

# **Influence of Enterprise Risk Management Framework Implementation and Board Equity Ownership on Firm Performance in Nigerian Financial Sector: An Initial Finding**

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**Abstract:** *This study has investigated the influence of ERM framework implementation and Board Equity Ownership on the performance of financial institutions in Nigeria. One hundred and sixty three institutions constitute the sample of the study. We collected the data from chief risk officers, chief financial officers and other top level managers of the sampled organisations. The study utilized PLS-SEM path modelling with the help of SmartPLS 2.0 software to test the research framework. The results of the analysis indicated that ERM framework implementation and board equity ownership have a significant positive effects on the financial and non-financial performance of financial institutions in Nigeria. The study recommended the need for business firms to deploy more resources to ensure efficient operations of ERM initiatives in their organisations. Regulatory agencies need to ensure full implementation of ERM across all financial institutions regardless of the size of the firm to actualize its full benefits. The implication of the findings is that financial institutions and other regulatory agencies need to focus on both financial and non-financial performance indicators in their risk management policy.*

**Keywords:** *Enterprise Risk Management, Board Equity Ownership, Financial Firm Performance and Non-Financial Firm Performance*

## **I. Introduction**

Technological failure, high increase in fraudulent business practices, competitive pressure and increase in the development of complex business environment have raised concern about the need for companies to come up with strategies that will curtail the problem of business failure and improve performance. For business firms to remain competitive, they are expected to review their policies regularly and develop new approaches that will enhance their operational efficiencies (Spedding & Rose, 2008). Besides, they may require to examine new areas of emerging risk and develop a more robust risk management methodology. Given the complexities surrounding business enterprise, the effort to deal with risk exposures has become crucial to firms' survival (Boniface & Ibe, 2012). In fact, companies continue to face heightened instability from the effect of globalization, deregulations, and intensive competitions (Shecterle, 2010). As such, the failure of firms to be proactive in risk assessment, mitigation and control had resulted in poor firm performance.

Moreover, the majority of corporate bodies lacked the active strategies for identifying new business opportunities (Spedding & Rose, 2008). In essence, a change in the customer expectations, engagement imperatives, performance measures, risk management methodologies, skills and competencies for a sound business performance have become necessary (Awoyemi, 2010). These challenges have brought the issue of risk management to the limelight (Rostami, Sommerville, Wong, & Lee, 2015). And in spite of the sophistication of modern business environment, firms are more than ever before getting more exposed to potentially destructive events that constrained high business performance. Hence, the need to implement enterprise risk management (ERM) as an integrated risk management strategy came into focus. In fact, the primary goal of ERM implementation is to have a robust, comprehensive and firm-wide risk guidelines, processes, and models that will enable easy analysis of risk to (or "intending to") protecting the operating efficiency of organisations (Banerjee, 2013).

Lamentably, in the case of Nigeria, the risk management approaches of the majority of financial companies did not progress commensurately to sustain the quick market growth experienced before the 2008/2009 meltdown (SEC, 2012). From 2008 to 2009, the Nigerian stock market lost approximately 70 percent of its value (IMF, 2013). Subsequently, from 2009 to 2012, the market capitalization of the financial institutions experienced an annual decline of 17.42 percent (SEC, 2012). Also, some financial institutions in Nigeria were involved in sharp business practices to fleece shareholders investments (Kuye, Ogundele, & Otike-Obaro, 2013; Sanusi, 2010). The CBN audit report classified eight banks in serious financial grief (Sanusi, 2010). In all these instances, inadequacies of the risk management programs were cited as the primary causes of poor firms' performance in Nigeria (IMF, 2013).

Further, the Nigerian business environment has become highly unpredictable rendering the traditional approach to risk inefficient. Traditional Risk Management (TRM) does not consider the interaction of numerous risks classes (Ghazali & Manab, 2013). In fact, scholars have argued that TRM does not provide an opportunity for firms to view risk across the entire enterprise (Moeller, 2011). Hence, it is often referred to as "*silo-based approach*". This deficiency has led to the emergence of Enterprise Risk Management (ERM) as a comprehensive risk management mechanism. Essentially, enterprise risk management (ERM) is a risk management strategy that covers a portfolio of risk issues that can be managed holistically instead of fragmented approach. It is an approach that enable companies to understand the interactions that exist between numerous types of risks (PricewaterhouseCoopers [PWC], 2008).

