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Foreign Exchange Risk Management and Business Performance of Selected Manufacturing Companies in Nigeria

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Abstract: *In Nigeria's manufacturing sector, the perpetual fluctuations in the naira's value, combined with the country's heavy reliance on imported goods such as raw materials, equipment, and technological advancements, have catapulted foreign exchange risk to the forefront of concerns. This research delves into the impact of mitigating foreign exchange risk on the success of a group of Nigerian manufacturing companies, with a particular emphasis on three critical aspects: the effects of exchange rate changes on international transactions, financial statements, and the broader economy. The study's objective was to uncover how these factors interplay with financial performance, operational efficiency, and competitiveness. To achieve this, the research employed a retrospective design, gathering data from the audited financial statements of 15 manufacturing firms listed on the Nigerian Exchange Group between 2020 and 2024. Supplemental data was sourced from the Central Bank of Nigeria and the National Bureau of Statistics, providing a comprehensive dataset. The analysis utilized panel regression, with the Hausman test serving as a guide to determine the most suitable model. The results revealed a significant correlation between adept foreign exchange risk management and enhanced business outcomes. Notabll, strategic management of transaction and economic exposure yielded substantial benefits for firm performance, whereas managing translation exposure had a pronounced positive effect on operational efficiency. Ultimately, the study affirms that proactive management of foreign exchange risk is pivotal in enabling firms to navigate economic turbulence while maintaining profitability, cost control, and a competitive edge. In light of these findings, the research advises manufacturing companies to establish robust treasury management practices, leverage available risk-mitigation tools, and prioritize accurate exchange rate forecasting to minimize the adverse effects of currency volatility.*

Keywords: foreign exchange risk, risk management, business performance, manufacturing companies, Nigeria, transaction exposure, translation exposure, economic exposure, hedging

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INTRODUCTION

In the context of Nigeria, where manufacturing firms play a pivotal role in driving industrial development and economic progress, foreign exchange rate fluctuations exert a substantial influence on their profitability. These fluctuations directly impact the cost of imported raw materials, intermediate goods, and machinery necessary for manufacturing processes (Ezenwakwelu, Okolie, Attah, Lawal & Akoh, 2019). Gaining a comprehensive understanding of the dynamics and impact of these exchange rate fluctuations on the profitability of manufacturing firms assumes paramount importance for policymakers, investors, and stakeholders alike (Lawal, Saheed, Anfofum, Ato &Adeshina, 2023). Such insights are vital for fostering sustainable economic growth, enhancing stability, and facilitating informed decision-making. When the local currency depreciates against foreign currencies the cost of imports increases, leading to elevated production costs for manufacturing firms. This, in turn, reduces profit margins and erodes the overall profitability of these firms. Conversely, during periods of local currency appreciation, manufacturing firms may benefit from reduced import costs, leading to improved profitability (Chiagoziem, Okorontah & Ede, 2021).

Manufacturing firms in Nigeria are highly exposed to these risks because they import most of their production inputs, settle foreign debts, and compete with imported goods whose prices depend on exchange rates. When foreign exchange risk is not properly managed, it can reduce profit, interrupt production, weaken financial position, and reduce competitiveness in the market. Studies such as Adekola and Olayinka (2021) have shown that exchange rate movements have a strong effect on the performance of manufacturing firms in Nigeria, which highlights the need for proper risk management. Despite its importance, there is still limited and mixed evidence on how foreign exchange risk management affects business performance in Nigeria's manufacturing sector. Many existing studies focus on developed countries or general emerging markets, without paying enough attention to Nigeria's unique economic and institutional environment. This study aims to address this gap by examining how different aspects of foreign exchange risk management influence the performance of manufacturing companies in Nigeria.

The broad objective of this study is to examine the impact of foreign exchange risk management on the business performance of selected manufacturing companies in Nigeria. The specific objectives are to:

(i) assess the effect of transaction exposure management on the financial performance of selected manufacturing companies in Nigeria;
(ii) evaluate the influence of translation exposure management on the operational efficiency of selected manufacturing companies in Nigeria;
(iii) determine the impact of economic exposure management on the competitive positioning of selected manufacturing companies in Nigeria.

