



THE DETERMINANTS OF ENTERPRISE RISK MANAGEMENT OF LISTED INSURANCE FIRMS IN NIGERIA

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Abstract

The study the determinants of enterprise risk management of listed insurance firms in Nigeria from 2014 to 2023. The study used descriptive research design. The population of the study was twenty-two (22) listed insurance firms in Nigeria as at December, 2023 and a sample size of 20 listed insurance firms using the judgemental sampling technique and with the aid of filtering criteria that is based on unavailability of published annual report with the Nigerian Exchange Limited. Secondary data was extracted from the audited financial statement of the listed firms. To analyse data sourced the ordinary least square (OLS) regression model was adopted. The findings revealed that liquidity and input expenses significantly impact on enterprise risk management of listed insurance firms positively. However, underwriting risk showed a negative and significant impact on enterprise risk management of listed insurance firms. Nevertheless, leverage showed an insignificant negative impact on risk management of listed insurance firms. Therefore, the study recommended that management of listed insurance firms in Nigeria should maintain and sustain a high liquidity profile in order to meet maturing claims as they fall due. In addition, compliance with underwriting risk and input expenses policy will strengthen the enterprise risk objectives.

Keywords: liquidity, underwriting risk, leverage, input expenses, enterprise risk management.

1. Introduction

Risk management has occupied an important place on the agenda of practitioners, academics and the business community, despite its evident failure in the global financial crisis of 2008 and its multiplier effect on the world economy (Dabari & Saidin, 2014). It has assumed a central position within the strategic priorities of the contemporary business world because it enhances organizational performance and creates value for stockholders (Solomon & Adam, 2017).

The insurance industry in Nigeria, like in many emerging markets, operates in a dynamic environment characterized by economic volatility, regulatory pressures, and evolving customer needs (Agbaje et al., 2024; Dagunduro et al., 2025). The performance of insurance firms in Nigeria has been of significant interest to both academics and practitioners, given the industry's potential to contribute to economic stability and growth (Fali et al., 2020). Insurance business is understood as the spine of any country 's risk management system, since it ensures financial security, serves

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as an important component in the financial intermediation chain and offers a ready source of long-term capital for infrastructural projects in Nigeria (Nayi et. al, 2025). Also, insurance business plays a vital role in the Nigerian economy through risk bearing, employment of labour, payment of tax, providing vehicle for investors and other financial investment services, (Fali et al., 2020).

The evolution of insurance in Nigeria can be traced to the early 20th century, a time when the national economy was primarily agrarian. The inherent risks associated with agricultural activities during this period underscored the necessity for risk management mechanisms, thereby contributing to the emergence and gradual development of insurance practices in the country. Despite its importance for economic development, the gross premium collected by insurance companies in Nigeria is about 1.9 Billion United States Dollars compared to the 3.8 Billion United States Dollars collected in South Africa, (NAICOM 2022).

In the United Kingdom, the insurance industry contributes about 20% of the total GDP of the country. In South Africa, the insurance industry contributes 17% of the total GDP and in Kenya, the insurance industry contributes 3.4% of its nation's GDP. However, in spite the astronomical growth of the Insurance companies from just one agency in 1918 – Royal Exchange Assurance Agency to the present number of 56 Insurance firms as stated on National Insurance Commission website, the Nigerian Insurance industry contributes a meagre 0.7% of the total GDP of Nigeria. It will be right to say that the performance of Nigerian insurance industry is sub-optimal (NAICOM 2022).

Furthermore, the suboptimal performance could stem out from the low level of patronage on insurance business. One significant concern arises when insurance firms experience difficulties in meeting maturing claims. Therefore, such a concern can create room for distrust and low demand for insurance products and services. Nevertheless, one noticeable challenge by the regulator of insurance firms is National Insurance Commission inability to ensure that there are standard premium rates on certain insurance products. This suggest that insurance firms should enforce the policy of applying benchmark rates when negotiating premiums.

Also, poor insurance image is created as a result of improper underwriting of insurance contract. Sometimes, operating insurance business with inadequate technology can contribute negatively to insurance earnings and impact adversely on the underwriting process. Nevertheless, a poor risk assessment of insurance transactions, inexperience professionals providing insurance business can consequently impact on the effective risk management. (Seun, 2024).

