



Management of Risks in Nigerian Firms: Evidence from Service Firms

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Abstract: This paper examined the effect risk management has on the performance of service firms in Nigeria. The ex-post facto research design was used to carry out this study. The study sample was drawn from oil-servicing companies whose stocks were traded on the floor of the Nigerian Exchange Group as at December 31, 2020. The data was derived from the annual reports and accounts of these firms from 2010-2020. The Pearson correlation matrix and the Ordinary Least Square (OLS) model, with a fixed and random effect, were used to analyse the data. The results indicate that the management of risk has a huge and statistically significant impact on the performance of service firms in Nigeria. Consequently, for service firms to increase their performance, they need to have more females on the risk committee, as well as make their risk committee more independent than ever before. More so, management needs to develop a well-structured risk management framework capable of increasing the performance of the firm.

Key words: Risk committee; Firm performance; Risk committee independence; Risk committee gender diversity

1. INTRODUCTION

In recent times, management of risk has reintroduced an important issue in risk management literature as well as a concern for management of firms due to the diverse risks facing the firm, triggered by the 2008 global financial crisis. According to Horvey and Ankamah (2020); Erin and Aribaba, (2021), risk committee is established by firm management to help mitigate and/or reduce events resulting to unfortunate business results such as poor performance, liquidity, among others. Thus, risk management is aimed at ensuring that both systematic and unsystematic risks surrounding the firm are well managed in order to ensure an effective functioning of the business process.

Risk management is described by the Treadway Commission's Committee of Sponsoring Organizations (2004) as the identification, assessment, and prioritisation of company outcomes that may lead to risks and hazards. According to Erin and Aribaba (2021), and Abdullah (2017), the improbabilities of business outcomes may be reduced, monitored, and managed such that their influence does not damage the firm's wealth maximisation goals.

The storyline in the service business is similar to that of other industries that confront a variety of risks. As a result, many service businesses are working to diversify their risk committees by increasing the proportion of women on them, as well as promoting risk independence and risk committee meetings attended by both men and women. Though the company's managers are working on better risk management, empirical studies like Anton (2018), Jesko and Sophie (2018), and Waitherero, Wanyoike and Muriu (2019), are still trying to figure out whether risk management can help the company do better, even though the company is trying to do better at risk management.

Risk management and company value have been extensively studied in academic literature (see Abdullah, et al. 2017; Anton, 2018 and Faisal & Hassan, 2020). However, there is a paucity of empirical research on how management of risk affects service businesses listed on the Nigerian Exchange Group's floor (NEG). On the basis of these findings, this study aims to examine the relationship between risk management (using proxies for risk committee independence and gender diversity) and firm performance (price-to-revenue, price-to-cash flow, and enterprise value before interest, tax, and amortisation) of service firms during the period 2010 to 2020.

2. LITERATURE REVIEW

2.1 Risk Management

Risk management has been defined by a variety of institutions and scholars in the management literature. Managing risk, as defined by the COSO (2004), means considering and prioritizing the business outcomes that could harm the firm's ability to work. Erin and Aribaba (2021), Horvey and Ankamah (2020), Faisal and Hassan (2020), and others say that when risks are not well managed, it can lead to things like poor performance, low liquidity, and more.

Risk management may be examined or evaluated in a variety of ways, including the percentage of women on the risk committee, the independence of the risk committee, and the gender diversity of the risk committee, the meetings of the risk committee, and the physical presence of the risk committee. These risk management techniques have been shown to be effective by Gonzalez et al. (2020), Husaini and Saiful (2017), and Augustina and Baroroh (2016). Three (3) risk management metrics were used in the study's framework: the number of women on a risk committee, how independent and diverse the committee is.

There are three ways to measure risk committee independence and gender diversity: the proportion of non-executive directors and shareholders' representatives that make up a risk committee's membership; the number of females on a given panel; the percentage of women on a given panel; and the percentage of women on a given panel. Remarkably, risk management is the foundation for lowering the cost of risk by keeping an eye on what people do (see Sekerci & Pagach, 2020; Horvey & Ankamah, 2020; Faisal & Hassan, 2020; and Erin & Aribaba, 2021).

There have been recent attempts in other countries to link risk management to firm performance, with mixed results (see Faisal & Hassan, 2020; Horvey & Ankamah, 2020; Gonzalez, et al, 2019; Danisman & Demirel, 2019; Anton, 2018; enol, et al, 2017); however, research on this topic has not been well established in Nigeria, particularly for service firms listed on the floor of the Nigerian Exchange Group (NEG).

