Corporate Risk Management Disclosures and Financial Performance of Listed Deposit Money Banks in Nigeria

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Abstract

The relationship between corporate risk management disclosures and the financial performance of Nigerian listed deposit money banks was empirically examined in this study. The study is important because it shows how much corporate risk management disclosures affect the performance of banks. Corporate risk management disclosures (CRMDs) and financial performance were found to be correlated through the use of CRMD key proxy variables in the study. These variables included Financial Risk Management Disclosure (FRMD), Strategic Risk Management Disclosure (SRMD), Operational Risk Management Disclosure (ORMD), and Technological Risk Management Disclosure (TRMD). Return on equity (ROE) was used as a proxy for financial performance. The study was guided by four hypotheses, and the panel least squares regression model was utilized to perform a statistical test of the parameter estimates. Ex Post Facto design was employed in the study's analysis. The Nigerian Exchange Group (NGX) Factbook, published annual financial reports, and accounts of listed deposit money banks in Nigeria from 2015 to 2022 provided the secondary data for the study. Overall, the results showed a positive and significant relationship between the financial performance of listed deposit money banks and the Financial Risk Management Disclosure (FRMD), Strategic Risk Management Disclosure (SRMD), Operational Risk Management Disclosure (ORMD), and Technological Risk Management Disclosure (TRMD) have a positive and significant relationship with the financial performance of Nigerian listed deposit money bank sat 1–5% significant level of. The study comes to the conclusion that corporate risk management disclosures protect Nigerian banks' bottom lines. Since corporate risk management affects banks' performance in Nigeria, the study recommended that banks reveal more information about financial risk management, strategic risk management, operational risk management, and technological risk management in their annual reports for the consumption of financial statement users.

Keywords: Corporate Risk Management Disclosure, Financial Risk Management Disclosure Strategic Risk Management Disclosure Operational Risk Management Disclosure and Technological Risk Management Disclosure

1.0 Introduction

The business environment is becoming more unpredictable and volatile for a variety of reasons. According to studies, one of the main causes of the volatility and uncertainty in the current business environment is risk management (Ernst & Young, 2022). For instance, a lot of unanticipated things happened in a business setting that weren't always related to money problems. Tragedies like natural disasters, wars, regulatory changes, political unrest, shifts in global consumer demand, and many more occur in these events and have an impact on a firm's ability to survive and grow. However, compared to the disclosure of financial risk management information, non-financial risk management information receives less attention and is therefore disclosed less (Lajili & Zeghal, 2017).

According to FRC (2022), a lot of businesses continue to decline to disclose more risk management data because they do not understand the connection between these disclosures and business performance. These companies assert that such data would typically be sensitive commercial information that could endanger their operations and financial standing. The validity of this caution regarding the potential negative effects of firms disclosing more risk management information is still up for debate. Therefore, the purpose of this study is to investigate the effects of corporate risk management disclosing, which is motivated by the disagreement between investors and firms regarding voluntary risk management disclosure.

The Nigerian Code of Corporate Governance governs risk management disclosure in Nigeria (NCCG, 2018). According to the code, corporate reporting should provide sufficient information about how companies manage risk based on financial risk (FR), strategic risk (SR), operational risk (OR), and technological risk (TR). The United Nations Global Compact, the Global Reporting Initiative (GRI), the International Integrated Reporting Council (IIRC), the Sustainability Accounting Standards Board (SASB), the Task Force on Climate-related Financial Disclosures (TFCD), and the European Commission Guidelines on Non Financial Reporting have all expressed a great deal of interest in risk management disclosures on a global scale.

Quoted firms on the Nigerian Exchange Group (NGX) are required to comply with the International Financial Reporting Standards (IFRSs) and that of listing requirements of the Securities Commission's rules and regulations. As of right now, only the financial risk management data needs to be shared, among other things because of the implementation of IFRS 7 Financial Instruments Disclosure (FID). Particular guidelines on what information to disclose about financial risk management in a company's financial statements are provided by this accounting standard. It is still discretionary to disclose non-financial risk management information in a company's annual report because there is currently no widely accepted guideline that specifies what should be disclosed and how.

Concerns about the need for non-financial information (NFI) to live up to expectations have also been voiced by a number of stakeholders. This is particularly true with regard to corporate risk management disclosures, where there hasn't been much research done in the academic literature regarding the relevance and utility of these disclosures for investors' decision-making.

Investor expectations were not met by the corporate risk management disclosures (CRMDs) measured using FRMD, SRMD, TRMD, and ORMD independently in the previous literature in Sub-Saharan Africa. For example, Yusuf (2020) looked into the relationship between firms' performance in Nigeria and financial risk management disclosures (FRMD); Bokpin (2020) looked into the relationship between firms' value in Ghana and strategic risk management disclosures (SRMD); and Mokhtar and Mellett (2017) looked into the impact of empowerment risk management disclosure (ERMD) on firms' performance in Egypt. Additionally, Yazid (2022) looked into the relationship between operational risk management disclosure (ORMD) and firms' performance in Libya, while Chan (2019) examined the relationship between firms' empowerment risk management disclosure (ERMD) and firms' value in Sudan. Due to investor demands, those corporate risk management disclosure categories (FRMD, SRMD, TRMD, and ORMD) would be combined to create a model fit for risk management disclosures ranging from technological risk management, operational risk management, financial risk management, strategic risk management, and so on. To the best of one's knowledge, no specific study has addressed this knowledge gap in Sub-Saharan Africa.

It was also observed that companies felt that providing stakeholders with additional risk information could potentially compromise their worth. An empirical investigation into the impact of CRMDs on firms' performance is thus necessary in the event that such an assumption cannot be proven. To achieve this purpose, the following hypotheses were formulated, thus;

H_{01}: Financial risk management disclosure has no significant effect on financial performance of listed deposit money banks in Nigeria

H_{02}: Strategic risk management disclosure has no significant effect on financial performance of listed deposit money banks in Nigeria

H_{03}: Technological risk management disclosure has no significant effect on financial performance of listed deposit money banks in Nigeria

H_{04}: Operational risk management disclosure has no significant effect on financial performance of listed deposit money banks in Nigeria

2.0 Review of Related Literature

2.1 Corporate Risk Management Disclosures

The corporate sector has demonstrated the value of risk management in recent years. The significance of risk management lies in its ability to enhance an organization's performance through the mitigation of fraud, effective handling of potential threats, and optimized resource utilization. The ability to take and manage risk is essential to the survival and expansion of any business (Axelos Global Best Practise, 2019).