There has been growing interest in risk management globally due to growth in business dynamics that involve diverse risks. The impact of the global financial crisis has highlighted the importance of risk management (Agbaje et al., 2024). Risk management importance is also attributed to the changing business environment characterized by threats from political, economic, natural, and technical resources (Dagunduro et al., 2024). Risk management is a systematic approach that aligns strategy, people, technology, processes and knowledge with the purpose of assessing, evaluating and managing the risk that an organization faces. The system by which separate unit or sections of the organization manage risks is referred to as traditional risk management (TRM) or "silo".

Traditional approaches view risks as a series of single and unrelated elements where individual risks are classified and coordinated separately (Boluwaji et al., 2024; Dagunduro et al.,

2024). The changing phenomenon from the traditional approach to the new trend in risk management is often referred to as a paradigm shift (Agbaje et al., 2024). Enterprise risk management (ERM) is a shift from silo approach to enterprise approach. Enterprise risk management will be adopted and used throughout this study and will be used interchangeably with risk management.

Existing literatures suggest that factors such as size, independence, expertise, and diversity of risk management committees can significantly influence a firm's ability to manage risks effectively, which may, in turn, affect its market performance (Karim et al., 2024; Malik et al., 2021). However, studies have focused on how these attributes directly impact the market performance of insurance firms, particularly in emerging markets such as Nigeria, where the regulatory environment and market dynamics may differ from those in other regions (Malahim, 2023). In developed countries such as U.S.A and China, studies carried out on focused on firm value, performance on enterprise risk management (Liu. 2023; Jalilva & Moorthy, 2022; Rahman et al. 2021; Chen et al 2020; Li et al. 2014; Hoyt & Liebenberg, 2011). Understanding the determinants of enterprise risk management of insurance sector in Nigeria is crucial for improving firm value and investor confidence.

Some studies have attempted to investigate the determinants of enterprise risk management in the financial sector of some developing countries. However, the need to add to existing knowledge remains paramount for a deeper understanding on the impact of some significant determinants (liquidity, underwriting, leverage, and input expenses) on enterprise risk management (Bamigboye et al. 2024; Abdulkadir 2024; Abere and Saka 2023; Dagunduro et al. 2023; Duniya et al. 2021).

The main objective of this study is to examine the determinants of enterprise risk management of listed insurance firms in Nigeria. Other specific objectives are:

- i. To assess liquidity as a determinants of enterprise risk management of Listed insurance firms in Nigeria.
- ii. To evaluate underwriting risk as a determinants of enterprise risk management of Listed insurance firms in Nigeria.
- iii. To ascertain leverage as a determinants of enterprise risk management of Listed insurance firms in Nigeria.
- iv. To identify input expenses as a determinants of enterprise risk management of Listed insurance firms in Nigeria.

In line with the objectives of the study, the following hypotheses were formulated and stated in null form:

H₀₁: Liquidity has no significant impact on enterprise risk management of listed insurance firms in Nigeria

H₀₂: Underwriting risk has no significant impact on enterprise risk management of listed insurance firms in Nigeria

H₀₃: Leverage has no significant impact on enterprise risk management of listed insurance firms in Nigeria

H₀₄: Input expense has no significant impact on enterprise risk management of listed insurance firms in Nigeria

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This study is driven by the need to address gaps in the existing literature concerning the impact of risk management committee attributes of insurance companies, with a particular focus on the Nigerian context. By addressing this gap, the study seeks to extend these findings in order to provide valuable insights for policymakers, investors, and management teams in the insurance industry. Nevertheless, the results would contribute to the wider discussion on enterprise risk management in emerging markets that offers an enhanced firm value through effective risk oversight.

2. Literature Review

Conceptual Review

Risk is a multifaceted concept with definitions provided by various scholars. According to Malik et al. (2021), risk comprises two core components: uncertainty and consequences. Some experts interpret risk based on its potential to impact objectives either positively or negatively. There are pure and speculative risks. Speculative risks are those risks that provide an opportunity for gain or loss while a pure risk has to do with the chance of either loss or no loss but no gain (Karim et al., 2024).