The hypotheses formulated to guide the study are as follows:
H01: Transaction exposure management has no significant effect on the financial performance of selected manufacturing companies in Nigeria.
H02: Translation exposure management has no significant influence on the operational efficiency of selected manufacturing companies in Nigeria.
H03: Economic exposure management has no significant impact on the competitive positioning of selected manufacturing companies in Nigeria.
This study is significant on several levels. Theoretically, it contributes to the growing body of knowledge on financial risk management in emerging market economies by providing context-specific evidence from Nigeria. Practically, the findings offer actionable insights for treasury managers, finance directors, and policy makers on how to strengthen foreign exchange risk management practices in the manufacturing sector. The study also holds implications for investors and financial analysts who assess the risk profiles of listed manufacturing companies on the Nigerian Exchange Group.

LITERATURE REVIEW

Conceptual Clarification

Foreign exchange risk, also known as currency risk or exchange rate risk, It refers to the strategies used to protect a company from potential losses caused by fluctuations in currency exchange rates. Effective risk management requires businesses not only to identify risks but also to understand their origins (Aina & Udo, 2025). The concept is multidimensional and is typically classified into three major types that are relevant for corporate risk management.

Transaction exposure Transaction exposure arises from the possibility of incurring exchange gains or losses on transactions already entered into which is denominated in a foreign currency. Management of transaction exposure is to control and reduce the risk of exchange rate fluctuations involved in these contractual transactions (Peijie, 2020). It arises when a firm enters into contracts for the purchase or sale of goods and services in foreign currencies, meaning the actual settlement amount in domestic currency will differ from the amount anticipated at the time of contracting if exchange rates change before settlement. For Nigerian manufacturers, this is the most immediately visible form of foreign exchange risk, given the routine importation of raw materials and machinery. Odum (2024) confirms that exchange rate fluctuations directly impact the cost of imported raw materials, intermediate goods, and machinery necessary for manufacturing processes, making transaction exposure a primary concern for the sector.

Translation exposure, also called accounting exposure, is the risk that a firm's consolidated financial statements will be adversely affected by exchange rate changes when translating foreign currency denominated items into the reporting currency (Aina & Udo, 2025). While translation exposure does not directly affect cash flows, it influences reported earnings, balance sheet valuations, and financial ratios, which in turn affect investor perceptions and credit ratings.

Economic exposure, also termed operating exposure, captures the extent to which exchange rate fluctuations alter a firm's future operating cash flows and hence its market value (Aina & Udo, 2025). Unlike transaction and translation exposure, economic exposure has a longer time horizon and relates to the strategic competitive position of the firm. For manufacturing companies in Nigeria, economic exposure is significant because sustained Naira depreciation raises input costs, alters the relative pricing of domestic versus imported goods, and affects demand patterns (Odum, 2024).

Business performance in the context of this study refers to the outcomes achieved by a firm in relation to its financial objectives, operational targets, and strategic goals. Financial performance indicators include return on assets (ROA), return on equity (ROE), and net profit margin. Operational efficiency is measured through indicators such as asset turnover and production cost management. Competitive positioning relates to market share, pricing flexibility, and the capacity to sustain investment in the face of cost pressures. Return on assets specifically measures the profit earned per unit of assets and reflects how effectively management deploys the firm's asset base to generate profits (Odum, 2024).

Conceptual Framework

The conceptual framework of this study illustrates the structural relationship between foreign exchange risk management and business performance in Nigerian manufacturing companies. Foreign exchange risk management, as the independent variable, is operationalised through its three principal dimensions: transaction exposure management, translation exposure management, and economic exposure management. These dimensions reflect the distinct channels through which currency volatility affects firm-level financial and operational decisions. Business performance, as the dependent variable, is assessed across three corresponding outcomes: financial performance (proxied by Return on Assets), operational efficiency (proxied by Asset Turnover Ratio), and competitive positioning (proxied by Sales Growth Rate). The framework posits that when manufacturing firms proactively manage each form of foreign exchange exposure, improvements in the corresponding performance dimension follow. The relationship between the independent and dependent variables is further conditioned by the macroeconomic environment, particularly exchange rate policy reforms and Naira volatility, which constitute the contextual backdrop within which all risk management decisions are made. The framework is presented in the diagram below.

