SIZE AND OWNERSHIP AS DETERMINANTS OF OPERATIONAL RISK MANAGEMENT IN THE NIGERIAN INSURANCE INDUSTRY

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Abstract

Operational risk management (ORM) is the ongoing management of risks brought on by human behaviour, internal systems, processes, and events outside of one's control. Increase in the intensity of performed financial operations, globalization and rapidly changing technologies have enhanced operational risks. The insurance industry is required by regulatory requirements to manage operational risks. The purpose of this study is to explore the relationship of size and ownership as determinants of operational risk management in the Nigerian insurance industry. A quantitative approach was adopted using survey design in collecting data through a structured questionnaire. Sample population is the insurance companies in Nigeria. Stratified sampling was utilized in selecting the sample size of 20 insurance companies. Respondents are employees within the management cadre and risk management department drawn from the 7,036 employees of the selected companies. The data was empirically examined by use of descriptive statistics and inferential analysis. Generalized linear model (GLM) was employed in testing the hypotheses. The findings suggest that size is not a determinant while ownership type is a determinant of the practice of ORM in the Nigerian insurance industry. The findings of the study have an importance to the regulatory authorities in assessing its supervisory role and insurance companies. Further research exploring the relationship between the factors of ORM practice, and the value ORM contributes to the insurance industry.

Keywords: size, ownership, risk management, operational risk management, insurance industry

1. INTRODUCTION

Operational risk refers to the exposure of financial losses due to downtime of internal activities of an organisation due to either events, trends or external changes that are unknown yet preventable or to the internal organisation and control system and ethical standards aside (Mironescu, Turcu, & Ceocea, 2015). Operational risk management is a discipline that was born out of market and credit risk management techniques in the banking sector. It is a worry category with a problematic actuality and status. (Power, 2005). Operational risk has become a focal issue in the management of financial organisations because of the swift and unanticipated burst of financial issues that have caused meaningful operational losses to organizations (Martin & Hayes, 2013). According to Jorion (2001), by neglecting the proactive management of operational risk using an adequately defined framework, financial institutions expose themselves to huge losses and loss of reputation. Due in large part to the new European risk-based regulatory framework, operational risk can have a significant impact on the risk status for an insurance firm. Solution II (Gatzert & Kolb, 2013).

The implications of failing to properly manage operational risks go beyond obvious financial losses, such as legal penalties or damage to the company's reputation among shareholders and consumers (Torre-Enciso & Barros, 2013). For examples, effects of operational risk events in the insurance industry in Nigeria include the delisting of Investment and Allied Insurance Plc, UNIC Plc, Gold Link Insurance Plc, and Great Nigeria Insurance Plc from the Nigerian Stock Exchange between 2016 and 2020.

Previous studies such as Wei (2006); Wei et al., (2006); Tandon & Mehra (2017) insist that management of operational risk encourages improved behaviour between firms.

Consolidation and standardization of operational risks is reflected in the risk-based supervision in Solvency II directives and outlined by the National Insurance Commission (NAICOM). These include raising the minimum capital requirements, effecting a separate charge for operational risk and introducing operational risk management into the management function of Insurance companies. These changes in the financial landscape would create a need for consolidation in the insurance industry as seen in the banking industry, thereby expanding the competitive landscape of the insurance companies. For example, the new capital requirement imposes the need for additional consolidation for the insurance sector. The consolidation is likely to be in the form of mergers, acquisitions or buyouts. It would further encourage insurance companies to meet the substantial increase in the value of insured assets and a change in ownership structure. This also means a heightened capacity for insurance companies to accept more risks. A higher propensity for risk-taking brings improvements for operational risk management to greater focus.

Several studies have been carried out with regards the influence of size and ownership on risk management and operational risk management specifically. Size and ownership have been reported consistently in literature as significant variables because they are proxy for some firm characteristics, for example competitive advantage; costs of information production; management skills and political costs (Hemrit & Arab, 2012).