Consequently, studies have investigated the influence of ERM practices on firms' performance (Doherty, 2000; Hoyt, Moore, & Liebenberg, 2008; Manab & Ghazali, 2013; Manab *et al.*, 2010; Meier, 2000; Mikes & Kaplan, 2014). However, the findings have been mixed and inconsistent concerning the benefits of ERM to firm's performance (Abdullah *et al.*, 2012; Ballantyne, 2013; Bertinetti, Cavezzali, & Gardenal, 2013; Mikes & Kaplan, 2014; Togok, Ruhana, & Zainuddin, 2014). Acharyya, (2008) argued that the empirical contribution of ERM has remained untested due to lack of suitable frameworks. In similar findings, studies have further stated that the inconsistencies in the relationship between ERM and firm performance were due to the inadequate specification of ERM frameworks (Lundqvist, 2014; Mikes & Kaplan, 2014). In fact, there is relatively little empirical work validating these hypothesized benefits. Empirical studies conducted to date do not make a general statement about the benefits of ERM implementation (Beasley, Pagach, & Warr, 2008; Togok *et al.*, 2014). Hence, the prime goal of this paper is to present the results of the initial findings of an ongoing research to indicate the benefits of ERM framework implementation and board equity ownership (BEO) in Nigeria. The rest of the paper proceeds as follows: Section 2 reviews the literature. The third section carries the methodology. The findings were reported in part 4 while section 5 concludes the paper.

## **II. ERM Implementation and Firm Performance**

Several studies have been carried out to establish the relationship between ERM and firm performance. In fact, there is a theoretical conception in the risk management literature that ERM implementation is associated with improvement in firm performance. For the past three decades, studies have been able to explain the role of risk management practices in organisational development. For example, Schmit and Roth (1990) used a survey data to examine the effectiveness of various risk management practices within the insurance industry while controlling for organisational risk characteristics. The study found that effective risk management practices lower the organisation cost of capital. In another study, Simkins and Smithson (2005) raised an important question as regards the value relevance of risk management practices in institutions. The findings of their study though based on the conceptual review supported the view that risk management reduces cash flow volatility and the probability of financial distress.

In fact, the proponents of ERM value relevance built their argument on the belief that firms that engage in ERM activities can better understand the aggregate risk inherent in business activities (Hoyt *et al.*, 2008). Consistent with that, Lai and Samad (2011) contended that ERM framework implementation significantly reduces the cost of financial distress; lower the cost of external financing, improves the firm's credit rating, reduces informational asymmetries, and reduce agency cost. Similarly, Hoyt and Liebenberg (2011) carried out a study to examine the extent of ERM program implementation in US insurance companies and to assess its value relevance. The study indicated that ERM (which is determined by institutional investors and firm size), is positively related to firm value. However, some studies have reported that the benefit of ERM is firm specific. For example, Beasley, Pagach and Warr (2008) investigated the reaction of the equity market to the appointment of chief risk officer. Findings from the study indicated that market reactions to CRO appointments is positively related to firm size and volatility of previous earnings but negatively related to leverage and the ratio of cash to liabilities. In this connection, Lin, Wen and Yu (2011) reported that the inability of some researchers to support the value relevance of ERM may be because ERM is still at its infancy stage.

In a study of Nigerian context, Torbira and Ngerebo (2012) investigated the relationship between risk management practices and firm performance using Gross Fixed Capital Formation (GFCF) as a surrogate. Their findings revealed that sound risk management practices affect the growth of the firm at least in the short run. However, using the growth of fixed capital formation as a proxy for performance will make sense only if the study controls for the non-settlement of claims issue that is prevalent in the industry. Insurance companies sometimes use technicalities to evade claims payments. In a related study in the same industry, Obalola, Akpan and Olufemi (2014) revealed a positive relationship between the ERM implementation and organizational performance in Nigeria.