Risk involves the possibility of hazards such as system failure due to human attitude like fraud inspired by corruption or lack of financial control that could cause financial loss to the organization. The types of risks that are faced by the firm and affect its performance include operational, product risk, input risk, tax risk, legal risk and regulatory risk. The management activities of organizing, coordinating, planning, controlling and directing have been an integral part of risk management. The process of identifying, prioritizing and treating risks has been a common practice among organizations. However, an integrated or enterprise approach to the treatment of risk has now been practiced instead of the traditional risk treatment (silo) or risk transfer through insurance or other financial products (Malik et al., 2021).

The system by which separate unit or sections of the organization manage risks is referred to as traditional risk management (TRM) or "silo". Traditional approaches view risks as a series of single and unrelated elements where individual risks are classified and coordinated separately (Malahim, 2023). The major disadvantage of the traditional approach to risk management is the narrow focus on threats instead of focusing on opportunities and threats. There is a great difference between the enterprise approach to managing firms risks and historical or silo approach because enterprise approach tends to aggregate risk instead of isolating them (Siddique et al. 2022).

The changing phenomenon from the traditional approach to the new trend in risk management is often referred to as a paradigm shift (Siddique et al. 2022). Enterprise risk management is a shift from silo approach to enterprise approach based on the extant literature. It has the same meaning as holistic risk management (HRM), corporate risk management (CRM), Integrated risk management (IRM), enterprise-wide risk management (EWRM), and business risk management (BRM) (Alduneibat, 2023; Dada et al., 2023; Dagunduro et al., 2025). The Committee of Sponsoring Organizations defines ERM as: "A process, effected by an entity's board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance of entity objectives".

Oluwagbade et al. (2023) suggested that an assessment of an organizational liquidity level as an ability to meet its current obligations when they fall due is quite significant. From the context of insurance companies, liquidity is referred to as the probability of insurance companies to pay its debt which include operating expenses and payment for losses/benefits under insurance policies. It shows the ability to convert an asset to cash quickly and also reflect the ability of the firm to manage its working capital when kept at normal level. A firm can use liquid assets to finance its activities and investments when external finance is not available or it is too costly (Frank & Ukpog, 2024).

Empirical Review

Empirical studies have emphasized the strategic role of Enterprise Risk Management (ERM) in enhancing organizational resilience and performance. Oluwagbade et al. (2023), Adegbe et al. (2019), Nwanji et al. (2020), and Dada et al. (2023) found that ERM enables firms to manage risks in a comprehensive, enterprise-wide manner. Their findings indicate that ERM supports a consolidated, structured, and continuous approach to risk, aligning it with the organization's long-term strategic objectives.

ERM integrates all aspects of the firm—employees, knowledge systems, internal processes, and technologies—into the risk management process, contributing to more effective and forward-looking risk oversight (Dagunduro et al., 2025; Alduneibat, 2023; Berry-Stoelzle; & Xu, 2016). Due to the incorporation of risk management within corporate strategy, ERM must be a top-down directed process with responsibility at the board level (Boluwaji et al., 2024; Dagunduro et al., 2024).

The major benefit associated with ERM is that it helps firms to deal with all possible risk effectively and in a coordinated manner, thereby decreasing earnings and stock-price volatility, decreasing cost and increasing efficiency, which ultimately improves the performance and value of firms (Agbaje et al., 2024; Dal Maso et al., 2024; Dagunduro et al., 2024; Dagunduro et al., 2023; Agbaje et al., 2024; Dal Maso et al., 2024).

Ibrahim et al. (2020) examined how financial risk affected the financial performance of Nigerian listed insurance businesses between 2009 and 2018. The results of fixed effect regression, using secondary data from 19 listed insurance companies, demonstrated that solvency risk has a positive and substantial impact on ROA, liquidity risk has a negative and minor impact, and credit risk has a negative and large impact on financial performance.

Yohanna et al. (2020) investigated the financial risk factors that influence the profitability of non-life insurance companies that are listed on the Nigerian Stock Exchange. Using a panel research design, the study found that financial risks had an impact on the profitability of Nigerian non-life insurance companies. The profitability (ROA) of Nigerian non-life insurance businesses was specifically impacted by solvency risk, leverage risk, and reinsurance risk from 2008 to 2018.