On the other hand, risk disclosure lessens stakeholder conflicts between management and shareholders and helps to mitigate information asymmetry. Moreover, risk reporting is regarded

as a crucial tool for management accountability and a helpful tool for change management (Linsley & Shrives, 2021). Furthermore, risk management is a helpful tool that supports sound corporate governance. According to Acharya and Clement (2020), effective corporate governance pertains to the distribution of power among the different parties involved in the business and the manner in which the organization is managed.

Corporate entities can disclose their business activities, including their risk management procedures, through annual accounts and reports. Because of this, shareholders and other stakeholders can assess information on risk management pertaining to a company using the annual reports of companies (Lang & Lundholm, 2020). According to Wong's (2018) opinion, financial institutions in particular disclose their risk management procedures in their annual published accounts and reports, which are reviewed by professional auditors and produced in accordance with the rules and regulations governing financial reports. Furthermore, according to Holland (2018), risk management disclosure refers to the information provided to shareholders and other stakeholders in annual reports and accounts of companies to help them evaluate the risk management information pertaining to that particular company.

2.1.1 Determinants of Corporate Risk Management Disclosures

2.1.1.1 Financial Risk Management Disclosure

The importance of financial risk reporting has increased and risen to the top of investors' priority lists. Numerous studies have emphasized the significance of financial risks in a variety of fields, particularly the qualitative aspects of them. A direct impact on the loss of the monetary value of assets and liabilities is referred to as financial risk. It includes risks related to the market, credit, liquidity, operations, and law (Savvides & Savvidou, 2022). Financial risk is the possibility of losing money (or making money) as a result of unforeseen changes in market rates or prices, according to Dowd (2019). He went on to categorize financial risk into risks related to the market, interest rates, equities, exchange rates, and commodity prices. Similarly, "the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices" is one definition for market risk. They benefit from it in many ways, including an increase in the firm's value in spite of expenses since it reduces the likelihood of risks. According to PWC (2022), management's capacity to assess risk, implement a culture of risk acceptance, and control risk and uncertainty is essential to success. More specifically, from the perspective of guaranteeing the longevity of financial institutions' operations, it is critical to implement market risk management in banks. Providing top executives with a comprehensive and clear picture of the risks associated with bank trading is the responsibility of market risk management.

Financial risk management disclosure emphasized in this study is qualitative aspect of it. Hence, it was measured using the GRI disclosure index, which was modified from the research of Yusuf (2020), Okpala, Ifurueze, and Ofor (2021). View the appendix 1

2.1.1.2 Strategic Risk Management Disclosure

Strategic risk disclosure is information that outlines a company's main risks and the expected impact those risks will have on their performance both now and in the future (Miihkinen, 2018). The process of identifying, quantifying, and mitigating any risk that has an impact on or is inherent in a company's business strategy, strategic objectives, and strategy execution is known as strategic risk management. Enterprise risk management (ERM) includes a critical but frequently disregarded component called strategic risk management. Strategic risk is significantly more important than financial or operational risk, despite the fact that ERM has traditionally focused on these two types of risk (Bokpin, 2020).

Strategic risk management, according to Raheman, Salleh, Afza, and Chek (2019), is the risk that poor business decisions—or a lack of them—may pose to a company. Strategic risk is frequently a significant determinant of a company's value, which is especially obvious if the company experiences a sharp decline over a brief period of time. It is a key element in contemporary risk management as a result of this and its impact on compliance risk.

According to Yazid (2022), voluntary disclosure of strategic risk management is a way to accomplish a goal. It complements the risk management process by affecting investors' projections of the company's future worth. Strategic risk is optional, and companies voluntarily and discretionarily choose to disclose it in their financial reports. Academic research on operational risk reporting has not yet addressed this issue, though.

2.1.1.2.1 Strategic Risk Management Framework

As noted in Nigerian code of corporate governance 2018, firm must ensure that risk is addressed at these stages:

- **Strategic Risk Profile Analysis**

In this step, potential impacts on the business are examined in order to identify potential risks. These could be external variables like market trends, customer preferences, or the legal framework in which the business operates, or internal variables like the organization's structure and culture. To assess and rank specific risks, a SWOT analysis (strength, weakness, opportunity, and threat) can be used.

- **Formulation of Strategic Plan**

The business presents suggested strategies and specifies the aims and objectives required to fulfill its strategic mission and vision using the knowledge gathered from the analysis. Key risk metrics and performance indicators that need to be measured, along with the methodology and people in charge of overseeing them, should all be included in the strategic plan. In order to decide when management should take action to reduce or increase risk, it should also set thresholds, or trigger points, for these metrics.

- **Implementation**

In this phase, the business uses its operations to implement the plan. This covers establishing the organizational structure and budgets. Strategic risk is also monitored and controlled here by keeping an eye on the risk metrics that were found during the analysis. The GRI disclosure index was used to measure strategic risk management disclosure (SRMD), which was taken from the research of Bokpin (2020), Aggrawal, and Tobi (2020). The disclosure index consists of 5 items. See appendix 1.

2.1.1.3 Technological Risk Management Disclosure

Al-Hadi (2021) claims that giving investors little to no information about an insurance company's technological risk management could cause them to overestimate the expected loss and/or the likelihood that a technological risk event will materialize, leading them to demand a higher return. Information sharing about technology risk is critical for businesses looking to make a name for themselves in the financial sector.

Specifically, the usefulness is contingent upon the caliber and volume of disclosed data, extending beyond yearly reports. Providing a summary of the organization's usage of financial instruments and risk exposure is the goal. In addition to keeping up with internal reporting and monitoring, they also work to protect the insured and investors (Heflin, 2012). Hoyt and Liebenberg (2011) define technological risk management (TRM) as the application of risk management techniques to information technology for the purpose of managing information technology risk. It is the business risk connected to an enterprise's or organization's adoption, ownership, involvement, operation, and use of IT.