However, Gordon, Loeb and Tseng (2009) claimed in their study that the relationship between ERM implementation and firm performance is dependent on the proper match between ERM and five contingent

factors (environmental uncertainty, industry competition, firm size, firm complexity, and board of directors' monitoring). In contrast, the study selected the contingent variables without explicit theoretical justification. It makes sense to deduce that implementing ERM alone may not lead to higher performance. Also, McShane, Nair, and Rustambekov (2011) used the S&P ERM rating scale as a proxy for ERM quality and linked it to firm value. The study revealed a positive relationship between ERM capability and firms' value. However, it felt to report the relationship between higher ERM rating and firm performance. In a US context study, Ballantyne (2013) found that ERM implementation is not connected to the financial performance of organisations and that the implementation of ERM alone is not sufficient to accomplish the theoretical assertions of ERM as highlighted in the literature. These contradictions justify the need to examine further the ERM effect through a survey approach to enable the business firms appreciate the benefits of ERM implementation in the context of Nigeria.

## **2.1 Board Equity Ownership and Firm Performance**

The collapse of major business corporations in US and other economies have made board oversight function as an important aspect of risk management process. In fact, the board of directors' role in risk oversight has come under increased scrutiny, resulting in shareholder lawsuits, increased regulation, and more extensive disclosure and listing requirements (Ittner & Keusch, 2015). Board of directors considers how best they can encourage the existence of efficient risk management process (Daud, Haron, & Ibrahim, 2011). Caldwell (2012) affirmed that one of the major factors that lead to effective risk management in the organisation is the existence of proper corporate governance initiative of which board oversight is essential attributes. For business organisations to manage risk successfully, an ERM scheme must be viewed as an important board strategic policy decisions (COSO, 2004). Support from the board of directors and senior management is needed to get the right focus, resources and attention for ERM to be efficient and, in turn, improve firm performance.

The relationship between ownership and control have been built on the theoretical argument of Berle and Means (1932) who believed in the separation of ownership and control and the agency theory (Jensen & Meckling, 1976). Researchers have argued that conflicts exist when ownership and control are separated due to moral hazard problem creating the need for efficient monitoring and control (Jensen & Meckling, 1976). The shareholders are interested in firm value maximization while managers prefer their interests and benefits. Under this circumstance, corporate governance mechanisms have been introduced to deal with the situation and reduce the costs associated with such conflict. In organisations where decision makers do not bear a significant share of the wealth effects of their decisions, separation of decision management and decision control restrict managers from taking actions contrary to the interests of shareholders (Fama & Jensen, 1983). One of the mechanisms organisations uses to instill some level of control and ensure efficient operation of the institution is the board of directors (Peasnell, Pope, & Young, 2001). The board delegates both management functions and control decision functions to internal managers but retain final control over the managers through the right to ratify and monitor critical decisions, and rights to appoint, dismiss, and determine the compensation of managers (Fama & Jensen, 1983).

Peasnell, Pope, and Young (2001) have argued that incentive through board equity ownership instills some level of alignment between the interest of management and shareholders. It reduces the cost of additional monitoring and control (Peasnell *et al.*, 2001). Regarding risks, managers whose wealth is closely tied to the value of the firm may not engage in any value destroying behaviour and will ensure equitable distribution of wealth (Jensen & Meckling, 1976). Bouwens and Verriest (2014) have argued that managers that are having equity interest take less risk because they feel the consequences of poor decision higher than other shareholders. Hence, managers with equity holding may be meticulous when it comes to risk management issues.

Therefore, equity incentives serve as a risk management strategy in organisations (Bouwens & Verriest, 2014). Apparently, equity holdings may lead managers to take risk mitigating strategies to protect the operating efficiency of the firm. Ren *et al.* (2012) investigated how the board of directors and managerial ownership influence the relationship between research and development and firm performance. The study revealed that firm performance is negatively related to board stock ownership, the frequency of board meeting and managerial stock ownership. There is that argument that board risk supervision can assist in mitigating risk-related agency conflicts. Ittner and Keusch (2015) argued that changes in Board function a reaction to external pressure may not be in the interest of the firm. They are of the opinion that the soundness of board oversight has a direct positive relationship to the effectiveness of risk management processes, and indirectly to performance. Based on the above theoretical arguments, we hypothesized the following relationships:

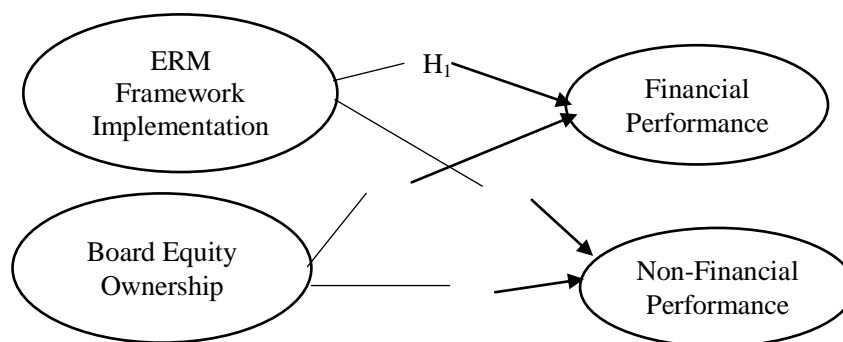


Figure. 1 Conceptual model with hypotheses

**2.2 Statement of Hypotheses**

- H<sub>1</sub>: ERM Framework implementation is positively related to firm financial performance
- H<sub>2</sub>: ERM Framework implementation is positively related to no-financial firm performance
- H<sub>3</sub>: Board Equity Ownership is positively related to firm financial performance
- H<sub>4</sub>: Board Equity Ownership is positively related to firm financial performance

**III. Methods**

The study used questionnaires as instruments for data collection. We collected the data from Chief Risk Officers, Chief Financial Officers, and other Top level managers. Hence, Organisation is our unit of analysis. Also, 231 questionnaires were distributed to various financial institutions out of which 163 questionnaires were retrieved and used for the analysis, making a total response rate of 70.56 percent. The study utilized PLS-SEM path modelling with the help of SmartPLS 2.0 software (Ringle, Sarstedt, & Straub, 2012).

**3.1 Measurements**

The study utilized two independent variables (ERM Framework Implementation and Board Equity Ownership), and two dependent variables (financial and non-financial performance). We adapted the ERM implementation intensity measures developed by Lai (2014). Similarly, indicators of financial and non-financial performance from Mohammed, Hui, Kamal, Rahman and Aziz (2009) and Gates, Nicolas, and Walker (2012) were adapted. All the items were measured on 5 points Likert scale.

**IV. Findings**

We assessed the quality criteria for the measurement model from two perspectives as suggested by Hair Jr, Sarstedt, Hopkins, and Kuppelwieser (2014). The quality of the measurement model enables researchers to relate theoretically established issues to reality. First, we gauged the convergent validity and reliability of the measures using average variance extracted (AVE), composite reliability (CR), and Cronbach’s alpha (CA). As indicated in Table 1, the loadings of the items range between 0.846 and 0.592, The AVE is greater than 0.5 for each of the constructs, while CR and CA all exceeded the threshold of 0.7 (Henseler, Ringle, & Sinkovics, 2009). Hence, the model has met the threshold of the two measures of internal consistency reliability (see Table 1 below). Secondly, we conducted a discriminant validity examination as proposed by Fornell and Larcker (1981). Based on Table 2, since the square root of each of the construct's AVE is greater than its highest correlation with any other construct; we considered the measurement model satisfactory for the hypothesized relationship to be tested.

Table 1 Loadings, Average Variance Extracted and Internal Consistency Reliabilities

Constructs	Items	Loading	AVE	Composite Reliability	Cronbach's Alpha
<b>BEO</b>	BEO2	.742	.538	.822	.715
	BEO4	.671			
	BEO6	.835			
	BEO7	.676			
<b>FFP</b>	FFP1	.592	.511	.804	.701
	FFP2	.714			
	FFP5	.846			
	FFP6	.684			
<b>NFP</b>	NFP2	.626	.519	.810	.705
	NFP4	.718			
	NFP5	.815			
	NFP6	.708			
<b>RMF</b>	RMF6	.765	.548	.829	.725
	RMF7	.774			
	RMF8	.744			
	RMF9	.674			

Note: RMF=Risk Management Framework, BEO= Board Equity Ownership, NFP= Non-financial Firm Performance, FFP=Financial Firm Performance