The empirical data on how ownership, operational losses, operational risk, and business size are related is far from definitive. Given that it is conceivable to make tenable explanations for why some types of organisations suffer more frequent and/or severe losses than others, or why some report fewer and/or less severe losses, the mixed results are to be expected.

This study assumes credence in the context of limited evidence on ORM in third world countries like Nigeria. The study contributes to the research on ORM by evaluating the influence of size and ownership of insurance companies on operational risk management practice. Our study contributes to risk management in the insurance industry by assessing the relationship between size and ownership of insurance companies on their operational risk management practice.

2. LITERATURE REVIEW

Conceptual Review: Operational Risks in Insurance Industry

Since it guarantees financial stability, plays a key role in the financial intermediation chain, and provides a ready source of long-term funding for infrastructure projects, the insurance business is typically regarded as the foundation of every nation's risk management system. (Ujunwa & Modebe, 2011).

Insurance also promotes the growth of small and large firms as it provides stability by allowing large and small businesses operate with a lesser risk of volatility or failure. Insurance is also very important to the financial system. For economic expansion and development of the domestic financial system, such long-term support of the economy is essential. Therefore, a robust and vibrant insurance sector is a vital requirement for Nigeria's economic expansion and progress (Ujunwa & Modebe, 2011).

Historically, the insurance industry has focused on understanding and managing investment and underwriting risk and is intrinsically considered to be more risk-averse in comparison to other financial sectors (Oxford Martin School, 2015).

Insurance companies typically face risk from multiple sources (Acharyya & Johnson, 2006). However, with increased market development and new business services, operational risks faced by insurance companies have become more complex, more potentially devastating and more difficult to anticipate (van Grinsen and Bloemkolk, 2009).

Though a new risk category still being observed (Acharyya, 2012), it is possibly one of the largest threats to the solvency of insurance companies (Doff, 2007) because it results from complex and non-linear interactions between risk and business processes (van Grinsen & Bloemkolk, 2009). It has also been identified as one of the major influences of company solvency (Chen, Chen, Liao, & Chen, 2009). Also the potential impact of operational losses on an insurer's risk situation is also stressed by figures regarding potential insurance fraud by policyholders (Gatzert & Kolb, 2013).

Insurance company risk is related to their ability to assess the 'correct' premiums and thus managing the volatility of their investments on the financial markets (Bryce, Webb, Cheevers, Ring, & Clark, 2016). Several evidence of major insurance company failures linked to the role of operational risk in these organizations have been observed.

For example, the near collapse of Equitable Life Insurance Society in the United Kingdom; false information and misleading statements cost HIH Insurance in Australia; American International Group (AIG) and Marsh in the United States of America had their CEOs forced out of office and the lack of transparency in product cost structures of the trio of Delta Lloyd, Fortis ASR and Nationale Nederland resulted in settlements of insurance policy holders (van Grinsen & Bloemkolk, 2009).

Operational risk management is a critical component of an organization's sustainability.

Businesses can recognize these risks and take steps to mitigate them, which lowers the possibility of suffering financial losses. For example, Chang et al.'s study (2020) discovered that businesses that embrace environmental management strategies increase their operational efficiency, which results in cost savings and improved performance. Ultimately, the management of operational risk ensures that an insurance company protects its overall operational and reputational risk, minimise operational losses and increase share values (Radu & Olteanu, 2008).

Theoretical Review: Organizational Theory

The overall risk management framework is underpinned by three fundamental aspects of the organisation (Schwartz and Smith, 2009). These aspects are business strategy which defines how the organisation will compete in its target business segments, organizational structure and people, which provide direction, for management and control for business and risk mitigation activities and incentive compensation system which provides rewards for mangers and key personnel.

From an operational risk management perspective, agency problems emerge when there is a divergence or conflict of interest between managers and stockholders.

The control of operational risk rests within the organisation because it is an endogenous risk (Kaiser & Kohne, 2006).

