 29.46, while the minimum value is 26.23 and maximum value is 34.85. Additionally, the average value of tangible assets is 0.23, ranging from 0.0001 to 0.924. Lastly, the mean market value is 1.217 with the lowest value of 0.18 and highest value of 15.95.

Table 1: Description of statistic of variables

Variable	N	Mean	Std. Dev.	Min	Max
Sustainability Reporting	600	0.1712	0.0889	0.007	0.5563
ERM	600	0.4701	0.21322	0.0454	1
ROA	600	0.0545	0.07406	-0.4181	0.4679
Tobin's Q	600	1.2170	1.0916	.1819374	15.9504
LEV	600	0.5790	0.2316	.0153231	1.2945
SIZE	600	29.46444	1.5921	26.23448	34.8573
TANG	600	0.2371	0.2218	0.0001673	0.9244

Source: Author's calculation.

Table 2: Correlation matrix among variables

	ERM	SR	ROA	LEV	SIZE	TANG	Tobin's Q
ERM	1.0000						
SR	0.4574	1.0000					
ROA	0.3617	0.1791	1.0000				
LEV	-0.1544	-0.1312	-0.5494	1.0000			
Size	0.3980	0.2757	-0.1624	0.4264	1.0000		
Tang	-0.1260	-0.0298	0.1120	-0.2697	-0.3118	1.0000	
Tobin's Q	0.2520	0.2660	0.5788	-0.1260	-0.0293	0.0517	1.0000

Source: Author's calculation.

4.2. Testing for reliability and validity

We have calculated the Cronbach's Alpha value of ERM and Sustainability Reporting, which are 0.88 and 0.86 respectively. According to Field [41], the alpha value needs to be above 0.7 to be acceptable. Additionally, all the indicators in the index have Cronbach's alpha higher than the accepted level, with the item-test correlation not less than 0.3. Therefore, in this study, the internal consistency of two indexes for measuring ERM implementation and Sustainability Reporting is considered to be valid and reliable.

4.3. Correlation analysis

According to Table 2, ROA and Tobin's Q both have the positive relationship with ERM and Sustainability reporting. A positive correlation of ERM with ROA and Tobin's Q predicting that ERM has a positive relationship with the firm's financial performance. Similarly, a positive effect of Sustainability Reporting on a firm's performance is also indicated.

We also check the multicollinearity problem by examining the correlation coefficients of every pair of the predictors and their Variance Inflation Factor (VIF). All of the VIFs are smaller than 1.66, which is far smaller than the threshold of 10, suggesting that multicollinearity isn't a problem with our dataset [42].

4.4. Regression analysis

The study used ordinary least method (OLS), random effect regression method (REM) and fixed effect regression method (FEM) to investigate the effect of ERM and SR on business performance. The study uses Breusch - Pagan Lagrangian Multiplier test (LM test) to select REM/FEM or OLS method. Statistical results all show that REM/FEM models are selected. To choose between REM and FEM models, the authors use Hausman test. With the p-value = 0.000, FEM was chosen for both ROA and Tobin'Q variable. We also run tests and find out the problem of serial correlation and endogeneity of FEM. Finally, we fix it by running the GLS model and use the results of this model to discuss the results.

Table 3: Regression results

Dependent Variable	FEM		REM		GLS	
	Tobin's Q	ROA	Tobin's Q	ROA	Tobin's Q	ROA
SR	2.728*	0.0998	2.320***	0.0484	0.976***	0.0960***
	[1.81]	[1.52]	[3.85]	[1.20]	[4.08]	[13.87]
ERM	2.019**	0.328***	1.103***	0.174***	0.335***	0.106***

	[2.53]	[9.41]	[4.19]	[9.24]	[4.21]	[32.87]
TANG	0.712	0.0462	0.0363	0.00731	0.00384	-0.00257
	[0.91]	[1.35]	[0.16]	[0.44]	[0.01]	[-1.26]
Size	-1.622***	-0.0457***	-0.144***	-0.0143***	-0.0725***	-0.00849***
	[-9.67]	[-6.23]	[-3.69]	[-4.86]	[-5.60]	[-18.90]
Lev	2.583***	-0.120***	0.0185	-0.135***	0.192**	-0.133***
	[3.19]	[-3.40]	[0.07]	[-7.32]	[2.39]	[-45.59]
_cons	45.88***	1.293***	4.512***	0.471***	2.736***	0.323***
	[9.63]	[6.21]	[4.30]	[5.88]	[8.54]	[25.91]
N	600	600	600	600	456	600
R-sq	0.255	0.38				

Note: Standard errors in parentheses; ***p < 0.01, **p < 0.05, *p < 0.1

Source: Author's calculation.