Ayeni and Emeka (2021) looked into how financial risks affected Nigerian manufacturing companies' performance. A fixed effect regression model was used to evaluate data from manufacturing companies' annual reports that were listed on the Nigerian Stock Exchange between 2010 and 2020. It was found that while firm age has a positive and negligible impact on return on assets, leverage risk, liquidity risk, and firm size have negative and significant effects.

Study conducted by Niyi et. al, (2025) examine how the attributes of risk management committees influence the market performance of listed insurance firms in Nigeria. This study

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adopted an expo-facto research design and data were collected from annual reports, financial databases of listed Nigerian insurance firms. The study population consisted of 23 insurance firms listed on the Nigerian Exchange Group (NGX) as of 2023, with census sampling techniques applied to encompass the entire population. The research covered a 12-year period, spanning from 2012 to 2023, to provide robust analysis. The regression analysis results showed that certain attributes of the risk management committee such as its size, independence, and gender diversity positively and significantly impacted the market performance of listed insurance firms in Nigeria.

Recent studies conducted by Fali et al., (2020), Alduneibat, (2023) all revealed insignificant relationship between liquidity and financial performance of insurance companies. In contrast, studies conducted by Lamidi et al., (2022), Odubuasi et al., (2021), and Oluwagbade et al., (2023) found that liquidity is positively and strongly related to financial performance of insurance companies. More also, Agbaje et al., (2024), found a negative significant relationship between liquidity and performance of insurance companies. Insurance firms normally are associated with tackling risk and not profitability which this work focused on.

Firms engaging in ERM may have lower financial leverage if they have decided to lower their probability of financial distress by decreasing financial risk. However, firms may decide that as a result of ERM they are able to assume greater financial risk. According to Agbaje et al. (2024), they posited that the relation between ERM adoption and leverage is unclear. However, Oluwagbade et al. (2023) found that firms with greater financial leverage are more likely to have increase in the probability of bankruptcy and cause the firm's owners to bear financial distress costs.

Charumathi, (2012) examined the determinants of profitability of in Indian life insurers within the period of 2008-2010. For this purpose, firm specific characteristics such as leverage, size, premium growth, liquidity, underwriting risk and equity capital are regressed against Return on Assets. The study did not find any evidence for the relationship between underwriting risk and profitability. The limitation of the study was the limited period covered. If the period captured by the researcher had increased, there is every tendency that the result of the study would have change.

Karim et al. (2024) examined how risk management committee attributes influence firm performance, emphasizing the moderating role of board size in Malaysian listed companies. Performance was assessed using both accounting-based and market-based measures. To address issues of endogeneity, simultaneity, and unobserved heterogeneity, a dynamic model with the generalized method of moments (GMM) was applied. Results indicate that risk management committee attributes, such as size, independence, and meeting frequency, have a negative impact on book-based performance measures but have a positive effect on market-based measures.

In a study of Nigerian context, Malik et al. (2021) investigated how the characteristics of risk management committees (RMCs) impact the market performance of non-financial listed firms in Malaysia from 2015 to 2017. The regression analysis revealed that RMC size, independence, expertise, and the presence of female members have a notably negative effect on market performance. However, when expertise is measured differently, the findings showed that RMC members with specific risk management expertise are positively associated with firm performance, suggesting these members contribute to more effective risk oversight and greater firm value than those with only general financial or accounting expertise. The consistently negative effect

observed for female RMC members, regardless of measurement approach, is attributed to tokenism within the committee.

In a related study in the same industry, Oluwagbade et al., (2023) revealed a positive relationship between the ERM implementation and organizational performance in Nigeria. Odubuasi et al. (2021) found that RMC accounting expertise positively influenced performance, while gender diversity within the committee had a negative impact on performance of Nigerian banks, using survey data.

Theoretical Review

The Resource-Based View (RBV) theory is used to underpin this study. The foundations of the resource-based view theory of the firm can be found in the work by Penrose in (1959) that conceived the firm as an administrative organization and a collection of productive resources, both physical and human. The resource-based view of the Firm has earned a reputation as a promising contemporary theory that combines strategic insights on competitive advantage and organizational insights on firm existence. The resource-based view emphasizes the firm's resources as the fundamental determinants of competitive advantage (Penrose, 1959; Wernerfelt, 1984; Barney, 1986, 1991; Amit & Schoemaker, 1993).