Empirical Review: The Role of Size and Ownership of Insurance Companies in Operational Risk Management

Size and ownership have been reported consistently in literature as a significant variable because it is a proxy for some firm characteristics, for example competitive advantage; costs of information production; management skills and political costs (Hemrit & Arab, 2012). In risk management literature, size and ownership are considered important determinants around the globe. Generally, insurance company size is a contributory factor to increase operational risks as the bigger the company, the more complex its operations (Wang & Tsu, 2013).

Firm size for insurance companies is based either by the measurement of total assets and total premium (Srivastava & Avishek, 2013) or on the number of employees (Hemrit & Arab, 2012). For the purpose of the study, size is measured by the company's profit. In Nigeria, ownership of insurance companies is either publicly, privately or foreign owned companies.

Insurance empirical studies regarding firm size and ownership on operational risk management are very limited even though several studies have examined the same phenomenon in the banks. Studies such as Sharafi et al. (2016) and Tandon and Mehra (2017) looked at the relationship between size and ownership of banks in India, a developing country with operational risk and operational risk management practices.

Tandon and Mehra (2017) in their study using factor analysis, found size of banks served as a deterrent to operational risk management practices while ownership had no effect in banks investigated. Sharifi et al. (2016), on the other hand using panel data regression model observed a negative relationship between size and ownership on operational risk management with regards capital held for managing operational risk.

According to the study by Onsongo, Mwangi, and Muathe (2019) using panel data regression, firm size had an impact on how a company managed its operational risk in relation to its assets. This is supported in the study of Wang, Fu & Li (2022) where they looked at the direct impact of Covid-19 on operational risks in Chinese bank and determined that bank size significantly increase the effects of operational risks.

Zaman & Ali (2017) conducted a comparative study between public and private banks in Pakistan using ordinary least squares (OLS) and fixed effect models and found that size and public ownership have significant effect while private ownership has no effect on ORM.

Similarly, Adnan, Kahn, Khan & Khan (2018) found that business size and ownership structure influenced operational risk management practice in their study of Islamic banks in Pakistan. They discovered, for instance, that smaller banks set aside more funds to meet capital adequacy or operational risk management requirements, whereas bigger banks had more advanced tools to manage operational risks and tended to manage them better.

The literature reviewed in this study mostly focuses on the banking industry in developing countries.

Having highlighted importance of size and ownership in risk management and operational risk management; we proceed to formulate the following hypotheses for the study in the light of the gaps in the literature.

Hypothesis 1: The size of an insurance company negatively influences operational risk management practice.

Hypothesis 2: There is a negative relationship between ownership of an insurance company and the operational risk management practice.

3. METHODOLOGY

This study is a cross-sectional research and data gathered by primary data. The research design hinges on the quantitative approach. Stratified random probability sampling was used in determining the sample size. This technique was utilized to ensure the presence of key subgroups (business type and ownership structure) within the sample. Data gathering was conducted through a field survey of insurance companies using a structured questionnaire. All questions were close-ended questions with some giving the respondent multiple options to pick from while the others are based on a Likert scale of one to five.

The sampling frame was drawn from the list of registered Insurance companies. Respondents engaged in the survey are the employees of Insurance companies who are directly or indirectly associated with risk management such as senior managers especially operational risk management as well as heads of business units.

A total of 400 participants were selected from 20 insurance companies chosen for the survey from a total of 7,036 employees. Of these, 350 were useful and appropriate for the study. For analysis, the data was entered into SPSS version 20. Data screening and a preliminary analysis were conducted using SPSS. Stepwise regression analysis was used to test the hypothesis. Stepwise regression is a technique that resolves the multicollinearity between variables and enables the researcher to specify the predictors to be included. The hypotheses were tested using the generalized linear model (Linear scale response type) where the dependent variable is continuous and the independent is categorical (Nominal or Ordinal).