One could think of technological risk management as a part of a larger enterprise risk management framework. An organization's use of a systematic approach to the identification, assessment, and management of information security risks is strongly suggested by the creation, upkeep, and ongoing updating of an information security management system (ISMS) (Lang & Lundholm, 2020). Amir and Lev (2016) claim that the technological risk framework includes both the positive and negative effects of operations and service delivery, which can destroy or reduce an organization's value, as well as the risk of missing out on opportunities to use technology to improve or enable business or IT project management for things like overspending or late delivery that has a negative impact on the business.

Technological Risk Management Disclosure (SRMD) was measured using the GRI disclosure index adapted from the study of Al-Hadi (2021), Owolabi and Oladapo (2020). The disclosure index consists of 5 items. See appendix 1.

2.1.1.4   Operational Risk Management Disclosure

Because one of a company's primary duties is to accomplish, assess, and manage the risks that arise from its business activities, listed firms' annual financial reports ought to display the key operational risk indicators. The type of supported risk event, the exposed business line, the risk indicators, the frequency and severity of operational losses, the measurement strategy, and the management techniques employed are typically the basis for the operational risk information that is made publicly available. The biggest risk to a company's ability to survive is operational risk. According to studies like Wallace's (2018), operational risk disclosure has a major effect on capital markets. However, the specific effect varies depending on the selected reporting format (Yazid, 2022).
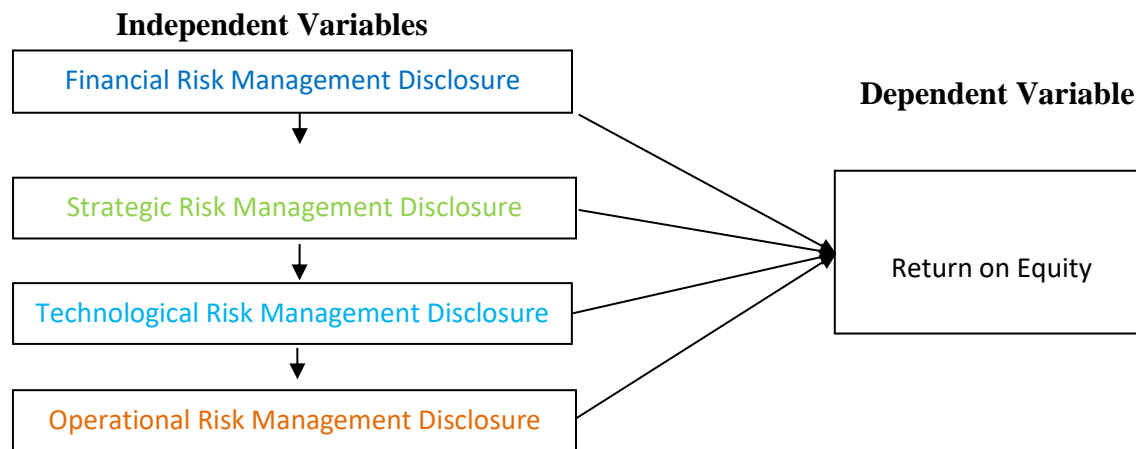
The definition of operational risk management (ORM), according to Wallace (2018), is a continuous, cyclical process that involves risk assessment, risk decision-making, and the application of risk controls and leads to the acceptance, mitigation, or avoidance of risk. The management of operational risk, or ORM, encompasses the risk of loss due to human error, malfunctioning internal systems and processes, or outside events. In contrast to other kinds of risks (credit risk, market risk, etc. Senior management had seldom regarded operational risk as strategically significant. Regulations, financial market pressure, and cultural considerations all play a role in the voluntary disclosure of operational risk-related information. The Operational Risk Management methodology is designed for organizations that want to implement effective risk management oversight and strategy. Every company encounters events or significant shifts in its environment that may pose different risks to the company, ranging from small annoyances to possibly endangering the company's existence.

2.1.2 Firm Performance

A company's ability to generate revenue from its primary mode of business and use its assets is measured subjectively by its financial performance. This phrase is used to compare similar businesses within the same industry or to compare industries or sectors collectively. It serves as a broad indicator of a company's overall financial health over a specified time period (Okeke, 2015). Financial performance can be measured in a variety of ways, but all metrics should be combined. Together with total unit sales, line items like revenue from operations, operating income, or cash flow from operations can be used. In addition, the investor or analyst may want to dig further into the financial statements to find any declining debt or margin growth rates.

Return on Equity and Return on Assets were used as a performance measurement in the a priori expectations of Yusuf (2020), Oliveira, Rodrigues and Craig, (2017), Raheman, Salleh, Afza and Chek (2019), Hashim and Koon (2016), Omaliko, Mordi and Uzodimma (2023) etc

2.1.3 The Diagram of Conceptual Framework

Independent Variables

| Financial Risk Management Disclosure |

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| Strategic Risk Management Disclosure |

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| Technological Risk Management Disclosure |

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| Operational Risk Management Disclosure |

Dependent Variable

| Return on Equity |

2.2   Theoretical Framework

Agency Theory (AT) is the theoretical framework that defines a term in terms of the risk management and firm performance theory established in this study. It is assumed that the theory on which this research project is based is both known and accepted.

2.2.1 Agency Theory

Jensen and Meckling introduced the idea of agency in 1976. The theory posits that a company's governance is predicated on the existence of conflicts of interest among its managers, major debt financing providers, and shareholders, the company's owners. According to the theory, there will be conflict if managers fail to run their companies in the owners' best interests. According to the theory, managers exploited company data to appease or influence powerful stakeholders and win their support—a necessity for survival. Systems for monitoring managers reduce information asymmetry and increase shareholder value. According to the theory, a firm is a hub for contracts between different economic actors that operate inefficiently in markets. The shareholders are the corporation's owner (principal), and management represents the company in these capacities. The expectation of shareholders is that the agents will always act in the principal's best interests. Regretfully, there are situations in which the agents behave in their own best interests, failing to act in the principal's best interests. Since agency theory first appeared as an explanation model for corporate reporting, it has gained popularity as a justification for risk management disclosure. The Agency theory, which noted that risk management reporting helps to mitigate information asymmetry and reduce stakeholder conflicts between shareholders and management, serves as the theoretical foundation for this study. Therefore, in order to close the knowledge gap between managers and shareholders—the people who prepare financial statements and those who use them—more risk management disclosures must be included in annual reporting of businesses.

