

ENTERPRISE RISK MANAGEMENT AND FIRM FINANCIAL PERFORMANCE: AN EMPIRICAL EVIDENCE OF PAKISTAN

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Abstract

This study aims to examine the role of Enterprise risk management (ERM) with firm financial performance. For this motive, data is collected from non-financial firms of Pakistan from the period of 2010 to 2017. To test the proposed hypothesis, panel regression with the fixed effect is applied to confirm the relationship between ERM and firm financial performance. The analysis outcomes depict that those firms with one integrated section for risk control resulted in mitigating the risk efficiently, which eventually enhanced the firm's financial performance. In contrast, those firms that adopted the silo approach mean that not having a consolidated system of managing risk reveals a negative relation with the firm's performance. Additionally, enterprise risk management decreases costs compared to firms whose risks are managed by the individual department. Finally, the findings advised management that implementing the ERM program resulted in resolving the agency conflicts.

Keywords: Enterprise Risk Management, Silo Approach, Agency Conflicts, Financial Performance

1. Introduction

The different firms adopt Enterprise Risk Management (ERM) approach to protect against the uncertainty that happened in the financial market. Enterprise risk management programs decrease the indirect and direct cost of financial constraints and control the inconsistency of the firm's income (Florio & Leoni, 2017). ERM program in the corporation is now considered as the portion of the credit rating and different universities also teaching the enterprise risk management course due to its importance in the market (Grace, Leverty, Phillips, & Shimpi, 2015). ERM is used as the modern technique to protect the overall financial distress of the firms as compared to the traditional methods, which are only focusing on the specific risk associated with the firms. ERM practices encourage the awareness to look at the risk while doing the planning of the operational decisions. ERM program integrates the overall effort of the corporation about risk management instead of the individual department, which are separately taking measures to minimize the risk. Individually management of risk by each department decreases the coordination among the departments. At the same time, the overall ERM is a modern technique to efficiently supervise the overall risk of all corporation departments (Hoyt & Liebenberg, 2011). The ERM program works in an integrated manner, decreasing the chances of duplicating expenditures for reducing the risk. This advantage of the ERM program enhances the operational efficiency and the performance of the firms.

ERM also adds value in such a way that it provides the overall aligned depiction of the risk profile of the firms (Ping & Muthuveloo, 2015). The integrated role of ERM offers benefits to the outsider users like banks, government, shareholders, rating agencies, etc., to quickly assess the measures for managing the risk that the overall firms have (Agustina & Baroroh, 2016). ERM implementation in the firm provides a positive signal into the market that management is concern about minimizing the risk and working for the better performance of the firms. Outsiders receive similar information regarding the measures adopted by the firm for reducing the risk through enterprise risk management programs. ERM facilitates the top level of management at the macro level for measuring and detecting the level of risk the firm can be exposed to and on behalf of micro-level enterprises, risk management programs ensure that all risk and return the middle level and employees properly evaluate tradeoffs before making any decision regarding risk management (Nocco & Stulz, 2006).

Many firms that do not practice risk management suffer financial distress due to high volatility prevail in financial markets. So, this study emphasizes that the corporation has the proper integrated setup and planning for managing the risk, resulting in the enhancement of the corporation's financial performance. Numerous researches had been conducted on the quality of the ERM programs. On the other hand, very few studies were conducted to examine the ERM program's impact on the market and the firm's financial performance (Bromiley, McShane, Nair, & Rustambekov, 2015). Few studies used the critical strings for the ERM program identification in the annual report of the company such as "Chief Risk Officer (CRO)", "Risk Committee", "Strategic Risk Management", "Holistic Risk Management", "Consolidated Risk Management" and "Integrated Risk Management" (Hoyt & Liebenberg, 2011). This study aims to identify the role of the ERM in the non-financial listed firms with respect to the firm financial performance. This study discovers the ERM program's effectiveness regarding the monetary performance of the firm in the context of Pakistan. Non-financial firms of the KSE-30 index are chosen for the research. The data for the analysis of this study consists of 8 years from 2010 to 2017. The reason for selecting Pakistan for this study is because the highly volatile financial environment

prevails in Pakistan. To overcome the uncertainty issues the management should take effective measures like the implementation of enterprise risk management. Furthermore, in this study, it is also observed that other firms of Pakistan that are not engaged in enterprise risk management programs affect firm financial performance.