5. Discussion

From the regression results in Table 3, it can be concluded that there is a positive relationship between ERM and business performance ($\beta = 0.335$ for Tobin's Q and $\beta = 0.106$ for ROA at the significance level of 1%). Hence, the H1 hypothesis is accepted. This can be connected to the studies of Kraus and Lehner [15] in which they also found that the impact of ERM on the firm's value creation was positive. The results are also in line with [1], [19], and [43]. Moreover, ERM index scores slightly increase over the years observed across the majority of the sample. Consequently, Vietnamese listed firms are paying more attention and concern about the risk management system, which seems to be a potential method for the Vietnamese firms to reduce the likelihood of negative coming risks, especially in the COVID-19 pandemic period when the industry is under a lot of pressure. The results also support the agency theory to demonstrate the connection between ERM and business performance, because ERM could actually protect and improve shareholders' interest.

The results of regression analysis show that there is a significant relationship between Sustainability Reporting and business performance which is measured both by ROA (β

= 0.0960 at the significance level of 1%) and Tobin's Q ($\beta = 0.976$ at the significance level of 1%). Therefore, the H2 hypothesis is accepted. This is congruent with the findings of Bayoud et al. [25], Laska and Maji [44]. Furthermore, the descriptive results show that Vietnamese listed firms show a rising awareness in the quality of Sustainability Reporting with the average scores increasing over the period shown. Vietnamese firms mostly lack the report about their human rights- social performance indicators, as well as the sustainability product to protect the customers.

Among other control variables, the results show Size is significantly and negatively associated with business performance measured both by ROA and Tobin's Q. This can be explained by the agency theory, in which large firms may be controlled by managers pursuing self-interested goals and therefore they may act at the shareholder's cost. Therefore, the smaller size firm may make use of the resources provided and lower the agency cost, leading to better performance.

Relating to Leverage, with the $\beta = 0.192$ at the significance level of 5%, it shows a positive relationship with Tobin's Q but a significant negative relationship with ROA. The negative link can be reasoned by the trade-off theory when higher debt with lower cost can be traded-off by higher financial distress cost, causing the

profitability to go down. However, the market performance (represented by Tobin's Q) shows a higher expectation of the investor for leveraged firms.

The study concluded with the positive effect of ERM and Sustainability Reporting on business performance of 150 listed companies in Vietnam. This finding can be connected to the study of [5] which also proved that ERM and Sustainability Reporting quality can enhance the company's performance by examining 324 non-financial listed companies in Asia. However, this result does not support the findings of [45] and [46] when they argued no relationship between ERM implementation and firm's performance. There are some principal differences between this study and several related research in this area. Firstly, the association between ERM, Sustainability Reporting and financial performance has not previously been studied in Vietnam. This study focuses on these two concerns with the purpose of filling these gaps and finding out a method to improve the performance of Vietnamese firms. Secondly, it provides an integrated measurement of ERM by using index method. Additionally, this study focuses on listed companies in nine different industries instead of examining non-financial companies [5] or manufacturing companies [46].

6. Conclusion

ERM and Sustainability reporting are gradually turning into critical issues in business management recently. Over the decades, there has been a large number of studies concerning the effect of ERM and Sustainability Reporting on the firm performance with inclusive results. This study provides a more comprehensive understanding of the effect of ERM as well as Sustainability Reporting on the business performance of listed firms on the Vietnam stock exchange.

In terms of theoretical implications, the paper strengthens the previous studies relating the significant impact of both ERM and Sustainability Reporting on business

performance. It gives emphasis that the two factors of ERM and Sustainability reporting in parallel way to enhance the business performance. Instead of implementing ERM only, if firms combine with strengthening the CSR reporting, the effect on firm will much better. It is also the first paper measuring the ERM implementation of Vietnam listed firms in a comprehensive and methodological manner, by which we use the assess the situation of ERM of Vietnam listed companies.

For practical implications, these findings provide a better realization of the important role of ERM and Sustainability Reporting on firm performance, encouraging managers to focus on building up a robust ERM system as well as improving the Sustainability Reporting with a view to enhancing overall business performance. The findings also suggest enhancing the implementation of ERM and Sustainability Reporting to achieve better financial performance. One suggestion for improving the quality of sustainability reporting is concerned with the reporting of social performance in aspects of human rights and customer's safety. Furthermore, it is necessary for the government of Vietnam to develop stricter regulations and have policies to encourage and monitor the firm's sustainable activities.

There were several limitations associated with the study, which should be taken into consideration. Firstly, the sample of 150 listed firms on Vietnam stock market may not be representative of all other listed companies. Consequently, the study lacks the information about the long-term business performance to see the long term impact of ERM and Sustainability reporting. Lastly, the obtaining information from the annual reports of listed firms to measure ERM implementation and Sustainability Reporting may bear some subjective assessments.

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