2.3 Empirical Review

Yusuf (2020) measured non-financial information using financial risk management (FRM) disclosure with dummy variables in his study on the impact of non-financial disclosure on the profitability of firms listed on the NSE's industrial goods sector. He then investigated the regression model test tool and discovered a significant positive relationship between risk management (RM) disclosure and firms' profitability proxy, ROE. Nonetheless, the study comes to the conclusion that non-financial disclosures have had a major impact on businesses' performance over time. *Ex Post Facto* design was used in the 2013 study by Ismail and Rahman on the impact of non-financial disclosures on the performance of financial service firms listed in Bangladesh. This type of research uses secondary data that is already available and cannot be altered or controlled. The study discovered that risk management disclosures have a positive correlation with firm performance using a regression model. Based on this, the study came to the conclusion that public listed companies in Bangladesh scored 53 percent overall for RM disclosure, indicating that there is room for improvement in terms of risk disclosure.

This is also consistent with a study by Oliveira, Rodrigues, and Craig (2017), which looked at the extent of financial risk management disclosure in Australia and used logistic regression as a statistical tool to discover a strong correlation between risk management disclosure and ROE (a measure of a company's profitability). This is in contrast to the findings of Deumes and Knechel (2016), who used simple regression to examine the impact of risk management disclosure on the performance of German businesses. Their study concluded that the level of risk management disclosure is insufficient for stakeholders to make investment decisions because it is too brief and ambiguous. According to the study's findings, RMD has no discernible impact on firms' RONW performance proxy.

This is consistent with the findings of Hashim and Koon's (2016) study, which employed OLS to find a negative correlation between risk management and ROA and examined the impact of risk management disclosures on the performance of listed Germany. The study comes to the conclusion that non-financial disclosures have no bearing on a company's performance as a result.

Using a regression model and content analysis, Raheman, Salleh, Afza, and Chek (2019) investigated non-financial information disclosures and firm profitability in Malaysia. They measured non-financial information disclosure using the intellectual capital disclosure and strategic risk management disclosure index, and discovered a positive and significant relationship between risk management and intellectual capital information disclosure and firms profitability as measured by return on equity and return on assets.

Iatridis (2018) investigated the disclosure of risk management in UK firms' financial statements. The study specifically looked at the financial characteristics of companies that reveal important accounting issues like risk exposure, policy changes, adoption of international financial reporting

standards, and hedging strategies. Regression analysis is used to show that companies that disclose risk management practices seem to have larger size, growth, profitability, and leverage metrics. Additional research indicates that the adoption of international financial reporting standards improves the quality and comparability of financial statements, fosters consistency and reliability in financial reports, and makes it easier for businesses to raise capital abroad.

Ferguson (2016) also looked at how firm performance was affected by the risk-voluntarily disclosed by Chinese state-owned companies that were listed on the Hong Kong Stock Exchange. The three independent variables used in the study to evaluate the degree of risk management disclosure were operational, financial, and strategic risk. The study discovered that overall disclosure scores, which range from 0 points03 to 0 points44, are highly variable using a regression model. The way that different types of information disclose risk varies greatly. This aligns with Meek's (2015) research on the variables impacting voluntary annual report disclosures. The study used ordinary least squares (OLS) to find a significant positive relationship between risk management disclosures and Hong Kong firm performance as indicated by ROE. It is found that these companies reveal far more operational and strategic risk information than financial risk information.

Wallace (2018) conducted an empirical investigation into the non-financial reporting environment in Nigeria using a sample of 47 companies that were listed as of 2016 on the Nigerian Stock Exchange. Disclosure is viewed as a binary variable, with 1 denoting a disclosed item and 0 denoting a non-disclosed item. Its intensity informs the scoring system. Unweighted and weighted disclosure indexes are constructed. Businesses with a higher level of risk disclosure perform better than those with a lower level of operating risk management disclosure, according to an analysis using OLS and the variables of ROE and ORMD. Yazid (2022) looked at enterprise risk management factors for publicly traded companies and how they affected Libyan profitability. It was suggested, based on the use of OLS, that large firms have an abundance of resources, which are necessary for the successful implementation of ERM. Additionally, it was discovered that enterprise operating risk management disclosure (ERMD) and firm profitability were negatively correlated. Additionally, the study discovered that larger multinational corporations had higher risk management involvement than local businesses.

Heflin (2012) studied the relationship between stock market liquidity and firms' disclosure of risk management. The bidask spread and depth were the two liquidity metrics used in the study to gauge the stock market's liquidity. The study used OLS to determine that a company with high-quality risk management disclosure increased market liquidity by decreasing trader information asymmetries. Zhang and Ding (2016) conducted a recent study to investigate the connection between firms value and risk management disclosures made by companies listed on the Chinese capital market. Using a regression model, the study discovered a negative relationship between a firm's value as determined by Tobin Q and its disclosure level.

Ghasim, Osmani, and Abbasi (2017) looked at the connection between listed firms' risk disclosure levels and their overall performance. Twelve companies listed on the Tehran Stock Exchange made up the sample. Regression model results indicated that there is no statistically significant

correlation between a firm's performance as determined by return on equity and the degree of risk information disclosure. Additionally, Arabmazar and Arzitoon (2018) looked into the degree of risk information disclosure in the companies' financial statements as well as the relationship between risk management disclosures and corporate performance. They arrived at the following conclusion using a sample of fifty Tehran Stock Exchange-listed companies: There is a significant correlation between corporate performance and risk management disclosures.

