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Effect of Risk Management and Resource Leveraging on SMEs Performance in Northeast Nigeria: The Moderating Role of Firm Size

Tijjani Zainab
Department of Business Administration
Gombe State University, Gombe, Nigeria
tijjanizainab@gsu.edu.ng
+2348063659069

Abstract
This study examines the moderating role of firm size on the relationships between risk management, resource leveraging, and SMEs' performance in Northeast Nigeria. The specific objectives were to investigate the impact of risk management on SMEs' performance, examine the impact of resource leveraging on SMEs' performance, evaluate the moderating role of firm size on the relationship between risk management and SMEs' performance, and assess the moderating role of firm size on the relationship between resource leveraging and SMEs' performance. Data were collected using a five-point Likert-scale questionnaire from a sample of 346 SMEs in Northeast Nigeria, selected using Taro Yamane's (1967) formula. The results, obtained from a structural equation modeling (SEM) analysis using Smart-PLS software version 4.1, indicate that risk management (p-value: 0.008) and resource leveraging (p-value: 0.000) have a positive and significant impact on SMEs' performance. However, firm size does not have a statistically significant moderating role on the relationships between risk management, resource leveraging, and SMEs' performance. The study concludes that risk management and resource leveraging are crucial strategies for enhancing SMEs' performance in Northeast Nigeria and recommends that SME owners and managers prioritize these strategies, regardless of firm size.

Keywords: Firm size, performance of SMEs, risks management, resource leveraging.

1.0 Introduction

Small and Medium Enterprises (SMEs) are a vital component of Nigeria's economy because they contribute to employment, Gross Domestic Product (GPD), and innovation (SMEDAN, 2020; Abdullahi et al., 2025). However, SMEs in Northeast Nigeria face numerous challenges that hinder their performance and survival. Poor sales, lack of access to capital, inadequate infrastructure, and limited managerial capacity are some of the pressing issues affecting SMEs in the region (Yahaya et al., 2025; Inuwa et al., 2025). These challenges are further increased by the region's security

concerns, economic instability, and limited access to modern technology (Alapa et al., 2025; Adamu & Ayuba, 2024). The situation is dire, with many SMEs struggling to stay afloat and others folding up due to insolvency. Effective risk management and resource leverage are crucial for SMEs to overcome these obstacles and achieve sustainable performance (Isibor et al., 2022; Ahmed & Teo, 2024). Risk management enables SMEs to identify, assess, and mitigate potential risks, while resource leverage helps them optimize their limited resources to achieve competitive advantage (Aoun, 2023; Abid et al., 2023). However, the effectiveness of these strategies may depend on firm-specific factors, such as firm size.

Firm size can influence the relationship between risk management, resource leverage, and performance in several ways (Indaswarie & Yustisia, 2022; Yang, & Wang, 2023). Larger SMEs may have more resources and capabilities to invest in risk management and leverage resources, while smaller SMEs may face more constraints (Bon, & Hartoko, 2022). On the other hand, smaller

SMEs may be more agile and adaptable, enabling them to respond quickly to changing market conditions (Setiawan et al., 2023). Despite the importance of risk management and resource leverage, there is limited research on their impact on SMEs performance in Northeast Nigeria, particularly considering the moderating role of firm size.

1.1. Statement of the Problem

The performance and survival of Small and Medium Enterprises (SMEs) in Northeast Nigeria remain a pressing concern, as these entities continue to grapple with myriad challenges that impede their growth and sustainability (Alapa et al., 2025; Adamu & Ayuba, 2024). Notwithstanding their significant contributions to Nigeria's economy, SMEs in Northeast Nigeria are beset by poor sales, lack of access to capital, inadequate infrastructure, and limited managerial capacity, among other issues (Bala, 20222; Dangoma, 2023; Yahaya et al., 2025; Inuwa et al., 2025). While extant literature suggests that effective risk management and resource leverage are vital for SMEs to overcome these obstacles, there is a dearth of understanding on how these factors impact SMEs' performance in Northeast Nigeria, particularly considering the role of firm size.