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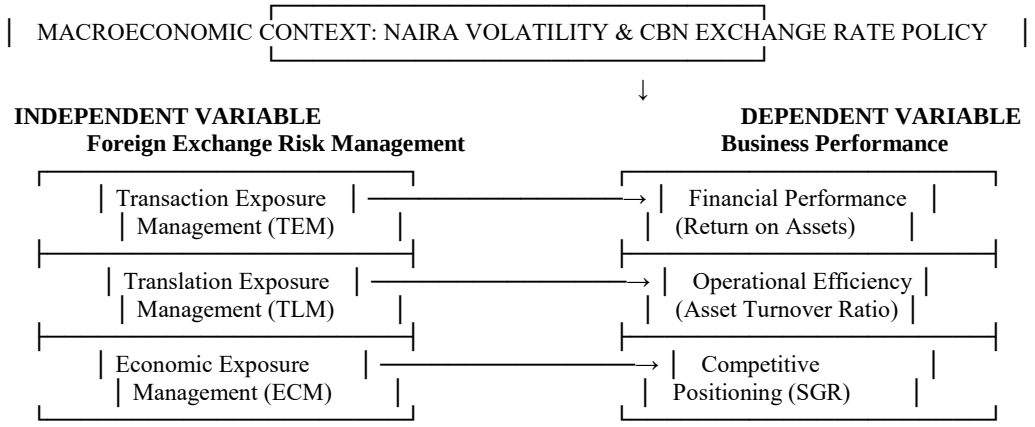

Source: Developed by the Researcher (2026), adapted from Aina & Udo (2025) and Odum (2024)

Figure 1: Conceptual Framework of Foreign Exchange Risk Management and Business Performance

Theoretical Review

This study is anchored on three theoretical frameworks that collectively explain the relationship between foreign exchange risk management and firm performance.The first is the Modern Portfolio Theory (MPT), The modern portfolio theory (MPT) is a mathematical framework used to build a portfolio of assets that maximizes the expected return for the collective level of risk. American economist Harry Markowitz pioneered this theory in his paper "Portfolio Selection," published in the Journal of Finance in 1952 (Markowitz, 1952). Applied to foreign exchange risk management, MPT suggests that firms can reduce overall volatility by spreading operations and cash flows across multiple currencies. Manufacturing firms that source inputs from multiple currency areas and sell in multiple markets can use this principle to optimise their natural hedging positions and reduce gross currency exposure before deploying financial instruments.

The second theoretical framework is the Shareholder Wealth Maximisation Theory, which holds that the primary objective of a firm is to maximise the value delivered to shareholders. Within this framework, foreign exchange risk management is justified to the extent that it reduces the variance of firm cash flows, decreases the probability of financial distress, and improves the firm's capacity to invest in value-creating projects. Aina and Udo (2025) explain that multinational firms use foreign exchange risk management not merely to avoid losses but to enhance value, noting that minimising earnings volatility through hedging can lead to improved investor confidence, a reduced cost of capital, and enhanced firm valuation.

The third is the International Fisher Effect (IFE) Theory, proposed by Irving Fisher, which establishes a link between interest rates, inflation rates, and currency exchange rate movements in the context of international finance (Odum, 2024). The IFE theory is relevant to this study because it proposes that changes in exchange rates, specifically fluctuations in foreign exchange rates, can

impact the cost of imported inputs and materials. When the Nigerian naira depreciates against foreign currencies, the cost of imported raw materials increases, leading to higher variable production costs for manufacturing firms, which in turn negatively affects profitability as higher costs erode margins (Odum, 2024).

These three theories, taken together, provide a comprehensive explanatory framework for why firms should engage in foreign exchange risk management and how such management translates into improved business performance outcomes across financial, operational, and competitive dimensions.

Empirical Review

A growing body of empirical literature has examined the relationship between foreign exchange risk management and firm performance across different contexts. The following studies are particularly relevant to the present inquiry.

Obasi and Okegbe (2023) determined the relationship between exchange rate and the financial performance of oil and gas firms listed in Nigerian Exchange Group, over a period of ten (10) years spanning from 2012 to 2021. Relevant data for the study were obtained from the published financial statements of six (6) sampled listed oil and gas firms on the Nigerian Exchange Group. Ordinary least square regression and robust least square regression analyses were used to test the relevant hypotheses. The findings indicated that there is a significant and positive relationship between exchange gain (loss) and Return on Asset of listed oil and gas firms in Nigeria. The study concludes that loss of earnings occurs due to a mismatch between the value of assets and that of capital and liabilities denominated in foreign currencies or a mismatch between foreign receivables and foreign payables that are expressed in domestic currency.

Imegi, *et al.* (2023) examined the impact of inflation on the capital structure of industrial goods manufacturing firms in Nigeria. The study focused on how inflation, nominal, and real interest rates influence the debt-to-equity ratio, using panel data from 2012-2021. Data was collected from the Central Bank of Nigeria and the firms' financial statements, and analyzed with panel regression models. Findings from the fixed effects model indicated that while real interest rate changes could explain a 45% variation in the debt-to-equity ratio, inflation did not have a statistically significant impact. Criticism of the study lies in its narrow scope, focusing only on Nigeria and limiting broader applicability. The study suggests that firms with high debt levels should reduce debt to manage costs effectively.