Wong (2018) conducted an empirical investigation into the factors that influence voluntary risk disclosure in the annual reports of Chinese listed companies that sell both domestic and foreign shares. Regression model results showed that the amount of voluntary risk disclosure is positively correlated with the percentage of foreign and state ownership, firm performance as determined by return on equity, and the reputation of the involved auditor. There isn't any proof, though, that businesses who voluntarily disclose a lot of information about their risks pay less for debt capital.

Haniffa and Cooke (2012) investigated the effects of voluntary risk disclosure on a sample of Malaysian companies' annual reports and the firms' performance. In the study, an unweighted disclosure index was employed, and a total of 65 items were chosen. Regression model results showed a substantial correlation between firms' performance and voluntary risk disclosures. Furthermore, it was discovered that the percentage of Malay directors on the board, a cultural factor, was strongly correlated with the level of voluntary risk disclosure. Amir and Lev (2016) conducted a study on risk disclosures and the performance of firms in developed countries. Using data from the US, they employed a regression model to show a positive relationship between financial and non-financial information and financial value (FV) among US firms. This implies that non-financial information, which is typically optional, is pertinent to investors and serves to supplement financial data.

Al-Akra and Ali (2012) on how a firm's value is affected by voluntary empowerment risk disclosure (VERD). The study discovered that voluntary risk disclosure has a positive and significant relationship with firms value (FV) using a regression model and the variables of net assets per share (NAPS) and the disclosure index by the global reporting initiative (GRI). Additionally, Bokpin (2020) provided evidence that the disclosure of strategic risk management has no discernible impact on the market to book value of equity ratio (MTBR) or stock price in the Ghanaian stock market. Using OLS, the study came to the conclusion that voluntary disclosures had no bearing on Ghana's stock price or the market to book value of equity ratio (MTBR).

This is in line with a study by Myer (2018) that looked at risk management information disclosure and how it affected the performance of companies listed on the UK stock exchange. Businesses that disclose enough information about risk management are more profitable, according to OLS data. Hassan, Gianluigi, and Power (2011) investigated the relationship between corporate voluntary systematic (market/beta) risk disclosure and performance of Egyptian listed companies. They found a significant positive relationship between risk management disclosures and firms performance. Using Ordinary Least sq\.s (OLS), the study found that in order to lower a company's perceived riskiness, more voluntary risk management information about listed companies seems preferable to less. Listed companies ought to be encouraged by this to improve their public

disclosure. Nonetheless, the study comes to the conclusion that voluntary risk disclosures affect a company's performance.

Nwankwo (2016) made the case in a different study that more voluntary risk management disclosure closes the information gap (asymmetry) that exists between Nigerian businesses and investors. The variables of return on investment and risk management disclosures were used in this study. It was discovered that risk disclosures are positively correlated with banks' performance when the OLS test tool was also utilized (Nwankwo, 2016). Naser (2012) looked into the relationship between a company's firm characteristics and corporate risk disclosure following the adoption of International Accounting Standards (IASs) in Jordan. The study demonstrated the relationship between the degree of IAS compliance and the corporate liquidity ratio, audit firm status, profitability, gearing, and size using a disclosure index consisting of 86 unweighted items of data. Suwaidan (2014) used 37 pieces of data to assess the degree of risk management disclosure practices of 65 industrial Jordanian companies. The study employed multivariate analysis, and its findings showed a relationship between corporate risk management disclosure and risk, size, and profitability.

In his investigation into the connection between risk disclosures and corporate performance in Malawi, Healy (2019) discovered via the application of ordinary least squares (OLS) that firms' stock returns, institutional ownership, analyst following, and stock liquidity all rise in tandem with the degree of risk disclosure. Coller and Yohn (2017) examined the connection between risk management disclosures and corporate earnings using data from Italy and the UK. Using a regression model, the study discovered a strong and favorable correlation between risk management disclosures and corporate earnings. The study draws the conclusion that risk management disclosures enhanced a company's performance over time. Using a sample of Spanish listed companies, Espinosa (2015) investigated the connection between corporate liquidity and risk management disclosures.

A firm that had good value as a result of effective risk management would try to signal this fact by disclosing more information in the annual reports to its stakeholders, according to Anam (2017) in his study on corporate risk disclosures and performance. According to reports, high-performing companies have incentives to provide investors with more information in order to show that they are performing better than their competitors. According to Okoye (2017), companies that disclose non-financial risk management information give better disclosures, which helps them draw in more investors and raise their firm value. The study, which made use of OLS, came to the conclusion that more disclosures like this are needed because they demonstrate the firm's financial health.

In their study on the US airline industry, Carter, Rogers, and Simkins (2015) used ordinary least squares (OLS) to discover that there is a premium observed for the firm value when the firms hedge their jet fuel. According to the study, risk disclosure is a crucial instrument for enhancing the effectiveness of capital markets because it allows investors to monitor management behavior and lessens investor uncertainty about future cash flows. Abraham and Shrives (2014) also suggested that insufficient corporate risk disclosures have a major impact on investors' capacity to assess public companies in Australia and the risks associated with them. There is broad agreement

on the necessity of having an efficient disclosure of firm risk management practices, despite the lack of agreement regarding the scope and style of risk management communication by corporations. Regression modeling was utilized in the study, and the results indicate that corporate risk disclosures significantly impact a firm's performance as determined by return on networth.

The way quoted Australian companies disclose their risk management practices was examined by Buckby (2015) using a thematic content analysis of annual reports. In order to analyze the data it collected from the top-selected companies for the month of June 2012, the study employs OLS regression. The study's findings showed a significant positive correlation between the firms' performance as measured by ROE and the risk management disclosures.

In addition, Amran and Che (2018) conducted an exploratory study of risk reporting in Malaysia. The study found that Malaysian companies do not adequately disclose their risk management practices using multiple regression on a sample of 10 Bursa Malaysia-quoted companies for the year 2005. Data was collected from 722 managers of 361 branches of 21 banks in Nigeria for Dabari and Saidin's (2015) logistic regression model analysis of the level of Enterprise Risk Management (ERM) implementation in the Nigerian banking sector and firm performance. The results demonstrated a strong correlation between the ERM and firm performance as measured by ROA.