Specifically, the effects of risk management on SMEs' performance, the influence of resource leverage on SMEs' performance, and the moderating role of firm size in these relationships remain empirically unclear among SMEs in Northeast Nigeria. Thus, the following research questions arise: What is the effect of risk management on SMEs' performance in Northeast Nigeria? How does resource leverage influence SMEs' performance in this region? Does firm size moderate the relationship between risk management and SMEs' performance? And does firm size moderate the relationship between resource leverage and SMEs' performance? The limited empirical evidence on these issues has hindered the development of effective strategies to enhance SME performance in the region, thereby resulting in continued poor performance, low competitiveness, and high failure rates among SMEs. It is against this backdrop that this study investigated the moderating role of firm size on the relationship between risk management, resource leverage, and SMEs' performance in Northeast Nigeria.

1.2 Objectives of the Study

The purpose of this study was to evaluate the moderating role of firm size on the relationships between risks management, resource leveraging and performance of small and medium in Northeast Nigeria, with the following specific objectives:

1. To examine the effect of risk management on SMEs performance in Northeast Nigeria.
2. To investigate the influence of resource leverage on SMEs performance in Northeast Nigeria.
3. To determine the moderating role of firm size on the relationship between risk management and SMEs performance in Northeast Nigeria.
4. To assess the moderating role of firm size on the relationship between resource leverage and SMEs performance in Northeast Nigeria.

1.3. Study Hypotheses

The following hypotheses were tested to answer the above research questions:

H_1: Risk management has a significant positive effect on SMEs performance in Northeast Nigeria.

H_2: Resource leverage has a significant positive influence on SMEs performance in Northeast Nigeria.

H_3: Firm size moderates the relationship between risk management and SMEs performance in Northeast Nigeria.

H_4: Firm size moderates the relationship between resource leverage and SMEs performance in Northeast Nigeria.

2.0 Literature Review

This section provides related literature reviews on the influence of risks management and resource leveraging on the performance of SMEs in Northeast Nigeria with a moderating role of firm size. It consists of conceptual review, theoretical review and empirical review.

2.1 Conceptual Review

The study examines the moderating role of firm size on the relationship between risks management, resource leveraging, and the performance of SMEs in Northeast Nigeria. Therefore, it is very important to discuss what each of the concepts stands for.

2.1.1 Concept of SMEs Performance

SMEs performance is a complex construct that involves enterprise's ability to achieve its goals and objectives, it is typically measured by metrics such as sales growth, profitability, and return on investment (Sheng et al., 2025). This performance is shaped by a myriad of factors, including the efficacy of risk management strategies, the leveraging of resources, and the size of the firm (Zhang, & Ayele, 2022; Kim, & Ha, 2023). Most importantly, effective risk management and resource leverage can significantly enhance SMEs performance by mitigating risks and optimizing resource allocation (Isibor, et al., 2022; Ahmed & Teo, 2024). Furthermore, firm size plays a vital role in influencing SMEs performance, with larger enterprises potentially possessing more extensive resources and capabilities, whereas smaller SMEs may exhibit greater agility and adaptability (Bon, & Hartoko, 2022; Setiawan et al., 2023). The relationship between these variables can be explained as follows: risk management and resource leverage contribute to improved SMEs performance, firm size moderates the relationship between these factors and performance, and the inherent characteristics of larger and smaller SMEs present distinct advantages and challenges.

2.1.2 Concept of Risks Management

Risk management is an important process that entails identifying, assessing, and mitigating potential risks that could imperil an organization's performance and survival (Balaji et al., 2024; Igbekoyi et al., 2024). This process involves developing strategies to minimize or eliminate threats, while capitalizing on opportunities, thereby ensuring the organization's sustainability (Shrivastava et al., 2023). In Small and Medium Enterprises (SMEs), risk management assumes paramount importance due to their limited resources and heightened vulnerability to external shocks (Aoun, 2023). The risk management process includes several key activities, such as risk identification, which involves recognizing potential risks that could impact the organization, risk assessment, which entails evaluating the likelihood and impact of identified risks, risk prioritization, which involves ranking risks based on their likelihood and impact, and risk mitigation, which requires developing strategies to minimize or eliminate risks (Barraza de la Paz et al., 2023). SMEs can employ various risk management strategies, such as diversification, hedging, and insurance, to minimize their exposure to risks (Shakatreh et al., 2023). Through implementation of effective risk management practices, SMEs can improve their performance by reducing losses and enhancing their resilience.