Scemeleva & Nagornova (2023) investigated the relationship between inflation and firm performance across Central and Eastern European (CEE) countries. This bachelor’s thesis utilized firm-level data from 2005 to 2021, sourced from the ORBIS database, to assess profitability and liquidity responses to inflation. Regression analysis showed a positive impact of inflation on profitability, particularly for anticipated inflation, whereas unanticipated inflation had a smaller effect. A noted limitation is that the study's focus on the CEE region restricts generalizability to

other economic contexts. The findings highlight inflation's differentiated effects based on its demand-pull versus cost-push nature, offering policy implications for inflation management.Tërstena *et al.* (2023) analyzed inflation's impact on business profitability in Kosovo, focusing on factors like profit tax and GDP. Using a quantitative design, secondary data from 120 businesses' financial statements (2018-2021) were collected. Descriptive and linear trend analyses revealed a positive relationship between inflation and profitability, suggesting that businesses benefit from inflation-related pricing adjustments. A critique of this study is its limited scope, relying solely on Kosovo based businesses, which limits broader application. The findings support the notion that inflation can benefit firms by enhancing profit margins amid rising costs.

Adekola and Olayinka (2021) conducted a study to examine the impact of fluctuating exchange rates on manufacturing performance in Nigeria. Data from the Central Bank of Nigeria Statistical Bulletin for the period 2010-2016 were analyzed using regression analysis, with a dummy variable used to explain exchange rate appreciation and depreciation. The empirical results indicated a significant relationship between exchange rates and the performance of manufacturing firms in Nigeria.

Ezenwa, Ogbebor, and Alalade (2021) aimed to determine the effect of exchange rate volatility on the Return on Assets of consumer goods manufacturing companies listed in Nigeria. The study utilized an ex-post facto research design and selected a purposive sample of fourteen consumer goods firms from the listed companies. Panel data and panel regression models were employed, with estimation carried out using both the fixed-effect model and random effect model. The appropriate model was determined using the Hausman test, and Exchange Rate Volatility (ERV) was computed using the GARCH approach. The findings indicated that exchange rate volatility had a negative and statistically significant effect on the Return on Assets of these consumer goods manufacturing companies.

Obasi and Okegbe (2023) examined the relationship between exchange rate and the financial performance of oil and gas firms listed on the NGX from 2012 to 2021. Their findings indicated a significant and positive relationship between exchange gain or loss and return on assets, concluding that earnings losses occur due to mismatches between the value of assets and capital or liabilities denominated in foreign currencies.

Literature Gap

A review of the existing literature reveals several important gaps that this study seeks to address. First, while studies on foreign exchange risk and firm performance exist for the Nigerian context, a majority have focused on the banking and financial services sector or have examined exchange rate volatility in aggregate, with relatively limited disaggregated attention given specifically to the manufacturing sector and the distinct exposure types it faces.

Second, most existing Nigerian studies treat foreign exchange risk as a unidimensional construct, focusing predominantly on exchange rate volatility without disaggregating the analysis into the

three exposure types of transaction, translation, and economic exposure. This aggregated approach limits the practical utility of findings for treasury management decision-making.

Third, the period following the CBN's 2023 exchange rate policy unification has introduced a qualitatively new macroeconomic environment that prior studies could not have adequately captured. The resulting sharp depreciation of the Naira and restructuring of the official foreign exchange market have created new exposure dynamics that require fresh empirical investigation, particularly for the period 2020 to 2024.

Fourth, competitive positioning as a dimension of business performance has received minimal attention in empirical studies within the Nigerian manufacturing context, with most studies focusing exclusively on financial metrics such as profitability and return ratios. The incorporation of competitive positioning as an outcome variable represents a novel contribution of this study.
This study addresses these gaps by disaggregating foreign exchange risk into its three principal forms, examining outcomes across financial performance, operational efficiency, and competitive positioning, and drawing on panel data from the post-2020 period, including the critical 2023 to 2024 exchange rate reform era.