Research Model

The specified regression model for this research work are:

1. $\text{ORMEff1} = \alpha_1 + \alpha_2 \text{SC} + \varepsilon$

2. $\text{ORMEff 2} = \beta_1 + \beta_2 \text{OTC} + \varepsilon$

Variable Description

This section described the variable in the regression model:

ORMEff = Operational risk management efficiency which are measured using Likert scale.

SC = Size of company (proxied by capital base) which are categorized in the following factors: < ₦100m, ₦101m – ₦250m, ₦251m – ₦450m, ₦451m – ₦750m and > ₦751m.

OTC = Ownership type which are categorized in the following factors: Private, Public Liability, Foreign-Owned and Government-Owned

4. DATA ANALYSIS

Table 1: Socio Demographic Profile of the respondents

Variables	Response Label	Frequency	Percentage
Age			
	18-30	157	44.9
	31-40	98	28.0
	41-50	78	22.3
	51 & above	17	4.9
Gender			
	Male	209	59.7
	Female	141	40.3
Educational Qualification			
	WASC/GCE	67	19.1
	OND/NCE	96	27.4
	BSc/HND	103	29.4
	MSc/MBA	78	22.3
	PhD	1	.3
	Others	5	1.4
Working Experience			
	1-5yrs	99	28.3
	5-10yrs	107	30.6
	11-15yrs	60	17.1
	16-20yrs	54	15.4
	21-25yrs	30	8.6
Type of insurance company			
	Life	84	24.0
	General	111	31.7
	Composite	155	44.3
Occupational Status			
	Manager	173	49.4
	Snr. Manager	100	28.6
	AGM/DGM	31	8.9
	ED/Director	11	3.1
	MD/CEO	8	2.3
	Others	27	7.7
Ownership type of insurance company			
	Private	102	29.1
	Public Liability	108	30.9
	Foreign-Owned	81	23.1
	Government-Owned	59	16.9
Operational risk management programs maturity			
	1-2yrs	67	19.1
	2-5yrs	102	29.1
	5-10yrs	132	37.7
	More than 10yrs	49	14.0
Company's annual profit			
	< N100m	83	23.7
	N101m – N250m	109	31.1
	N251m – N450m	97	27.7
	N451m – N750m	14	4.0
	> N751m	47	13.4

Demographic Analysis

Simple descriptive analysis of the data is illustrated in the Table 1. Results of the demographic characteristics of the respondents showed that respondents between the age bracket of 18-30 years accounted for 157 (44.9%), 98 (28.0%) are between the ages of 31-40 years, 78 (22.3%) are between the ages of 41-50 years, while 17 (4.9%) are 51 years and above. 209 (59.7%) are male while 141 (40.3%) are females. It shows that most of the respondents are male. In terms of educational qualification, 67 (19.1%) are WASC/GCE holders, 96 (27.4%) are OND/NCE holders, 103 (29.4%) are BSc/HND holders, 78 (22.3%) are PhD holders while the remaining 5 (1.4%) are other degree holders.

For working experience in their respective organizations, 99 (28.3%) have between 1-5years experience, 107 (30.6%) have experienced between 5-10 years at work, 60 (17.1%) have experienced between 11-15 years at work, 54 (15.4%) experienced between 16-20 years and 30 (8.6%) experienced between 21-25 years at work. This shows that majority of the respondents (58.9%) do not have much experience and have only spent less than 10 years in service. In terms of type of insurance company respondents work for, 84 (24.0%) of the respondents work for Life Insurance company, 111 (31.7%) work for General Insurance company, while 155 (44.3%) are Composite Insurance workers.

For occupational status of respondents, 173 (49.4%) are managers, 100 (28.6%) are senior managers, 31 (8.9%) are AGM/DGM, 11 (3.1%) are ED/Directors, 8 (2.3%) are MDs/CEOs, while 27 (7.7%) have other statuses apart from the above. Hence, of the respondents are basically top management staff in their organizations. Considering ownership type of insurance company, 102 (29.1%) of the respondents accounted for private ownership, 108 (30.9%) accounted for public liability company, 81 (23.1%) accounted for foreign-owned, while the remaining 59 (16.9%) are government-owned insurance companies.