2.2 Firm Performance

Firm performance has been measured in literature using a variety of different metrics, including Tobin's Q, return on assets, return on equity, and profit after tax margin (Okoro & Ihenyen, 2020). However, earlier research has overlooked firm performance indicators such as price-to-revenue, price-to-cash flow,

and enterprise value-to-earnings before interest, tax, depreciation, and amortisation; these measures are utilised in this analysis.

Price-to-cash flow (pcas) measures the annual average monthly closing share price divided by cash flow from operations per share, while price-to-revenue (psal) measures the annual average monthly closing share price divided by revenue per share. Finally, the value of the company was calculated based on earnings before interest, taxes, depreciation, and amortisation (EBITDA) for each share (evebidta). There is a scarcity of studies on the link between risk management and performance, especially for service businesses in Nigeria, in the existing literature (Faisal & Hassan, 2020; Danisman & Demirel, 2019; Anton, 2018; Husaini & Saiful, 2017; and Augustina & Baroroh, 2016).

While firm management may embark on efficient managerial actions on risks, some firms risk management actions are inefficient. Given the above, this study contended that with monitoring actions of risk committee gender diversity, risk committee independence and number of female in the risk committee, firm performance can improve. In line with this postulation, the following research hypotheses were formulated:

H_{o1}: Risk management do not positively and significantly affect service firms' price-to-revenue

H_{o2}: Risk management do not positively and significantly affect service firms' price-to-cash flow

H_{o3}: Risk management do not positively and significantly affect service firm's enterprise value-to-earnings before interest, tax, depreciation and amortization

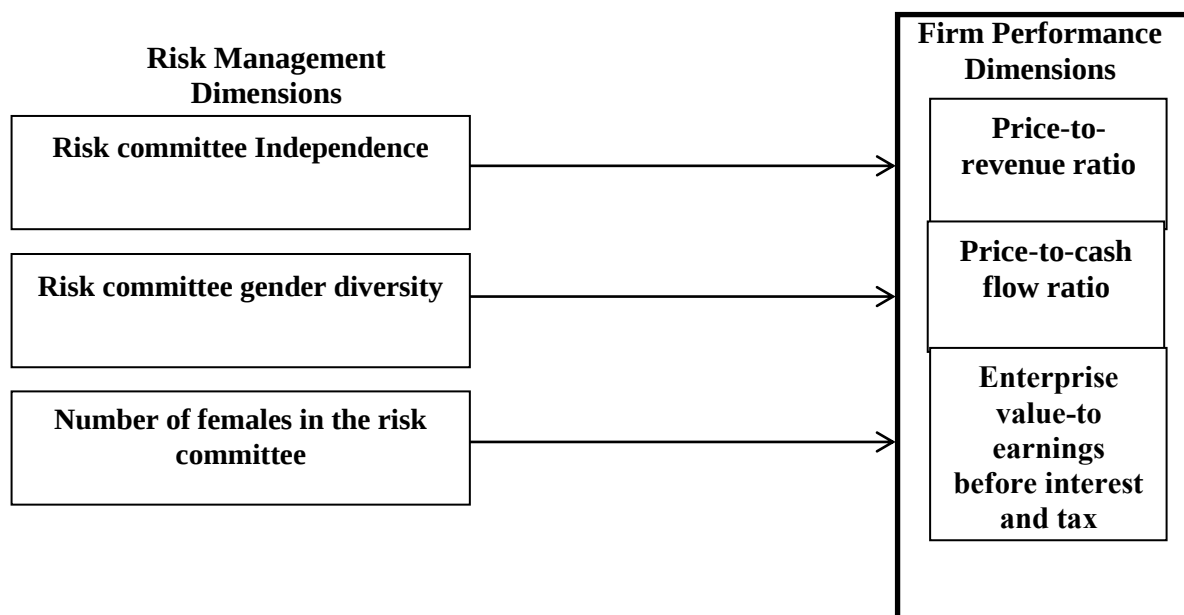
2.3 Theoretical Framework

This research is based on the risk management agency theory, one of several management theories that explain the relationship between management of risk and corporate performance. According to the risk management agency theory, there may be a conflict of interest since the agent is trying to maximise its own interests at the expense of the principal. Asymmetries between agents and principals may lead to conflicts of interest, according to the idea, which may cause the agent to take excessive risks that might harm the firm's performance.

According to the hypothesis, management's attitude and appetite for risk-taking have a significant influence on a company's performance and value (Smith & Stulz, 1985; and Mayers & Smith, 1987). Thus, the theory supports risk management as a response to the incongruence between agents and principles (Augustina & Baroroh, 2016; and Horvey & Ankamah, 2020). When it comes to maximising investment returns, the principle may want to take on more risk in order to reap larger rewards, while the agents may choose a more conservative approach in exchange for lower investment risks.