2.1.3. *Concept of Resource Leveraging*

Resource leverage is a critical capability that enables organizations to optimize their resources to achieve competitive advantage (Willie, 2025). In Small and Medium Enterprises (SMEs), resource leverage involves harnessing human capital, financial capital, and technology to enhance performance and competitiveness (Norkio, 2024; Rahman et al., 2024; Althawadi, 2025). This process entails identifying and exploiting opportunities to utilize resources more efficiently, and allocating resources to high-priority areas (Norkio, 2024). Effective resource leverage requires SMEs to develop major capabilities, such as resource allocation, which involves assigning resources to strategic initiatives, resource utilization, which involves deploying resources efficiently and effectively, and resource development, which involves creating new resources and capabilities (Kusumawijaya, & Astuti, 2024; Rizq, & Parveen, 2025). Furthermore, SMEs can leverage external resources, such as partnerships and collaborations, to augment their internal resources and bolster their competitiveness (Marlina, 2024; Tariq, 2025).

2.1.4 *Concept of Firm Size*

Firm size refers to the scale of operations of an organization, often measured by factors such as sales, assets, and number of employees (Bon, & Hartoko, 2022). Firm size can influence an organization's ability to access resources, manage risks, and achieve economies of scale (Hossain et al., 2024). Larger firms may have more resources and capabilities, but smaller firms may be more agile and adaptable (Setiawan et al., 2023). Firm size can also influence the relationship between risk management, resource leverage, and performance (Bon, & Hartoko, 2022; Setiawan et al., 2023). Larger SMEs may have more resources to invest in risk management and resource leverage, while smaller SMEs may face more constraints.

2.2 Theoretical Framework

Resource Advantage Theory

The Resource-Advantage (R-A) theory posits that sustained superior firm performance occurs when a firm's comparative advantage in resources continues to yield positions of competitive advantage despite the competitive actions of rivals (Hunt & Morgan, 1996). This theory emphasizes the role of marketing in facilitating the creation of new resources and enhancing the productivity of current resources through leveraging approaches and innovation (Hanmaikyur et al., 2016). Resources are defined as tangible and intangible assets that enable a firm to produce market offerings efficiently and effectively for specific market segments (Hunt, 2012). The R-A theory categorizes resources into financial, physical, legal, human, organizational, knowledge, and relational assets (Mahrous et al., 2020). Firms engage in relationships with other firms and consumers when such relationships contribute to their competitiveness, thereby constituting relational resources that enhance competitive advantage and performance (Hunt, 2012). The R-A theory provides a framework for understanding relational exchanges as strategic resources that drive superior performance.

2.3 Empirical Review

Risks Management and SMEs Performance

Empirical evidence suggests that risk management has a positive impact on SMEs financial performance. A study conducted by Syrová and Špička (2022) found that risk management has positive effect on firm financial performance. This suggests that SMEs need to develop monitor strategic risk management performance to reap the benefits. Mojekeh et al. (2018) also examined the influence of seven EM dimensions on the performance of selected SMEs in Enugu State, Nigeria, and found that calculated risk-taking positively related to the SMEs' performance. These findings are consistent with the results of similar empirical studies conducted in other developing

regions like Turkey, Indonesia, Kosovo State, and South Africa. Fard et al. (2020), studied the effects of entrepreneur marketing on SMEs performance in Nigeria, and the study reviewed that the ability of SMEs performances depends on the calculated risk takin, therefore, risk management is an important factor that affect SMEs performances.

Resource Leveraging and SMEs Performance

Empirical evidence also suggests that resource leveraging is a vital component of entrepreneurial marketing that significantly influences SME performance. Studies conducted in Nigeria and Sri Lanka reveal that effective resource leveraging enables SMEs to enhance their competitiveness, productivity, value creation, and new market exploration (Nwokah & Dick, 2020; Bandara et al., 2019). For instance, Nwokah and Dick's (2020) study on quoted industrial goods manufacturing firms in Nigeria found that resource leveraging has a positive and significant impact on organizational competitiveness, productivity. Similarly, Bandara et al.'s (2019) study on SMEs in Sri Lanka discovered that resource leveraging is positively correlated with sales growth. However, the adoption of resource leveraging can vary depending on factors such as business size, age, and education level of the business operator (Bandara et al., 2019). This highlights the need for tailored approaches to entrepreneurial marketing that take into account the unique characteristics and needs of individual SMEs (Stephen et al., 2019). Through leveraging resources effectively, SMEs can achieve sustainable growth and stay competitive in the market.