METHODOLOGY

This study adopted an ex-post facto research design, which is appropriate for studies that seek to examine the relationship between variables using data generated from events that have already occurred without manipulation of any variable. This design is consistent with prior studies examining exchange rate volatility and firm performance using secondary financial data (Odum, 2024). The population of the study comprised all 23 manufacturing companies listed on the Nigerian Exchange Group (NGX) as of December 2024. A purposive sample of 15 companies was selected based on the criteria of continuous listing for at least five years, availability of complete financial records for the period 2020 to 2024, and evidence of foreign currency exposure through importation activities, foreign liabilities, or foreign exchange disclosures in annual reports. This approach aligns with the sampling framework adopted in prior panel studies on listed manufacturing firms in Nigeria (Odum, 2024). The sampled companies spanned sub-sectors including food and beverages, pharmaceuticals, cement and building materials, chemicals and paints, and industrial goods. This cross-sector representation enhances the generalisability of the findings within the Nigerian manufacturing sector. The sampling process yielded 75 firm-year observations over the five-year period, which is considered adequate for panel data estimation in financial and accounting research.

Secondary data were employed exclusively. Data were obtained from the audited annual reports and consolidated financial statements of the sampled companies for the period 2020 to 2024, supplemented by data from the Central Bank of Nigeria Statistical Bulletin, NGX fact sheets, and National Bureau of Statistics publications. Relevant financial indicators extracted include return on assets, revenue, total assets, foreign currency liabilities, foreign currency assets, and local raw

material sourcing disclosures where available. The variables of the study were operationalised as follows. The dependent variable, business performance, was measured using three dimensions: financial performance proxied by Return on Assets (ROA), operational efficiency proxied by Asset Turnover Ratio (ATO), and competitive positioning proxied by Sales Growth Rate (SGR). Return on Assets was adopted because it remains one of the most widely used indicators of profitability and managerial efficiency in firm performance studies (Ehiedu & Priscilla, 2022).

The independent variables include Transaction Exposure Management (TEM), measured as the ratio of foreign currency denominated payables to total liabilities; Translation Exposure Management (TLM), measured as the proportion of foreign currency denominated assets to total assets; and Economic Exposure Management (ECM), measured by the ratio of locally sourced raw materials to total production inputs. Panel data regression analysis was employed as the primary analytical technique, consistent with prior studies on exchange rate volatility and manufacturing firm performance in Nigeria (Odum, 2024; Ezenwa *et al.*, 2021). The Hausman specification test was conducted to determine the appropriate estimation technique between the fixed-effect and random-effect models.

The regression models were specified as follows:
$ROA\_it = \alpha + \beta 1TEM\_it + \beta 2TLM\_it + \beta 3ECM\_it + \mu\_it$
$ATO\_it = \alpha + \beta 1TEM\_it + \beta 2TLM\_it + \beta 3ECM\_it + \mu\_it$
$SGR\_it = \alpha + \beta 1TEM\_it + \beta 2TLM\_it + \beta 3ECM\_it + \mu\_it$
Where: ROA = Return on Assets; ATO = Asset Turnover Ratio; SGR = Sales Growth Rate; TEM = Transaction Exposure Management; TLM = Translation Exposure Management; ECM = Economic Exposure Management; α = Constant Term; β_1–β_3 = Regression Coefficients; μ = Error Term; i = Firm; t = Time Period

To ensure robustness of the estimates, diagnostic tests including Variance Inflation Factor (VIF) for multicollinearity, Durbin-Watson statistic for autocorrelation, and heteroskedasticity tests were conducted. All analyses were performed using E-Views 11 statistical software.

RESULTS AND DISCUSSION

The results of the study are presented based on the research hypotheses. The descriptive statistics showed that the selected manufacturing firms experienced moderate changes in profitability and operational performance during the study period. The most noticeable challenges occurred between 2023 and 2024, when the value of the naira dropped sharply after the exchange rate was unified. This finding agrees with earlier studies which show that exchange rate instability puts pressure on production costs and reduces profit levels in Nigerian manufacturing firms (Odum, 2024).

A review of the firms' annual reports showed that the most common foreign exchange risk management strategies included the use of forward contracts, increased reliance on locally sourced

raw materials, negotiating payments in local currency, and limited use of currency swaps. This suggests that many firms prefer practical and flexible methods, especially in an environment where access to advanced financial instruments is limited (Aina & Udo, 2025).

For Hypothesis One, the regression results showed that managing transaction exposure has a positive and significant effect on financial performance. This means that firms that properly handle short-term foreign currency payments and obligations tend to achieve better profit outcomes. This supports the idea that effective control of exchange rate risks helps to stabilise cash flow and protect profits (Aina & Udo, 2025).