The Composite Reliability is defined as follows:

$$P_c = \frac{(\sum_i l_i)^2}{(\sum_i l_i)^2 + \sum_i var(e_i)} \dots\dots\dots (i.e., 1)$$

**Where:**

$P_c$  = Composite Reliability

$(\sum_i l_i)^2$  = Square of the summation of the factor loading

$\sum_i var(e_i)$  = square of the summation of the error variances

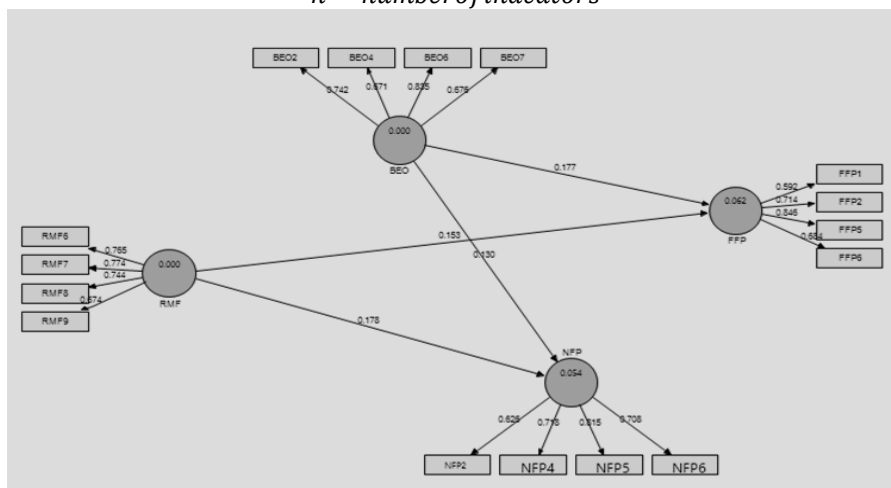
Also, the Average Variance Extracted (AVE) id defined as follows:

$$AVE = \frac{\sum_i l_i^2}{n} \dots\dots\dots (i.e., 2)$$

Where AVE= Average Variance Extracted

$\sum_i l_i^2$  = sum of squared loadings

$n$  = number of indicators

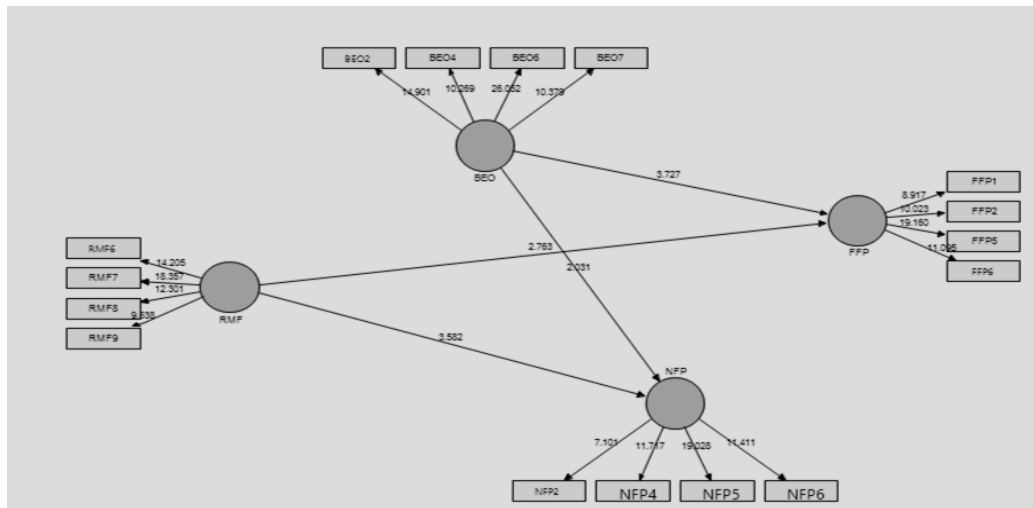


**Figure 2: Measurement Model**

Table 2 Discriminants Validity for the constructs

	<b>BEO</b>	<b>FFP</b>	<b>NFP</b>	<b>RMF</b>
<b>BEO</b>	<b>0.734</b>			
<b>FFP</b>	0.196	<b>0.715</b>		
<b>NFP</b>	0.152	0.175	<b>0.72</b>	
<b>RMF</b>	0.119	0.175	0.194	<b>0.74</b>