The following section discusses the literature review and hypotheses trailed by the methodology section. In the last, results in discussion and conclusion are presented.

2. Literature Review and Hypothesis Development

Enterprise risk management works as the full measure for minimizing the risk into the firms, not on the silo approach base. The silo approach for reducing the risk is inefficient because it may cause the duplication of work and further, it causes a decrease in the coordination among the different departments (Hoyt & Liebenberg, 2011). ERM provides information to stakeholders about the general practices done by the corporation for managing the risk (Silva, Silva, & Chan, 2019). ERM implementation in a firm enhances operational excellence by mitigating risk (Muazu, Tasmin, & Javaid, 2021). Numerous companies adopt ERM as a comprehensive approach strategy for controlling various risks, which enhances the firm and shareholder value (Shatnawi & Eldaia, 2020).

Moreover, holistic risk management practices (ERM) augment customer trust and provide a competitive advantage by signaling in the market that management is appropriately managing the risks (Saeidi et al., 2021). Myers and Read (2001) have researched the insurance companies through which they analyzed that those firms which have a consolidated risk management system can take better economic decisions. Further, their results depict that ERM possessing firms show better decisions regarding the investment in a specific project. Zou, Isa, and Rahman (2019) stated that in manufacturing companies, ERM adds value to the corporation by reducing the firm's cost, which eventually enhances the firm's efficiency. Florio and Leoni (2017) have researched the Italian listed firms to overlook the influence of ERM on the firm's performance. OLS is applied to look at the relation of ERM measures with financial performance. The findings of their research revealed that those firms who adopted the advanced measure of ERM such as risk committee and the procedure of assessing the risk perform better on the behalf of market evaluation and financial performance as well. Goman, DAROMES, and Tangke (2021) stated that ERM facilitates the management for identifying the potential risk and return from any project. Ellul and Yerramilli (2013) have observed the relationship of ERM with financial performance. The findings depict a negative relationship that prevails in practices of ERM and the firm's financial performance. They revealed that the negative relation is due to the ERM measures minimizing the risk-taking activities of the firm, which cause low-level financial performance in the context of the shareholders having diversified nature. Gatzert and Martin (2015) conducted a study on cross-sectional wise to point out those characteristics of firms that influenced the enterprise risk management system of any firm. The output of their results depicts that sector, size and the diversification on behalf of international positively impact the ERM system of a firm. On the contrary, leverage of a firm negatively affects the ERM system. Additionally, the results of their linear regression of year 2013 show that ERM is positively influenced the firm performance which is measured through Tobin's Q.

Shad, Lai, Fatt, Klemeš, and Bokhari (2019) have researched the Malaysian Companies from 2013 to 2017 to quantify the ERM practices impact on the business performance measured by EVA analysis under the moderating effect of practices of sustainability performance. Their

research findings through the OLS technique show that ERM practices under the better sustainability performance practices enhance the business performance by minimizing the cost through symmetric information. Callahan and Soileau (2017) have done their research on the ERM framework and its impact on the operating profit of the firm on US firms from 2006 to 2008. The findings OLS results of their study depict that those firms who have the mature ERM program perform better and generate more operating profits as compare to those firms who have less mature program ERM programs. They further disclosed in their research by controlling the factor of corporate governance ERM program more enhance the operating profit. McShane, Nair, and Rustambekov (2011) examined the role of ERM with the firm performance. They discovered the mixed findings. The results of their study on S&P depict that those firms who have one ERM enhance the economic value of the corporation. On the other side they also point out excess rise in the level of risk management practices do not enhance the further value of the firm.