For Hypothesis Two, translation exposure management was found to have a positive and significant effect on operational efficiency. This indicates that firms that carefully manage their foreign currency assets and liabilities are able to plan better, use resources more efficiently, and control costs more effectively. This is in line with previous findings that link proper foreign exchange management with stable and consistent business performance (Aina & Udo, 2025).For Hypothesis Three, economic exposure management showed a strong and positive effect on competitive positioning. This means that firms that reduce their long-term exposure to exchange rate changes, through strategies like local sourcing and operational adjustments, are better able to maintain market share and remain competitive. This finding agrees with earlier studies which show that unmanaged exchange rate volatility can reduce manufacturing output (Chiagoziem *et al.*, 2021).

The diagnostic tests confirmed that the regression results are reliable, as there were no serious issues of multicollinearity or autocorrelation among the variables. The model also showed good explanatory power, meaning that foreign exchange risk management plays an important role in explaining changes in firm performance.

Overall, the findings support existing studies which show that while exchange rate volatility can harm manufacturing performance, firms that actively manage foreign exchange risk are more likely to remain stable, profitable, and competitive (Odum, 2024; Aina & Udo, 2025).

CONCLUSION AND RECOMMENDATIONS

This study has shown that managing foreign exchange risk has a strong and positive effect on the performance of manufacturing companies in Nigeria. Firms that actively manage their exposure to exchange rate changes tend to perform better in terms of profit, efficiency, and competitiveness. Among the different types of exposure, transaction and economic exposure management had a stronger effect on overall performance, while translation exposure also improved how efficiently firms operate. These results have useful implications. From a theoretical point of view, the study supports the idea that proper risk management helps firms create value. By controlling exchange rate risks, firms are able to stabilise their cash flow and remain competitive even when the currency is unstable. The study also adds to existing research in Nigeria by looking at different types of

exchange rate exposure and how each one affects business performance.
From a practical point of view, manufacturing companies need to take foreign exchange risk management more seriously. Firms should set up strong treasury systems that can monitor and manage exchange rate exposure effectively. There should be clear policies that define how much risk is acceptable, what tools can be used to manage it, and how often these strategies should be reviewed based on changes in the economy.

Companies also need to build internal skills in areas such as treasury operations, exchange rate forecasting, and financial analysis. Where this is not possible, they can work with financial experts or institutions. In addition, firms should focus on simple and practical strategies such as sourcing more raw materials locally, matching foreign currency earnings with expenses, and negotiating to trade in local currency. These steps can help reduce risk before using more complex financial tools. For policymakers, the findings show the need to improve the financial environment. The Central Bank of Nigeria and the Securities and Exchange Commission should work towards strengthening the foreign exchange market by making hedging tools more available, improving market liquidity, and reducing the cost of transactions. Clear and stable exchange rate policies will also help firms plan better and improve performance in the manufacturing sector.

Overall, better management of foreign exchange risk will not only improve individual firm performance but also support the growth and stability of the manufacturing sector in Nigeria.

Suggestions for Further Studies
Several avenues for further research emerge from this study. First, future studies should investigate the moderating role of corporate governance quality on the relationship between foreign exchange risk management and firm performance, as governance structures are likely to influence both the quality of risk management frameworks and the effectiveness of their implementation.

Second, longitudinal studies employing panel data methodologies over longer time horizons would provide more robust evidence on the dynamic relationship between exchange rate regime changes, risk management adaptations, and performance outcomes. The post-2023 exchange rate unification period in Nigeria represents a natural experiment that future researchers should exploit. Third, comparative studies across different sectors would shed light on sector-specific variations in foreign exchange exposure profiles and risk management responses. A comparison between the manufacturing sector and the agricultural export sector, for instance, would yield useful insights for sector-differentiated policy recommendations.

Fourth, qualitative and mixed-methods studies exploring the internal organisational factors that determine the quality and sophistication of foreign exchange risk management practices in Nigerian manufacturing firms would complement the quantitative findings of the present study and provide richer explanatory accounts of the mechanisms through which risk management affects performance.

Fifth, the role of digital financial technologies, including fintech-enabled hedging platforms and artificial intelligence-driven currency forecasting tools, in enhancing foreign exchange risk management access for medium-scale manufacturing firms deserves dedicated scholarly attention, given the rapid evolution of this technological landscape. Aina and Udo (2025) highlighted that firms leveraging AI-driven models and real-time treasury dashboards reported not only higher performance but also greater strategic confidence in procurement and pricing decisions, a finding that opens important research directions for the Nigerian manufacturing context.

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