For maturity of respondents' company's operational risk management programs, 67 (91.1%) reported that their companies' operational risk management programs maturity is within 1-2 years, 102 (29.1%) reported within 2-5 years, 132 (37.7%) reported within 5-10 years, while 49 (14.0%) of the respondents reported that their companies' operational risk management programs take more than 10 years to mature. Finally, as regards company's annual profits, 83 (23.7%) identified that their companies make less than N100m, 109 (31.1%) reported they make between N101m – N250m, 97 (27.7%) reported they make between N251m – N450m, 14 (4. 0%) reported they make between N451m – N750m, while 47 (13.4%) reported greater than N750m.

Table 2 presents the results of the regression analysis for size as a predictor of ORM. The results show that size ($p > 0.05$) has no significant effect on ORM. The findings also shows that organisations with such size as < N100m ($\beta = -.47$, $p < 0.05$), N101m – N250m ($\beta = -.39$, $p < 0.05$), N251m – N450m ($\beta = -.37$, $p < 0.05$) significantly predicted ORM but N451m – N750m ($\beta = -.59$, $p > 0.05$) do not significantly predict ORM. Hence it can be concluded that size has no significant effect ORM. Therefore, it is concluded from the above that the level of an insurance company's profit does not determine its willingness or ability or effectiveness of its operational risk management strategy.

Size and ORM

Table 2: Regression Result for Size vs. ORM

Categorical Variable Information

			N	Percent
Factor	Size	< N100m	83	23.7%
		N101m – N250m	109	31.1%
		N251m – N450m	97	27.7%
		N451m – N750m	14	4.0%
		> N751m	47	13.4%
		Total	350	100.0%

Continuous Variable Information

		N	Minimum	Maximum	Mean	Std. Deviation
Dependent Variable	ORM	350	1.18	5.00	3.6745	1.06139

Tests of Model Effects

Source	Type III Wald Chi-Square	df	Sig.
(Intercept)	2462.019	1	.000
Size	7.288	4	.121

Dependent Variable: ORM
Model: (Intercept), Size

Parameter Estimates

Parameter	B	Std. Error	95% Wald Confidence Interval Lower	95% Wald Confidence Interval Upper	Hypothesis Test Wald Chi-Square	Hypothesis Test df	Hypothesis Test Sig.
(Intercept)	4.035	.1530	3.735	4.335	695.322	1	.000
< N100m	-.473	.1915	-.848	-.098	6.099	1	.014
N101m – N250m	-.389	.1831	-.748	-.030	4.522	1	.033
N251m – N450m	-.372	.1864	-.738	-.007	3.986	1	.046
N451m – N750m	-.593	.3194	-1.219	.033	3.450	1	.063
> N751m	0[a]	.	.	.	.	.	.
(Scale)	1.100[b]	.0832	.949	1.276			

Dependent Variable: ORM
Model: (Intercept), Size
a. Set to zero because this parameter is redundant.
b. Maximum likelihood estimate.

Size vs ORM

Ownership and ORM

Table 3: Regression Result for Ownership Type vs. ORM

Categorical Variable Information

			N	Percent
Factor	Ownership Type	Private	102	29.1%
		Public Liability	108	30.9%
		Foreign-Owned	81	23.1%
		Government-Owned	59	16.9%
		Total	350	100.0%

Continuous Variable Information

		N	Minimum	Maximum	Mean	Std. Deviation
Dependent Variable	ORM	350	1.18	5.00	3.6745	1.06139

Tests of Model Effects

Source	Type III Wald Chi-Square	df	Sig.
(Intercept)	4043.320	1	.000
Ownership Type	9.515	3	.023