Abdullah, Janor, Hamid, and Yatim (2017) stated during the research on Malaysian base technology firms from 2004 to 2012 that the early age of the implementation of the ERM program in a corporation resulted in to decrease in the firm value. Quon, Zeghal, and Maingot (2012) have researched the relation of ERM with the firms' economic performance of non-financial firms. Their study comprised the 156 non-financial companies listed on the Toronto Stock Exchange through financial from 2006 to 2009. The findings of the research depict that ERM practices do not enhance the performance of the business. Bevan, Estrin, and Meyer (2004) studied Enterprise risk management (ERM) in European transition economies. Panel data is used from 1994 to 2000 to empirically analyze the role of enterprise risk management in Central and Eastern European Countries for proximity and factor costs. Empirical results show that ERM has a positive influence on the labour cost of the corporation. Wu and Chiang (2008) attempted to discover Enterprise risk management practices that can encourage economic development. The empirical analysis reasoned that ERM plays a characterizing job in the progress of the economy. This study consists of 62 countries from the year 1975 to 2000. The regression outcomes found that ERM depends significantly on the initial GDP and human capital in firms. Those firms with significant growth and high human capital show a positive relationship with Enterprise risk management (ERM). Falkner and Hiebl (2015) investigate and discover SMEs' risk management and see the impact on business strategies. To examine the relationship data is collected by the researchers from 1984 to 2014, the result shows that ERM influences positively on the financial process. Colquitt, Hoyt, and Lee (1999) in their research identifying the connection between ERM and firm cost of capital by applying the OLS regression model on data. Their study shows that ERM has a significant positive influence on the corporation's cost of capital. Tsai (1994) studied the significant relationship between Economic growth and Enterprise risk management (ERM). Using a simultaneous equation model to finds the problems. Data are calculated as an arithmetic average for the two time periods (1975-1978), (1983-1986). The output of the analysis depicts that using the ERM program had a positive impact on economic growth. In the long-run, Enterprise risk management (ERM) and growth rate had negatively correlated. In the short run, any increase in Enterprise risk management (ERM) enhances the investment, consumption, and economic growth, which ultimately impacts positively on firm financial performances. Berry-Stölzle and Xu (2018) have done their study to examine the relation of cost of capital with the the ERM program in the firms. To conduct this study data is collected from 1996 to 2012 from 250 insurance companies in the USA. The finding of OLS shows that those firms follow ERM program caused to reduce the cost of the capital.

The main focus of this study is to determine the constructive role of company management in enhancing the wealth maximization of the shareholders by removing agency conflicts. This study focuses on the agency theory, which means that management resolves the principal-agent problem by implementing an ERM program. ERM plays an essential role in increasing shareholder wealth by effectively managing risk, ultimately resolving the agency problem. The literature mentioned earlier regarding ERM regarding the firm's financial performance indicates that ERM relation with performance goes bi-directionally, which means that ERM plays a constructive or destructive role regarding firm efficiency. This study also contributes to the existing literature regarding the part of ERM for firm performance in the context of non-financial firms in Pakistan. Hypotheses are developed on behalf of the previous studies as mentioned in the literature. Hypothesis 1 is this study's main hypothesis, and Hypothesis 2 is the robustness hypothesis of our main Hypothesis 1.

Hypothesis 1: There is a significant impact of ERM on the firm's financial performance

Hypothesis 2: There is a significant impact of NONERM on the firm's financial performance

The following segments explain the methodology, results discussion and conclusion.

3. Methodology

3.1 Sample Description

The population of this study consists of all the non-financial listed companies in the Pakistan stock exchange. Initially, 24 non-financial firms are selected using the purposive sampling technique on the behalf of market capitalization listed in the KSE-30 since 30 June 2018. The reason for not choosing the financial firms is the difference in operational structure and the procedures between financial and non-financial firms. Three non-financial are removed from the sample due to the unavailability of the annual reports and share price data. The final sample of this study consists of 21 nonfinancial firms that are listed in the KSE-30 index of the PSX from 2010 to 2017. The rationale for starting the data collection from 2010 was that many firms observe that after the Global Financial Crisis (GFC), a holistic approach to risk management (ERM) was required. The total observations of this study consist of 168.

This study is based on quantitative data. So quantitative analysis techniques are used on the data. The data of this study is over time with different cross-sectional so, it's panel data. This study conducted a descriptive analysis of the data first. Then for analysis of the model's panel regression technique is applied by using the fixed effect because when we control the industry effect in our analysis and our sample is not random, then panel regression convert into panel regression with fixed effect (Dougherty, 2011). Furthermore, different diagnostics are conducted for the validity of the model.

3.1 Variable Description

In Table 1, the variable description is provided. In this research, ERM and NONERM were selected as the independent variable and Tobin's Q is taken as financial firm performance on the market base as the dependent variable. In addition, control variables are selected as firm size, leverage, sales growth, board independence, size of the board, return on assets and beta of the firm for a specific year are taken.