An important part of this research is the theory's emphasis on the need for risk management as a strategic tool for monitoring management activities and reducing the agency cost between the agents and the principal. As a result of this framework, we came up with the following:

Fig. 1: Conceptual Model



METHODOLOGY

This research looked at the effect management of risk has on the performance of service businesses listed on the Nigerian Exchange Group's floor (NEG). For the purpose of this study, all publicly listed service companies were surveyed, and the industry is broken down into a number of distinct subsectors. As of Dec. 31, 2020, there are 13 oil and gas companies in the subsector studied in this research.

Using Krejcie and Morgan (1970) sample size calculation, eight (8) oil and gas companies were selected for the study. The annual reports and accounts of service firms from 2010-2020 provided secondary data on risk management proxy measures such as the proportion of women on the risk committee, the independence of the risk committee, and the gender diversity of the risk committee, as well as proxy measures of firm performance such as the price to revenue, the price to cash flow, and the enterprise value to earnings before interest, tax, depreciation, and amortisation. Performance is a determinant, whereas risk management is an independent variable. As a result, three models were estimated:

$$psal_{it} = \beta_0 + \beta_1 rci_{it} + \beta_2 rcgd + \beta_3 nfirc + \varepsilon_t \quad eq.2$$

$$pcas_{it} = \beta_0 + \beta_1 rci_{it} + \beta_2 rcgd + \beta_3 nfirc + \varepsilon_t \quad eq.3$$

$$evebidta_{it} = \beta_0 + \beta_1 rci_{it} + \beta_2 rcgd + \beta_3 nfirc + \varepsilon_t \quad eq.4$$

Table 1: Operationalization of Variables

Variables	Symbols	Operationalization
Firm performance	<i>psal</i>	The annual average monthly closing share price divided by revenue per shares (percentage)
	<i>pcas</i>	The annual average monthly closing share price divided by cash flow from operations per share (percentage)
	<i>evebidta</i>	Enterprise value to earnings before interest, tax, depreciation and amortization
Risk committee	<i>rci</i>	Percentage of non-executive directors and

independence		shareholders representatives in risk committee to total risk committee members size
Risk committee gender diversity	<i>rcgd</i>	Percentage of female risk committee members to total risk committee members
No. of female in risk committee	<i>nfirc</i>	The number of females in the risk committee
$i = 1, 2, 3, ,8$		Number of firms employed in the study
$t = 1, 2, \dots, 10$		Timeframe (2010-2020)
β_{1-3}		Coefficient of independent variables
It		Error term

Source: Compiled by Researchers, 2021

Summary descriptive and inferential statistical techniques were used to look at the secondary data. These techniques looked at things like the mean and standard deviation as well as things like the skewness, kurtosis, and correlation of the data. The Hausman specification test was used to find the best models for evaluating the relationship between risk management and firm performance. The analysis was done with STATA 13.0.

RESULTS AND DISCUSSIONS

Table 1: Summary Statistics

	Psal	Pcas	Evebidta	Nfirc	Rci	Rcgd
Mean	.4444	2.7631	9.1983	.3500	35.2527	6.8159
Median	.2423	2.4916	9.0624	0	0	0
Min. Value	.0205	-127.9	-128.27	0	0	0
Max. Value	5.364	1853.9	152.88	3	100	60
Std. Dev.	.7210	.98120	.24940	.73087	.04849	.9484
Kurtosis	29.76	74.004	26.881	7.7904	1.4306	7.422
Skewness	4.663	8.4637	.35210	2.2924	.42735	2.237
N	79	79	79	80	80	80

Source: Researchers' Computation via STATA 13.0

Risk management measures have mean values of 0.350 (nfirc), 35.2 (rci), and 6.82 (rcgd), with a maximum value of 100 being recorded by rci, while the smallest value is zero in the summary. According to standard deviation values, the service businesses listed on the NEG are not too dissimilar from one another. It turned out that all of the variables' skewness values were positive. The smallest kurtosis value is 1.43 (rci), and the high kurtosis values show that the variables are not regularly distributed (0).

Table 2: Karl Pearson Correlation Matrix

Variables	Psal	Pcas	Evebidta	Nfirc	Rci	rcgd
Psal	1.0000					
Pcas	0.1468	1.0000				
Evebidta	0.1740	0.0662	1.0000			
Nfirc	0.0142	0.1152	0.1762	1.0000		
Rci	0.0092	0.1510	0.2951	0.5220	1.0000	
Rcgd	0.0222	0.1197	0.1868	0.9906	0.5221	1.0000

Source: Researchers' Computation via STATA 13.0

The Karl Pearson correlation matrix showed a positive association between all of the study's risk management aspects and all of the firm's performance measures. One other indication of the lack of multi-collinearity is that none of the correlation coefficients between the independent variables surpassed 0.9, as advised by Okoro and Ihenyen (2020).