The performance (ROA, ROE, Tobin's Q, and buy-and-hold returns) of 30 sampled Australian insurance companies from 2006 to 2015 was found to be significantly correlated with risk governance (disclosure, existence, and number of risk management committees) in a study by Nahar, Jubb, and Azim (2016) that used a multiple regression model. Solomon (2017) used a regression model to study the relationship between corporate risk management and firm performance. The study found that a firm must disclose its risk management policies if it hopes to lower its cost of capital by boosting market confidence. The fundamental idea is that by taking this action, investor relations and corporate governance will be enhanced by lessening the information asymmetry that exists between investors and company directors. It was further argued that better risk disclosure would help investors make more informed choices about risk diversification.

3.0   Methodology

The study's design was *Ex Post Facto*. This was justified by the fact that the study's secondary data was uncontrollable, preexisting information. The 14 listed deposit money banks on the Nigerian Exchange Group (NGX) as of December 31, 2022, covering the period from 2015 to 2022, make up the study's population. As a result, the study included the entire study population. Our sample size on this base was made up of 112 observations from a total of 14 banks. The annual accounts and annual accounts of the listed deposit money banks in Nigeria were where the data for the study was gathered. To investigate the relationship between corporate risk management disclosures (FRMD, SRMD, TRMD, and ORMD), a panel least square regression model was used.

3.1 Measurement and Operationalization of Variables

Table 1: Variable Measurements

Variables	Measurement
Dependent	
Return on Equity	Net Profit after Tax/Total Equity
Independent	
Financial Risk Management Disclosure	A dichotomous procedure by (GRI) was applied in scoring the items (FRMD) whereby specifically, a "1-point" score was awarded for each item that is disclosed in the annual report and otherwise, a "0-point". Then, the sum of scores of all items was computed. See Appendix 1.
Strategic Risk Management Disclosure	A dichotomous procedure by (GRI) was applied in scoring the items (SRMD) whereby specifically, a "1-point" score was awarded for each item that is disclosed in the annual report and otherwise, a "0-point". Then, the sum of scores of all items was computed. See Appendix 1.
Technological Management Disclosure	A dichotomous procedure by (GRI) was applied in scoring the items (TRMD) whereby specifically, a "1-point" score was awarded for each item that is disclosed in the annual report and otherwise, a "0-point". Then, the sum of scores of all items was computed. See Appendix 1.
Operational Management Disclosure	A dichotomous procedure by (GRI) was applied in scoring the items (ORMD) whereby specifically, a "1-point" score was awarded for each item that is disclosed in the annual report and otherwise, a "0-point". Then, the sum of scores of all items was computed. See Appendix 1.

Source: Empirical Survey (2023)

3.2 Model Specification and Justification

In order to investigate the connection between corporate risk management disclosures and the financial performance of listed deposit money banks in Nigeria, the researcher created a model that was consistent with a priori expectations. The study's functional model is displayed as follows:

ROE = F(FRMD, SRMD, TRMD, ORMD)

The econometric form of the regression designed for the study is expressed as thus:

Model: $ROE = \beta_0 + \beta_1 FRMD_t + \beta_2 SRMD_t + \beta_3 TRMD_t + \beta_4 ORMD_t + \varepsilon_t$
Where;
ROE = Return on Equity
FRMD = Financial Risk Management Disclosure
SRMD = Strategic Risk Management Disclosure

TRMD = Technological Risk Management Disclosure
ORMD = Operational Risk Management Disclosure
ε = Stochastic Error Term
Decision Rule: accept Ho if P-value > 5% significant level otherwise reject Ho

4.0 Findings and Discussion

Table 2: Descriptive Statistics

	ROE	FRMD	SRMD	TRMD	ORMD
Mean	1.200900	4.962050	3.859500	3.58940	1.52345
Median	1.085000	3.255000	3.060000	2.901500	1.42500
Maximum	1.987657	5.00000	5.00000	5.00000	5.00000
Minimum	-0545000	0.00000	0.00000	0.00000	0.00000
Std. Dev.	157.7639	5.196728	0.115318	17.12436	1.696486
Skewness	1.383522	2.335682	0.546512	0.842172	0.035668
Kurtosis	22.10903	8.947327	7.255497	8.782090	1.824066
Jarque-Bera	3106.762	476.6029	160.8663	302.2466	11.56592
Probability	0.230000	0.345045	0.567430	0.683456	0.308067
Sum	-240.1800	792.4100	-11.90000	2117.880	2304.690
Sum Sq. Dev.	4952998.	5374.191	2.646350	58355.48	572.7349
Observations	112	112	112	112	112

Source: E-View 12 Computational Results (2023)

The mean (average), maximum and minimum values, standard deviation, and Jarque-Bera (JB) statistics (normality test) are displayed in Table 2 above. A better understanding of the characteristics of the Nigerian quoted banks that were chosen for this study can be gained from the results shown in Table 2. First, it can be seen that the sampled banks in Nigeria had an average positive Return on Equity value of ROE = 1.200900 over an 8-year period (2015–2022). This suggests that the majority of Nigeria's listed banks have a positive return on equity. Comparably, Financial Risk Management Disclosure (FRMD) also had a positive mean value of 4.962050 and a standard deviation of 5.196728. This suggests that banks that were under our scrutiny disclosed financial risk management in their financial reports to a high degree. The maximum and minimum FRMD values, which were 5 point0000 and 0 point0000, respectively, also varied greatly. Since we assume that banks with higher FRMD values make more money than those with lower FRMD values, the large variation in FRMD values among the sampled banks justifies the need for this study.