Table: 1		
Variable Description		
Variable	Abbreviations	Measurement
Enterprise Risk Management	ERM	Use Dummy variables 1 and 0. For example, if the company annual report contains the following words “Chief Risk Officer (CRO)”, “Risk Committee”, “Strategic Risk Management”, “Holistic Risk Management”, “Consolidated Risk Management” and “Integrated Risk Management” then mark 1 otherwise 0 (Hoyt & Liebenberg, 2011).
Silo Approach	NONERM	Use Dummy variables 1 and 0. For example, if the company annual report does not contains the following words “Chief Risk Officer (CRO)”, “Risk Committee”, “Strategic Risk Management”, “Holistic Risk Management”, “Consolidated Risk Management” and “Integrated Risk Management” then mark 1 otherwise 0 (Hoyt & Liebenberg, 2011).
Firm’s Financial Performance (Tobin’s Q)	TBNQ	Overall MV of the equity + Book value of the liabilities over the total book value of the assets
Firm Size	FMSZ	Ln of the total assets on the book value of a specific year.
Board Size	BOSZ	Natural log of the total members are in a corporate board
Sales Growth	SGR	Percentage change in sales with respect to years
Financial Leverage	FLEV	Financial liability over total assets.
Beta	BTA	It is obtained by applying the regression analysis on market data with individual stock data for a specific time period.
Independence Board	INDR	Independent directors over the total directors.
Return on Assets	ROA	Net profit is divided by the total assets.

3.2 Proposed Model

$$TBNQ_{it} = \beta_1 ERM_{it} + \beta_2 INDR_{it} + \beta_3 BOSZ_{it} + \beta_4 FMSZ_{it} + \beta_5 FLEV_{it} + \beta_6 ROA_{it} + \beta_7 SGR_{it} + \beta_8 BTA_{it} + Industry_{it} + C_{it} + \varepsilon_{it} \dots \dots \dots (1)$$

In Model 1, $TBNQ_{it}$ is taken as the dependent variable and ERM_{it} is taken as the independent variable with the other control variables explained in the operational model. Thus, β_2 to β_8 are presenting the coefficient of the control variables.

$$TBNQ_{it} = \beta_1 NONERM_{it} + \beta_2 INDR_{it} + \beta_3 BOSZ_{it} + \beta_4 FMSZ_{it} + \beta_5 FLEV_{it} + \beta_6 ROA_{it} + \beta_7 SGR_{it} + \beta_8 BTA_{it} + Industry_{it} + C_{it} + \varepsilon_{it} \dots \dots \dots (2)$$

In Model 2, $TBNQ_{it}$ is taken as the dependent variable and $NONERM_{it}$ is taken as the independent variable with the other control variables as explained in the operational model. Thus, β_2 to β_8 are presenting the coefficient of the control variables.

The remaining sections of this study explain the results discussion and the conclusion.

4. Results and Discussion

Table 2 Descriptive Statistics

Variable	Obs.	Mean	Standard Deviation	Min	Max
TBNQ	168	1.752	1.287	0.472	9.263
ERM	168	0.375	0.485	0.000	1
NONERM	168	0.625	0.485	0.000	1
INDR	168	0.255	0.214	0.000	1
BOSZ	168	2.251	0.294	1.791	3.091
FMSZ	168	24.861	1.134	21.783	27.164
FLEV	168	0.549	0.370	0.024	0.9853
ROA	168	0.0974	0.0911	-0.0809	0.405
SGR	168	0.1799	0.3940	-0.4836	2.510
BTA	168	1.0875	0.3466	0.2531	1.749

Table 2 represents the summary of the variables are used for this study. The total observations are 168. In this table, the mean of variables, the maximum value of a specific variable, the minimum variable, and the standard deviation are mentioned. For example, the mean value of the dependent variable (Tobin’s Q) is 1.752, with a variation of 1.287. Additionally, the average value of the leading independent variables ERM and NONERM is 0.375 with a deviation of 0.485 and 0.625 with a deviation of 0.485, respectively.

Table 3: Correlation matrix

	TBNQ	ERM	INDR	BOSZ	FMSZ	FLEV	ROA	SGR	BTA
TBNQ	1								
ERM	-0.058	1							
INDR	0.008	0.235**	1						
BOSZ	0.171**	-0.090	0.370***	1					
FMSZ	-0.220***	0.209***	0.339***	0.264***	1				
FLEV	0.144*	-0.084	-0.098	0.254***	0.036	1			
ROA	0.488***	0.034	0.222***	-0.034	-0.133*	-0.206***	1		
SGR	0.571***	-0.183**	-0.045	0.171**	-0.142*	0.082	0.051	1	
BTA	-0.145*	0.116	0.056	-0.005	0.206***	-0.070	-0.276***	0.045	1

***, **, * significance at 1%, 5%,10% respectively

According to the table, 3 correlations among the independent variables is less than 0.85, which means there is no issue of multicollinearity among the independent variables (Schroeder, Lander, & Levine-Silverman, 1990).