The resource-based view theory focuses especially on the inside of the firm, its resources and capabilities, to explain the value of the organization (Penrose, 1980; Wernerfelt, 1984; Barney, 1991; Grant, 1991; Peteraf, 1993; Makhija, 2003). This theory is applied to explain differences in performance within an industry (Hoopes, Madsen, & Walker, 2003). The RBV of the firm states that differences in performance happen when well successful organizations possess valuable resources that others do not have, allowing them to obtain a rent in its quasi-monopolist form (Wernerfelt, 1984). They should be valuable, increasing efficiency and, effectiveness, rare, imperfectly imitable and non-substitutable (Barney 1991).

Most resource-based view researchers choose to look within the enterprise and down to the factor market conditions that the enterprise must contend with, to search for some possible causes of sustainable competitive advantages holding constant all external environmental factors (Peteraf & Barney, 2003,). In this view, it is important to assess the determinants of enterprise risk management insurance firms in an integrated way. So, in this study, we would identify the most important determinants of enterprise risk management on listed insurance firms in Nigeria.

3. Methodology

In this study, ex-post facto research design was employed. This type of research underscores the importance of utilising historical data to establish valid findings. The population of this study consists of all the 22 insurance firms listed on the Nigerian Exchange Limited as at 31st December 2023. This study employs a judgemental sampling technique in arriving at twenty sampled firms. This sample represents an estimated 91% of the study population over a ten-year period spanning from 2014 to 2023. Secondary data used in this study is informed by the quantitative approach of the study. The data of the study have been gathered from the audited financial statements of the firms only.

To find out the determinants of enterprise risk management of listed Insurance firms, the parametric tool of analysis employed in the study is the Ordinary Least Square (OLS) regression model because the approach of the study is quantitative. OLS regression technique is used in this

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study due to its efficiency and effectiveness in measuring the statistical impact of one variable on another variable.

The model uses ERM as the dependent variable and the independent variables of Liquidity (LIQ), Underwriting Risk (URK), Leverage (LEV) & Input Expenses (IEX).

$ERM = f(LIQ, URK, LEV, IEX)$. In equation form, it is expressed as follows:

$$ERM = \alpha + \beta_1 LIQ_{it} + \beta_2 URK_{it} + \beta_3 LEV_{it} + \beta_4 IEX_{it} + e_{it}$$

Where: ERM is Enterprise Risk Management; LIQ is Liquidity; URK is Underwriting Risk; LEV is Leverage; IEX is Input Expenses; e is Error term; α is the intercept; β_1 - β_4 is coefficient of the independent variables; I is Panel; and t is time.

Table 1

Variable Measurement

Variables	Measurement and Sources
Enterprise Risk Management	If the firm disclose enterprise risk management for the year =1 if otherwise 0
Liquidity	Liquidity of insurance firm is measured as the ratio of current assets to current liabilities (Lamidi et al. 2022); (Sisay, 2017)
Underwriting risk	Annual loss incurred (net loss adjustment expenses) divide by annual premium earned. (Anigma 2017)
Leverage	The leverage is taken as total debts divided by total assets of insurance firm (Sumaira&Amjad, 2013)
Input expenses	Expenses - written premium (Naoaj, 2023)

Source: Author's Reviews' 2024

4. Results and Discussion

This section of the study will present the descriptive statistics and regression results of the study and the discussion of the findings follows.

Table 2

Descriptive Statistics

Variable	Obs.	Mean	Std. Dev	Min	Max	Skewness	Kurtosis
ERM	200	.63	.484016	0	1	-.538521	1.290004
LIQ	200	.339	.139338	.1	.94	1.150835	5.08753
URK	200	.5642	.2219021	.06	.89	-.717611	2.615132
LEV	200	.08575	.0985189	.01	.61	3.240585	15.12079
IEX	200	622861.1	1261072	-172583	7566270	3.352723	14.59848

Source: Output from Stata 13

The descriptive statistics table 2 shows the mean value of 0.63 for enterprise risk management of insurance firms, LIQ mean stood at 0.339 and URK has a mean value of 0.5642 while LEV and IEX have mean values of 0.08575 and 622861.1 respectively within the period of the study. The minimum value of ERM stood at 0 and its maximum value is 1, LIQ has a minimum of 0.1 and its maximum stood at 0.94 while URK has a minimum value of 0.06 and maximum of 0.89, LEV and IEX have minimum values of 0.01, -172583 and maximum values of 0.61 and 7566270 respectively.