Note: RMF=Risk Management Framework, BEO= Board Equity Ownership,NFP= Non-financial Firm Performance, FFP=Financial Firm Performance; Diagonals in red represent the square root of the average variance extracted while the other entries represent the squared correlations



**Figure 2: Structural Model**

After meeting the requirement of the measurement model, we estimated the structural model to examine how well the model predicts the relationship. We first carried out a multicollinearity analysis to ensure that the exogenous variables are not highly correlated (see Table 3). The presence of multicollinearity increases the standard error of regression estimates and makes the variables of interest insignificant. Hair *et al.* (2014) asserted that a multicollinearity among variables exists when the tolerance level is below 0.20, and the variance inflation factor (VIF) is above 5. Therefore, considering the tolerance and the VIF values for all the exogenous variables, the exogenous latent constructs are not correlated.

Based on the PLS-SEM algorithm as shown in Figure 2, all the exogenous variables have positive coefficient with the endogenous variable. The bootstrapping result indicated that the relationship between ERM framework implementation is significant at  $p < .01$  for both financial and non-financial performance. While the relationship between Board Equity Ownership and financial and non-financial firm performance is significant at  $p < .01$  and  $p < .05$  respectively. Table 4 presents the path coefficients, t-statistics and p-values. The R-square value for financial firm performance is .062 and that of non-financial firm performance is .054. Murphy, Myers, and Wolach (2014) categorized R-square value of .25, .10, and .01 as large, medium and small. Following this categorization, the R-square value for this study falls on small category. The finding of the study support the hypotheses that ERM framework implementation and board equity ownership positively relate to financial and non-financial firm performance. It can therefore be said that ERM implementation and Board equity ownership exert little impact on both financial and non-financial performance in the context of Nigeria considering the R-square value. Though the paper is preliminary the study is consistent with Gates *et al.* (2012), who found slight impact of ERM implementation on firm performance. All the 163 financial institutions comprising banks, insurance companies, pension fund institutions, mortgage institutions and micro finance institutions have attested to the implementation of ERM framework and have a policy on equity ownership as an incentive strategy. According to Dabari and Saidin (2015), majority of financial institutions, especially banks are complying with the CBN instructions to implement ERM frameworks.

**Table 3 Tolerance and Variance Inflation Factors (VIF)**

Latent Constructs	Tolerance	VIF
<b>RMF</b>	.965	1.036
<b>BEO</b>	.965	1.037

Note: RMF=Risk Management Framework, BEO= Board Equity Ownership

**Table 4 Path coefficients and hypothesis testing**

Relationship	Beta Value	Standard Error	T Value	P Value	Decision
BEO -> FFP	.177	.048	3.727	.000	supported
BEO -> NFP	.130	.064	2.031	.021	supported
RMF -> FFP	.153	.056	2.763	.003	supported
RMF -> NFP	.178	.050	3.582	.000	supported

Note: t-value > 1.96 ( $p < 0.05$ )\*; t-value > 2.58 ( $p < 0.01$ \*\*)

Financial Firm Performance ( $R^2$ ) = .062

Non- Financial Firm Performance ( $R^2$ ) = .054

## V. Conclusion

The primary goal of this paper is to examine the influence of ERM implementation and BEO on financial and non-financial performance in the context of Nigeria. Though the findings is at preliminary, the study has contributed to the literature by establishing the linkage between ERM implementation and the financial (increase in yearly profit, increase in return on investment, etc.) and non-financial performance (increase in customer satisfaction, increase in firm reputation, and ability to formulate quality decisions, etc.) of firms. The implication of these findings would mean that ERM implementation as an integrated risk management strategy has practical impacts in terms of firm's profitability, customer satisfaction and capacity to make quality decisions. Secondly, implementing BEO as an incentive strategy serves as an alignment mechanisms that further strengthened firm's operational effectiveness. As such, this study will provide the various stakeholders (Central Bank of Nigeria, National Insurance Commission, Pension Commission, investors, business leaders and other players in the industry) with the empirical evidence on the values relevance of ERM in the context of Nigeria.

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