Table 4: Multicollinearity Test

Variables	VIF
ERM	1.17
INDR	1.50
BOSZ	1.44
FMSZ	1.31
FLEV	1.17
ROA	1.26
SGR	1.11
BTA	1.17

Concerning table 4, there is no issue of multicollinearity among the independent variables because all the value of VIF is below 5(Cohen, Cohen, West, & Aiken, 2003).

Table 5: Panel regression with Fixed Effect

Variables	Model
ERM	0.205** (0.047)
INDR	-0.606** (0.028)
BOSZ	0.985*** (0.000)
FMSZ	-0.061*(0.082)
FLEV	0.734 (0.000)
ROA	6.233*** (0.000)
SGR	1.493*** (0.000)
BTA	0.088 (0.743)
Industry	Yes
Adjusted R ²	0.60
F-Statistics	30*** (0.000)

Note: In this analysis, Tobin's q (TBNQ) is taken as a dependent variable. The F-statistic represents the fitness of the whole model. ***, **, * significance at 1%, 5%,10% respectively. Values in the parenthesis indicate the p-value.

Table 5 represents these results of Panel Regression with the model's fixed effect, which presents that R square is 0.60, which means that the independent variable explains 60% of the variation in the dependent variables of the model. The finding of this output depicts that the Enterprise Risk Management (ERM) program positively and significantly influences the firm performance, which is measured through Tobin's Q (H_1 accepted). The positive coefficient of ERM indicates that an increase in ERM practices (Integrated Risk Management Approach) increases the firms' financial performance. This result shows that firms that have one program or set up in the firm to manage the risk resulted in a progressive way to enhance the firm's performance. ERM programs in listed firms of Pakistan reduce the cost of managing risk by integrating the department's efforts on one page for managing the risk. Furthermore, it also gives a positive signal to the market that the company's management is concerned about the

shareholders' wealth, which ultimately leads to the firm's better financial performance. Many previous studies also find this result (Gates, Nicolas, & Walker, 2012; Hoyt & Liebenberg, 2011; Muazu et al., 2021; Shad et al., 2019).

Moreover, research results show that having independent directors on a board adversely influences a company's financial performance. Fewer independent directors are nominated on corporate boards in Pakistani companies, stimulating managers to make financial decisions around their economic interests, leading to poor business performance (Sheikh, Wang, & Khan, 2013). On the other hand, the ROA and growth of the sale of a firm positively and significantly impact the firm's performance, which means that an increase in these two independent variables enhances the financial performance by encouraging the shareholders to invest in the firm. Board size shows a positive and significant relation with Tobin's Q, which indicates that financial performance can be enhanced with an increase in the directors in a board because each director comes with new skills and experience. On the other hand, the firm's size shows a negative and significant relationship with the financial performance, which depicts large firms ignore the rights of the minority shareholders, which gives a negative signal and cause a decrease in the firm performance (Olawale, Ilo, & Lawal, 2017). Financial leverage indicates a positive and significant influence on a firm's financial performance because debt provides the extra financing source for the development and growth of the firm and tax shield protection.

4.1 Robustness Analysis

Besides, to verify our findings, the independent variable ERM is replaced with NONERM. However, NONERM firms are not following the integrated risk management program, which means these firms are following the silo approach. Moreover, the silo approach implies that firms are managing the risk on each departmental based.

Table 6: Multicollinearity Test

Variables	VIF
NONERM	1.17
INDR	1.5
BOSZ	1.44
FMSZ	1.31
FLEV	1.17
ROA	1.26
SGR	1.11
BTA	1.17

Regarding table 6, there is no issue of multicollinearity among the independent variables because all the value of VIF is below 5(Cohen et al., 2003).