Among the explanatory variables, inputs expense has the highest standard deviation which implies that it has the little contribution to the explained variable. Leverage has the lowest standard deviation and this shows that it has the highest contribution to the dependant variable. The skewness values were all close to 0 and 1, where ERM and URK are all negatively skewed while the remaining variables depict positive skewness. Also, the kurtosis values were all close to 0 but far from 3. The data is considered to be normally distributed and the regression result has been validated using the normality test.

Table 3

Correlation Matrix

	ERM	LIQ	URK	LEV	IEX
ERM	1.0000				
LIQ	0.5585*	1.0000			
URK	-0.7107*	-0.5112*	1.0000		
LEV	-0.1649*	-0.0597	0.2150*	1.0000	
IEX	0.0999	-0.1115	-0.0367	0.0915	1.0000

Source: Output from Stata 13

Table 3 shows the relationship between the regressand and regressors and the association between the regressors themselves. The table shows that LIQ has a positive association with enterprise risk management implementation (proxied with ERM) while URK has a negative relationship with ERM. LEV has a negative relationship with enterprise risk management implementation, where IEX shows a positive relationship with ERM.

Again, URK has a negative association with LIQ while LEV is negatively associated with LIQ, IEX has a negative association with LIQ. LEV also shows a positively associated with URK. Whereby, IEX is associated with LEV positively. The relationship of the explanatory variables is quite sufficient within themselves and that of the explained variable with the explanatory variable all together. From the output above, it indicated there was no auto or serial correlation among the variable showing no significant value is up to 70% or above, checked appendix for detail.

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Table 4

Summary of Regression Result

Variables	Coefficients	T-values	P-values	Tolerance	Vif	Model summary
Constant	.958868	7.99	0.000			
LIQ	.9981491	5.18	0.000	0.692311	1.39	
URK	-1.201776	-9.76	0.000	0.717441	1.44	
LEV	-.1956838	-0.82	0.412	0.938380	1.07	
IEX	4.43e-08	2.41	0.017	0.963368	1.04	
R ²						0.5701
Adjusted R ²						0.5613
F-Statistics						64.66
F-Significant						0.0000

Source: Output from Stata 13

From table 4, liquidity has a coefficient value of 0.9981491 with a t-value of 5.18 which is significant at 0.000 (1%). This signifies that liquidity is positively and significantly influencing enterprise risk management implementation of listed insurance firms in Nigeria. This implies that for every 1% increase in liquidity of listed insurance firms in Nigeria will lead to approximately 5k increase in their enterprise risk management. The result is not surprising as it is within prior expectation of the researcher. However, the result may be as a result of the fact that liquid cash will make insurance firms manage their risk holistically and carry them out. The result is also in line with reality that liquid cash mop ups the risk insurance firms engage into as part of their determinants.

The policy implication derivable from this finding is that the risk management team of insurance firms will make their cash more liquid in order to implement the enterprise risk management of their firms. This result produces evidence of rejecting hypothesis 1 of the study which states that “Liquidity has no significant impact on enterprise risk management of listed insurance firms in Nigeria”. The finding is in line with the findings of Naoaj (2023) where they found that liquidity is positively and strongly related to financial performance of insurance firms but contrary to Sisay (2017) found a negative significant relationship between liquidity and performance of insurance firms.

The regression results in table 4 shows that underwriting risk has a coefficient value of -1.201776 with a t-value of -9.76 which is significant at 0.000. This signifies that URK is negatively and significantly impacting the enterprise risk management of listed insurance firms in Nigeria. This implies that a one percent increase in URK the enterprise risk management of listed insurance firms will decrease by 10 kobo approximately. This is not surprising as is line with the prior expectation of the researcher.

The policy implication derived from this finding is that the management of listed insurance firms in Nigeria is to place more emphasis on the underwriting risk decision of their firms in order to be able to guarantee payment in the case of damage or financial loss and accept the financial risk for liability arising from such guarantee to the insured. The result provides evidence of rejecting hypothesis 2 of the study which states that “Underwriting risk has no significant impact

on enterprise risk management of listed insurance firms in Nigeria”. The finding is in line with Horvey and Odei-Mensah (2024) where the study did not find any evidence for the relationship between underwriting risk and profitability (Anigma 2017).