The sampled banks' average Strategic Risk Management Disclosure (SRMD) was 3.859500 with a 0.115318 standard deviation. This indicates that banks with SRMD values of 3.859500 disclosed this data in their annual reports in a moderate manner. Additionally, there is a wide range between the maximum and minimum values of the SRMD, which were 5 and 0 points, respectively. We

assume that banks with higher SRMD values are higher profit making banks than those with lower SRMD values, so the wide variation in SRMD values among the sampled banks justifies the need for this study. The average Technological Risk Management Disclosure (TRMD) for the sampled banks was 3.58940, with a 17.12436 standard deviation. This indicates that banks with TRMD values of 3.58940 disclosed this data in their annual reports in a moderate manner. There is also a lot of variation between the TRMD's maximum and minimum values, which were 5 and 0 points, respectively. Since we assume that banks with higher TRMD values are higher profit making banks than those with lower TRMD values, the wide variation in TRMD values among the sampled banks justifies the need for this study.

Also, Jarque-Bera (JB) test, which looks for outliers or extreme values among the variables or normality, reveals that all of the variables are normally distributed at the five percent significance level. This suggests that any variable containing an outlier is trustworthy for making generalizations because it is unlikely to change our conclusion. This suggests that panel least square regression models can be estimated using least square, fixed, and random panel regression estimations.

Table 3: Correlation Matrix

Variables	ROE	FRMD	SRMD	TRMD	ORMD
ROE	1.0000				
FRMD	0.7115	1.0000			
SRMD	0.4303	-0.0411	1.0000		
TRMD	0.4216	0.0545	-0.0512	1.0000	
ORMD	0.6634	0.0198	0.1503	0.1335	1.0000

Source: Result Output from E-Views 12 (2023).

The relationship between each pair of independent and dependent variables used in the regression model is depicted in Table 3 above. It demonstrates that all independent variables exhibit positive correlation with the dependent variable (ROE), whereas some of these risk management disclosures' constituent parts exhibit negative correlation. The diagonal values are all 1.0000, demonstrating the perfect correlation between each variable and itself. We discovered that no two explanatory variables had a perfect correlation when testing for multi-collinearity. This indicates that our models do not exhibit multi-collinearity. The estimated model coefficients may have incorrect signs or implausible magnitudes, and the standard errors of the model coefficients may be biased as a result of multi-collinearity between the explanatory variables.

4.1. Test of Hypothesis

Table 4: Panel Least Squares Result on Corporate Risk Management Disclosures and Financial Performance of Listed Deposit Money Banks in Nigeria

Dependent Variable: ROE
Method: Panel Least Squares
Date: 08/29/23   Time: 15:16
Sample: 2015 2022
Periods included: 8
Cross-sections included: 14
Total panel (balanced) observations: 112

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FRMD	590.2830	2.813836	1.877853	0.0216
ORMD	478.9214	127.5179	3.755720	0.0002
SRMD	0.588820	153.2702	3.853209	0.0002
TRMD	1.439816	0.691286	2.082808	0.0036
C	115.4118	90.48032	1.275546	0.0300

R-squared	0.710510	Mean dependent var	1.200900
Adjusted R-squared	0.677327	S.D. dependent var	157.7639
S.E. of regression	147.7672	Akaike info criterion	12.94284
Sum squared resid	3810546.	Schwarz criterion	13.35513
Log likelihood	1269.284	Hannan-Quinn criter.	13.10969
F-statistic	4.335538	Durbin-Watson stat	2.091828
Prob(F-statistic)	0.000920		

Source: Result Output from E-Views 12 (2023).

The Table 4, 4.R-squared had a value of 0.71, while its adjusted R-squared value was 0.68. This shows that over the eight-year period (2015–2022), the independent variables together account for approximately 71% of the systematic variations in Return on Equity (ROE) of our sampled companies, with the error term accounting for 29% of the systematic variations. The ROE regression model's good specification is demonstrated by the F-statistic of 4.335538 and its P-value of 0.00.

The DW statistic, which is 2.091828, is found to be roughly 2, which is consistent with the Durbin Watson rule of thumb. Thus demonstrates that there is no autocorrelation issue with our data, making it suitable for the interpretation and reliance of the regression result. The model's goodness of fit is confirmed by the Akika Info Criterion and Schwarz Criterion, which are 12 points94284 and 13 points35513, respectively, and further strengthen the regression result's fitness for reliability.

The specific results from each explanatory variable are given below as follows:

Test of Hypothesis One:

Financial Risk Management Disclosure (FRMD) AND Return on Equity (ROE). Based on table 4.3, the t-value of 1.877853 and P-value of 0.0216 was found to have positive and significant effect on the Return on Equity (ROE) of our sampled quoted banks. This factor is statistically significant at the 5% level of significance because the P-value is within the 5% significant level. This result suggests that we should accept the alternative hypothesis rather than our null hypothesis one (H01), which states that Financial Risk Management Disclosure (FRMD) does not have a significant effect on Return on Equity (ROE). Therefore, banks' Return on Equity (ROE) in Nigeria is significantly positively impacted by Financial Risk Management Disclosure (FRMD) as a measure of banks' risk management disclosure of a firm.

Test of Hypothesis Two:

Strategic Risk Management Disclosure (SRMD) and Return on Equity (ROE). Based on table 4.3, the t-value of 3.853209 and P-value of 0.0002 was found to have a positive impact on the return on equity (ROE) of the quoted banks in our sample. This impact is statistically significant at the 1% level of significance. This finding implies that we should accept the alternative hypothesis and reject null hypothesis four (H04), which claims that disclosure of strategic risk management has no discernible relationship to return on equity. This indicates that in Nigeria, a bank's earnings are greatly boosted by strategic risk management.

Test of Hypothesis Three:

Technological Risk Management Disclosure (TRMD and Return on Equity(ROE). Based on table 4.3, the t-value of 2.082808 and P-value of 0.0036 was found to have a positive impact on the return on equity (ROE) of the quoted banks in our sample; however, this impact is statistically significant because its P-value is less than 1% significant level. This finding implies that we should reject null hypothesis number five (H05), which contends that disclosure of technological risk management has no appreciable impact on return on equity. As a result, we agreed with the alternative theory. This indicates that since the influences are statistically significant, technological risk management in Nigeria determines whether or not the company will record a higher return on equity.