Dependent Variable: ORM
Model: (Intercept), Ownership Type

Parameter Estimates

Parameter	B	Std. Error	95% Wald Confidence Interval Lower	95% Wald Confidence Interval Upper	Hypothesis Test Wald Chi-Square	df	Sig.
(Intercept)	3.373	.1361	3.106	3.640	613.753	1	.000
Private	.345	.1710	.009	.680	4.058	1	.044
Public Liability	.248	.1693	-.083	.580	2.152	1	.142
Foreign-Owned	.538	.1790	.188	.889	9.050	1	.003
Government-Owned	0[a]	.	.	.	.	.	.
(Scale)	1.094[b]	.0827	.943	1.268			

Dependent Variable: ORM
Model: (Intercept), Ownership Type
a. Set to zero because this parameter is redundant.
b. Maximum likelihood estimate.

Ownership vs ORM

Table 3 presents the results of the regression analysis for ownership type as a predictor of ORM. The results show that ownership type ($p < 0.05$) has a significant effect on ORM. The findings also shows that ownership type such as private ($\beta = .35$, $p < 0.05$), foreign owned ($\beta = .54$, $p < 0.05$) significantly predicted ORM but public liability ($\beta = .25$, $p > 0.05$) do not significantly predicted ORM. Hence it can be concluded that ownership type has a significant effect ORM.

Discussion of Findings

The result of the first hypothesis indicates that the size of an insurance company has no effect on its operational risk management practice. This corroborates the studies of Moosa (2015); Sharifi et al (2016) and is contrary to the findings of Wang & Tsu (2013); Onsongo et al (2019); Tandon & Mehra (2017) and Zaman & Ali (2017).

Size had no significant effect on ORM overall, results showed that the smaller companies significantly had better operational risk management efficiency than the bigger companies thus we accept the hypothesis. When looked at individually, insurance companies that had an annual profit of N450m and below significantly predicted ORM than companies with an annual profit above N451m.

From the empirical analyses, it is confirmed that size is not a factor influencing operational risk management practice. This adds to the ongoing debate on the effect of firm size on risks, risk management and operational risk management.

With reference to ownership type, there is a significant effect on ORM practice. The result of the second hypothesis established that the ownership structure of insurance company has an effect on the practice of operational risk management. This is supported by the studies of Zaman& Ali (2017); Wang and Hsu (2013) and Adnan et al (2018). The findings contrast with those of Sharifi et al. (2016) and Mehra & Tandon (2018).

It is widely believed that publicly listed firms are more developed in general risk management and thus operational risk management. For example, see result of Zaman & Ali (2017) where they saw a significant effect with publicly listed firms but no significant effect with private ownership. Public liability insurance companies have more at stake because they have to enhance shareholder value and thus adhere strictly to corporate governance guidelines. Corporate governance's main goal is to give businesses a guide for managing the interests of all stakeholders. Also, foreign-owned companies abide to the guidelines set by their parent companies so ORM practice will be influenced by the tone set at the head offices. Thus, we can conclude that ownership type can determine the practice of ORM and support that a significant relationship may be observed between business risk taking and ownership concentration (Desender & Lafuente, 2014).

5. CONCLUSION AND RECOMMENDATION

The aim of the study is to examine the factors that determine ORM practice in the Nigerian insurance industry. The results suggest that has no significant effect on operational risk management and thus not a factor in operational risk management in the insurance industry. Ownership (public, private, government or foreign) on the hand has a significant effect and is a factor influencing operational risk management in the insurance sector.

The study has implications on the insurance industry in view of the adoption of risk-based supervision and the recapitalisation of the sector. The findings have major inferences to the financial sectors and regulatory agencies in Nigeria. The study sought and filled an important gap regarding the determinants of operational risk management practice in the Nigerian insurance industry.

This study adds to existing literature on the practice of ORM in the insurance industry in Nigeria and thus contributes to understanding the factors driving it. The findings of the study have an importance to the regulatory authorities in assessing its supervisory role. For academia, further research exploring the relationship between the factors of ORM practice, and the value ORM contributes to the insurance industry.

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