From table 4 above, leverage has a coefficient value of -.1956838 and a t-value of -0.82 which is not significant with a p-value of 0.412. This signifies that leverage is negatively and significantly not influencing enterprise risk management of listed insurance firms in Nigeria. The result implies that for every 1 percent increase in leverage of listed insurance firms in Nigeria the enterprise risk management will decrease by 1 kobo approximately. The result is not surprising as it is in line with the researcher’s prior expectation.

The policy implication of this study is that the management of listed insurance firms in Nigeria should emphasise the need to reduce their financial distress in order to reduce their financial risk because greater financial risk will bring increase in probability of bankruptcy and financial distress cost to the firms. The result provides evidence of failing to reject hypothesis 3 of the study which states that “Leverage has significant impact on enterprise risk management of listed insurance firms in Nigeria”.

The regression result in table 4 shows that input expense has a beta coefficient value of 4.43e-08 with a t-value of 1.71 and is significant at 0.017 (1%). This signifies that input expense is statistically positive and significantly affect the enterprise risk management of listed insurance firms in Nigeria. This implies that for every 1 percent increase in input expenses of listed insurance firms their enterprise risk management will increase by N2.41 kobo. The result is not surprising as it is in line with prior expectation of the researcher. The result may be as a result of the fact that insurance firms undertake specific risks for individuals and other businesses in order to avoid possible losses.

The policy implication derivable from this finding is that the management of listed insurance firms in Nigeria should modelled input expense as a function of physical output in order to allocate it to their line of business. The result provides evidence to reject hypotheses 4 which states that “Input expense has no significant impact on enterprise risk management of listed insurance firms in Nigeria”.

Cumulatively, the regression table shows that R^2 value is 0.5701 (57%) and the adjusted R^2 0.5613 (56%) which signifies that the independent variables (LIQ, URK, LEV, IEX) of the study have explained the variation in enterprise risk management of listed insurance firms in Nigeria of up to 57% which provides the fitness of the model. The F statistics of 64.66 which is significant at 1% (0.0000) confirms that the model is well fitted, thus, the variables of the study are well selected and properly utilized. The cumulative finding that liquidity, underwriting risk, leverage and input expenses are part of enterprise risk management of listed insurance firms in Nigeria is in line with Akpan et al. (2014), Hoyt & Liebenberg (2008), Pagach and Warr (2011), Beasley et al. (2005).

5. Conclusion and Recommendations

The study found out the determinants of enterprise risk management of listed insurance firms in Nigeria and it was found that liquidity and input expenses and input expenses played a vital role in increasing the implementation of enterprise risk management of listed insurance firms

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in Nigeria while underwriting risk play a negative role on the implementation of enterprise risk management of listed insurance firms in Nigeria. The leverage plays an insignificant role by reducing the financial risk and distress cost of risk management of listed insurance firms in Nigeria. in line with the findings of the study, the researcher concludes that liquidity and input expenses play a vital role in the enterprise risk management of listed insurance firms in Nigeria and contribute a lot as part of the determinants of listed insurance firms in Nigeria, therefore, a strong association exist between liquidity and input expenses of enterprise risk management of listed insurance firms in Nigeria.

Based on the findings and conclusions of the study, the following recommendation were provided:

- (i) Management of listed insurance firms in Nigeria should maintain and sustain a high liquidity profile in order to meet maturing claims as they fall due while diversifying their assets in a way to meet their enterprise risk objectives.
- (ii) Management of listed insurance firms should comply with policies that guide underwriting risk in an insurance contract in order to avert potential losses that may arise.
- (iii) Management of listed insurance firms should be critical in their decisions in respect to leverage. The financing decision should be more of equity than debt to avoid high leverage. Therefore, insurance firms should rely more on internally generated funds and equity capital than debt capital as the source of financing.
- (iv) Input expense has a positive and significant relationship to enterprise risk management of listed insurance firms in Nigeria. Therefore, insurance firms should give more attention in reduction of operating, administrative and personnel expenses and other costs, to employ appropriate enterprise risk management decision.

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