Table 3: Variance Inflation Factors (VIF) Result

Variables	VIF	1/VIF
Nfirc	1.02	0.98039
Rci	1.17	0.85470
Rcgd	1.03	0.97087
Mean VIF	1.07	

Source: Researchers' Computation via STATA 13.0

Table 4 showed that the mean VIF = 1.07, which is not greater than the accepted VIF value of 10.0, indicating the absence of multi-collinearity in the model of risk management and firm performance.

Table 4: OLS, Fixed and Random Effects Results for Risk Management and Firm Performance

Estimator	OLS (Obs.=79)		FE (Obs.=79)		RE (Obs. =79)	
Variable	Coef.	Prob.	Coef.	Prob.	Coef.	Prob.
Psal	0.1052 (4.09)	0.000	0.1054 (5.12)	0.000	0.1052 (4.09)	0.000
Pcas	0.1031 (3.40)	0.000	0.1042 (3.17)	0.000	0.1031 (4.40)	0.000
Evebidta	0.1824 (2.78)	0.000	0.192 (2.89)	0.000	0.1824 (2.78)	0.000
_Cons	1.3490 (12.5)*	0.000	1.4012 (14.42)*	0.000	1.3490 (12.51)*	0.000
R-Squared	0.9858					
R-Sq.	0.9726					
Adjusted F-ratio	7.9412					
Prob. F.	0.0000					
R-Sq. (within)			0.9207		0.9858	
R-Sq. (between)			0.8290		0.9726	
R-Sq. (overall)			0.8748		0.0000	
Wald Ch2(3) = 9.40; Prob. Ch2 = 0.000; Hausman Specification Prob.>Chi2 = 0.9212						

Source: Researchers' Computation via STATA 13.0

According to OLS data, firm performance is explained by all risk management characteristics at a 5% level. Therefore, good risk management by Nigerian listed service organisations would improve the firm's performance, as shown by the OLS and RE findings. A t-test of risk management proxies found that each of the risk management proxies is important in explaining how the company performs.

Risk management accounts for 98.6% of the systematic variance in business performance, according to the R² of 0.9858. Because RE was shown to be more efficient than FE, the Hausman specification test result was used to focus on RE. As shown by Wald's 9.40 statistic and a Prob. value of 0.000, the null hypothesis has been rejected and an alternative hypothesis has been accepted that the performance of a service firm can be positively and significantly influenced by risk management (measured by the number of women on the risk committee, gender diversity in the risk committee, as well as independence in the

risk committee) (price-to-revenue, price-to-cash flow, and enterprise value-to-earnings before interest, tax, depreciation, and amortization).

In the literature, risk management has been considered as a vital tool for improving the firm value' however whether this applies to the performance of service firms in Nigeria, has not been deeply researched. Extant studies suggest that when management engages in effective risk management, business outcomes of performance, value, and sustainability are increased while a decrease in the firm solvency is attained (Erin & Aribaba, 2021; Faisal & Hassan, 2020; Horvey & Ankamah, 2020). The contention in management literature has been whether risk management will lead to improvement in business outcomes.

Research has shown that effective management of risk has a major impact on the performance and value of a company (e.g. Faisal and Hassan in 2020; Anton in 2018; and Abdullah et al in 2017). The empirical model used in this research was estimated by considering aspects of risk management and company performance. Information on risk management from the annual reports and accounts of service businesses from 2010-2020 was gathered from secondary sources, such as the number of women on risk committees, the independence of risk committee members and gender diversity on risk committees.

It was shown that risk management had a considerable and favourable impact on the performance of Nigeria's service organizations, both in the fixed and random effects studies. Results from Danisman and Demirel (2019); Horvey and Ankamah (2020); Erin and Aribaba (2021), among others, are in agreement with several of the findings in this study.

5. CONCLUSION AND RECOMMENDATIONS

This study looked at how management of risk affects the performance of service firms that are traded on the floor of the Nigerian Exchange Group (NEG). It looked at factors like the number of women on the risk committee, the independence of the risk committee, and the gender diversity of the risk committee. Findings show that all the risk management dimensions have a big and positive impact on the performance of the company.

The study found that service firms can improve their performance by having more women on the risk committee and making the risk committee more independent. Again, management needs to come up with a well-structured risk management plan that can help the company do better. This study adds to the understanding of risk committee independence, the number of females on the risk committee, and the diversity of the risk committee. It shows that these factors have a big impact on the performance of service firms in Nigeria.

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