Table 7: Panel regression with Fixed Effect

Variables	Model
NONERM	-0.216** (0.018)
INDR	-0.610** (0.028)
BOSZ	0.992*** (0.000)
FMSZ	-0.052(0.1216)
FLEV	0.740 (0.000)
ROA	6.255*** (0.000)
SGR	1.498*** (0.000)
BTA	0.083 (0.756)
Industry	Yes
Adjusted R²	0.60
F-Statistics	30*** (0.000)

Note: In this analysis, Tobin's q (TBNQ) is taken as a dependent variable. The F-statistic represents the fitness of the whole model. ***, **, * significance at 1%, 5%, 10% respectively. Values in the parenthesis indicate the p-value.

Table 7 represents the panel regression with fixed effect results related to model 2. R square is 0.60, which means the study's independent variables explain a 60% variation in the dependent variable. The finding of this output depicts that those firms that follow the Silo approach, which means not engaged in Enterprise Risk Management (ERM) program, negatively and significantly influence the firm financial performance, which is measured through Tobin's Q (H₂ accepted). The negative coefficient of NONERM represents that increase in NONERM (Silo Approach) practices leads to a decrease in the firms' financial performance. This result shows that those firms of Pakistan who do not have one program or set up in the firm to manage the risk cause a decrease in the coordination among the different departments, which ultimately decline the firm's financial performance.

Further, in those firms that follow the silo approach, their departments do not work as a common objective for overall reducing the risk, which causes an increase in the cost of managing risk and leads to poor monetary performance. This outcome is also found by many previous (Alviniussen & Jankensgård, 2009; Arena, Arnaboldi, & Azzone, 2010; Hoyt & Liebenberg, 2011). Furthermore, findings show that the presence of independent directors (INDR) on a board has a negative impact on a firm's financial performance due to fewer independent directors on boards in Pakistani firms, which empowers managers to make financial decisions based on their interests, leading to negative firms' financial performance (Sheikh et al., 2013). On the other hand, the ROA and growth of the sale of a firm positively and significantly impact the firm's performance, which means that an increase in these two independent variables enhances the financial performance by encouraging the shareholders to invest in the firm. Board size shows a positive and significant relation with Tobin's Q, which indicates that financial performance can be enhanced with an increase in the directors in a board because each director comes with new skills and experience.

On the other hand, the firm's size shows a negative and significant relationship with Tobin's Q, which depicts large firms ignore the rights of the minority shareholders, which gives a negative signal and causes a decrease in the firm's performance (Olawale et al., 2017). Finally, financial leverage indicates a positive and significant influence on a firm's performance because

debt provides the extra financing source for the development and growth of the firm and tax shield protection. The following section explains the conclusion and implication of the study.

Overall, the results of the models show that firms that use a holistic approach (ERM) to risk management outperform those that use a silo-based approach (NONERM) to risk management (Horvey & Ankamah, 2020). In addition, the findings of this study suggest that spending on the ERM program is not a waste of resources; it facilitates the management for removing the agency conflicts between shareholders and management by increasing shareholder wealth (Odero & Nixon, 2021).

5. Conclusion and Implications

This study looks at the importance of the ERM program, followed by those firms listed in the PSX. The outcome of the analysis portrays that those firms that have an integrated risk management program perform better financially because a consolidated risk program reduces the cost of managing risk and gives a positive signal into the market that management is concerned about shareholder prosperity. This finding is also found by different researchers (Gates et al., 2012; Hoyt & Liebenberg, 2011; Shad et al., 2019). On the other side, outcomes of the analysis show that those firms that do not follow the one integrated risk program and follow the silo approach mean the risk is managed by individual departments decrease the firm's financial performance. The silo approach increases the cost of managing the risk and deviates the department strategies for managing the risk of the overall firm (Hoyt & Liebenberg, 2011). This finding is also supported by previous studies (Alviniussen & Jankensgård, 2009; Arena et al., 2010; Hoyt & Liebenberg, 2011). The results of our research suggested the SECP (Security Exchange Commission of Pakistan) take steps to enhance effectively risk management practices among the firms of Pakistan by restricting the corporations to follow the ERM program. In addition, SECP should conduct corporate seminars to illuminate the importance of ERM for better monetary performance. Our main limitation is the small sample size for this research which consists of 21 firms for 08 years, and this study does not take any moderator for measuring the more effectiveness of the ERM program. Future research can be done to see the effectiveness of the ERM program with concern to operating income, cost of capital and assets management. Furthermore, moderation of variables can also be checked in future research like Intellectual Capital, board diversity, audit quality, etc. Additional research can also be done on comparing different countries, family and non-family firms, etc.

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