Test of Hypothesis Four:

Operational Risk Management Disclosure (ORMD) AND Return on Equity (ROE). Based on table 4.3, the t-value of 3.755720 and P-value of 0.0002 was found to have a positive impact on the return on equity (ROE) of the sampled quoted banks. Because the P-value is within the 0 point00 significance level, this impact is statistically significant at the 1% level of significance. This finding implies that, in order to accept the alternative hypothesis, we should reject our second null hypothesis (H02), which claims that there is no meaningful relationship between operational risk management disclosure (ORMD) and return on equity (ROE). This indicates that Operational

Risk Management Disclosure (ORMD) considerably increases a company's return on equity in Nigeria. Because operational risk management is a significant factor in return on equity, banks that wish to report earnings that are either unexpectedly high or rising steadily above analyst expectations should focus more on this area

4.1 Discussion of Findings.

Based on our research, we discovered that Financial Risk Management Disclosure (FRMD) and Return on Equity (ROE) have a positive impact on our dependent variable, which is the return on equity among the Nigerian banks that are quoted. This impact is statistically significant at the five percent level. This finding implies that Nigerian banks' performance is driven by their financial risk management policies. The results of Yusuf (2020), Oliveira, Rodrigues and Craig, (2017), Ferguson (2016), and other studies who discovered a significant positive association between financial risk management disclosures and firms performance are therefore supported by this finding.

Strategic Risk Management Disclosure (SRMD) and Return on Equity (ROE) are related to each other, and our findings suggest that SRMD has a positive influence on ROE that is statistically significant at the 1 percent level. This finding implies that businesses with successful strategic risk management plans generate more revenue. This finding is consistent with our preliminary expectations from Raheman, Salleh, Afza, and Chek (2019), who discovered a substantial and favorable correlation between strategic risk management disclosures and Malaysian firms' performance. The results of Bokpin (2020), who found a positive and negligible relationship between the variables, do not support this.

Technological risk management disclosure (TRMD) and return on equity (ROE) show a positive relationship with ROE. Nonetheless, the impact of this influence on banks' return on equity is statistically significant. This outcome disproves our initial result's aprori expectation. The findings of Hoyt and Liebenberg (2011) and Al-Hadi (2021), whose research revealed a positive and significant relationship between technological risk management disclosures and firms performance, are also consistent with this result.

Also, it was found that Return on Equity (ROE) and Operational Risk Management Disclosure (ORMD) among the quoted banks in Nigeria had a positive impact on our dependent variable, which is our proxy for return on equity. This impact is statistically significant at the 1 percent level. This finding implies that the operational risk management policies of Nigerian banks will be determined by managers' proficiency in managing the earnings of their institutions. This result thus confirms our apriori expectation and the findings of Ferguson (2016) and Wallace (2018), who discovered, respectively, that operational risk management disclosures significantly improve firm performance in China and Nigeria.

5.0 Conclusion and Recommendation

After establishing a model fit for risk management disclosures (FRMD, ORMD, SRMD, and TRMD), the study comes to the conclusion that these disclosures significantly affect the

performance of Nigerian listed banks. That is to say, bank performance is driven by risk management. It was suggested that banks disclose more information about interest risk, exchange risk, commodity risk, credit risk, and liquidity risk in their annual reports for the consumption of financial statement users, as the degree of a bank's management of these risks determines the bank's financial prospect, since the study demonstrates that banks with effective financial risk management policies make higher profits.

Additionally, the study recommends that listed banks include more information about high-quality operational risk management in their financial reports because doing so guarantees a higher return and because operational risk management is essential for generating value and maintaining a competitive edge. In their reporting for the consumption of financial statements users, banks would benefit from willingly disclosing more information about their operations concerning the environment, health and safety, customer satisfaction, product development, and efficiency. The study discovered that the disclosure of strategic risk management has a major impact on banks' returns on equity. As a result, the study suggests that banks keep enhancing their voluntary disclosure of strategic risk management in their reporting on pricing, life cycle, competitors, and planning, as these disclosures are crucial for investors to make informed decisions. According to the study, firm performance and disclosures about technological risk management are positively correlated. Based on this, the study recommends that banks adopt a more pro-technological risk management stance and include more information about this in their yearly reports, since the degree of information disclosure has affected the performance of banks over time.

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Appendix 1

Guidelines on Content Index (GRI) G4

S/N	Content Index	Point
	Financial Risk Management Disclosure	
1	Interest Risk	1
2	Exchange Risk	1
3	Commodity Risk	1
4	Credit Risk	1
5	Liquidity Risk	1
	Strategic Risk Management Disclosure	
6	Competitors	1
7	Business Portfolio	1
8	Pricing	1
9	Life Cycle	1
10	Planning	1
	Technological Risk Management Disclosure	
11	Integrity	1
12	Access	1
13	Availability	1
14	Infrastructure	1
15	Database	1
	Operational Risk Management Disclosure	
16	Environment	1
17	Health and Safety	1
18	Customer Satisfaction	1
19	Product Development	1
20	Efficiency and Performance	1

Source: Adapted from Aggrawal and Tobi (2020) and Okpala, Ifurueze and Ofor (2021).

Note: "0" and "1" are the only possible scores a firm can obtain, that is, "0" for non-disclosure (non-compliance) and "1" for disclosure (compliance).

Benchmark for Grading Compliance with Requirements of Global Reporting Initiative (GRI) G4 on Content Index

S/N	Level of Disclosure	Code	Boundary limit by item	Percentage (%)
1	Extremely disclosed	ED	04.00-5.00	70-100%
2	Moderately disclosed	MD	02.00-3.99	50-69.9%
3	Poorly disclosed	PD	01.00-1.99	26-49.9%
4	Not disclosed	ND	00.00-0.99	00-25.9%

Source: Adapted fromAggrawal and Tobi (2020) and Okpala, Ifurueze and Ofor (2021).

Decision Rule

This is based on the rating which is calculated as follows: $(0+1)/2 = 0.5$. Then for highest grade point of 5, we have: $(5.00 \times 0.50 = 2.50)$ ***** $(2.50-0.50 = 2.00)$. Therefore, an item with a rating of 2.00 and above shows that the disclosure level is fair or moderate (i.e. compliance) where the rating is below 2.00, it means the disclosure level is weak, poor or inadequate (i.e. nonco