Firm Size and the Performance SMEs

Research has shown that business size plays a significant role in the success of firms. Hung et al. (2021) found that business size has a positive and substantial impact on the success of Vietnamese private firms. In contrast, Kijkasiwat and Phuensane (2020) discovered that larger firm size and capital can actually reduce the influence of innovation on firm performance, based on a study of SMEs in 29 Eastern European and Central Asian countries.

2.4 Conceptual Framework

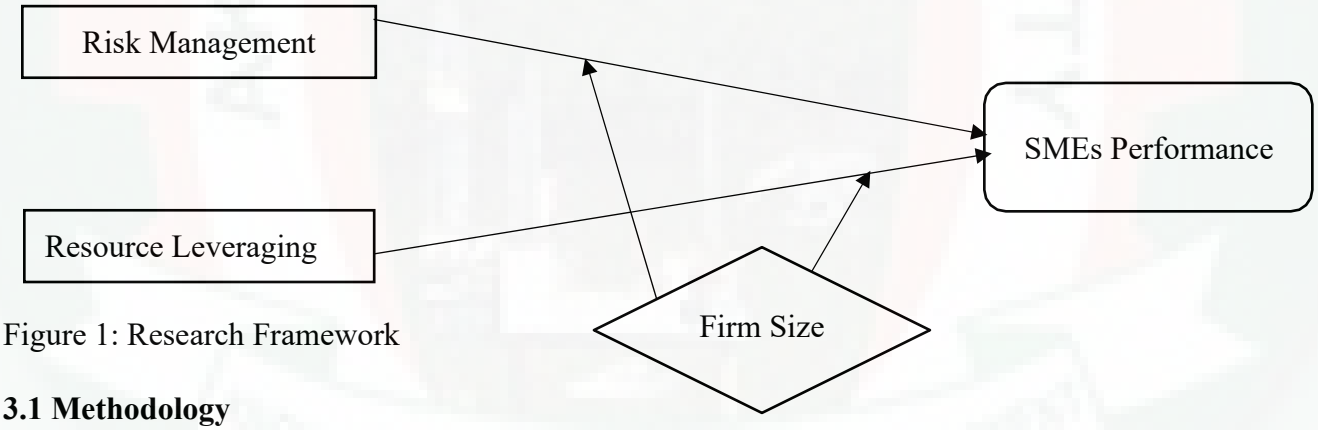


Figure 1: Research Framework

3.1 Methodology

This study employed a descriptive survey research design to investigate the moderating effect of firm size on the relationships between risk management, resource leveraging, and performance of Small and Medium Enterprises (SMEs) in northeast Nigeria. The population consisted of 2,567 registered SMEs, from which a sample size of 346 was determined using Taro Yamane's (1967) formula. A simple random sampling method was used to select respondents, and a total of 381 questionnaires were administered to account for potential non-response (10% increase). The questionnaire utilized a Five-Point Likert scale, and data were analyzed using Smart-PLS version

4.1.7. Reliability was assessed via Cronbach's alpha (overall = 0.815), composite reliability, and average variance extracted (AVE), indicating acceptable internal consistency.

3.2 Results and Analysis

a. Evaluation of Measurement Model

The study's variables demonstrated acceptable reliability, with Cronbach's alpha, Average Variance Extracted (AVE), and composite reliability values falling within established thresholds. Specifically, the AVE values ranged from 0.549 to 0.644, indicating adequate convergent validity. Cronbach's alpha values spanned from 0.787 to 0.863, signifying good internal consistency. Composite reliability values ranged from 0.816 to 0.867, further supporting the reliability of the constructs. The measurement model, depicted in Figure 2, illustrates the relationships between the variables, which include performance (AVE = 0.616, Cronbach's alpha = 0.787, composite reliability = 0.818), risk management (AVE = 0.644, Cronbach's alpha = 0.815, composite reliability = 0.816), resource leveraging (AVE = 0.568, Cronbach's alpha = 0.808, composite reliability = 0.827), and firm size (AVE = 0.549, Cronbach's alpha = 0.863, composite reliability= 0.867).

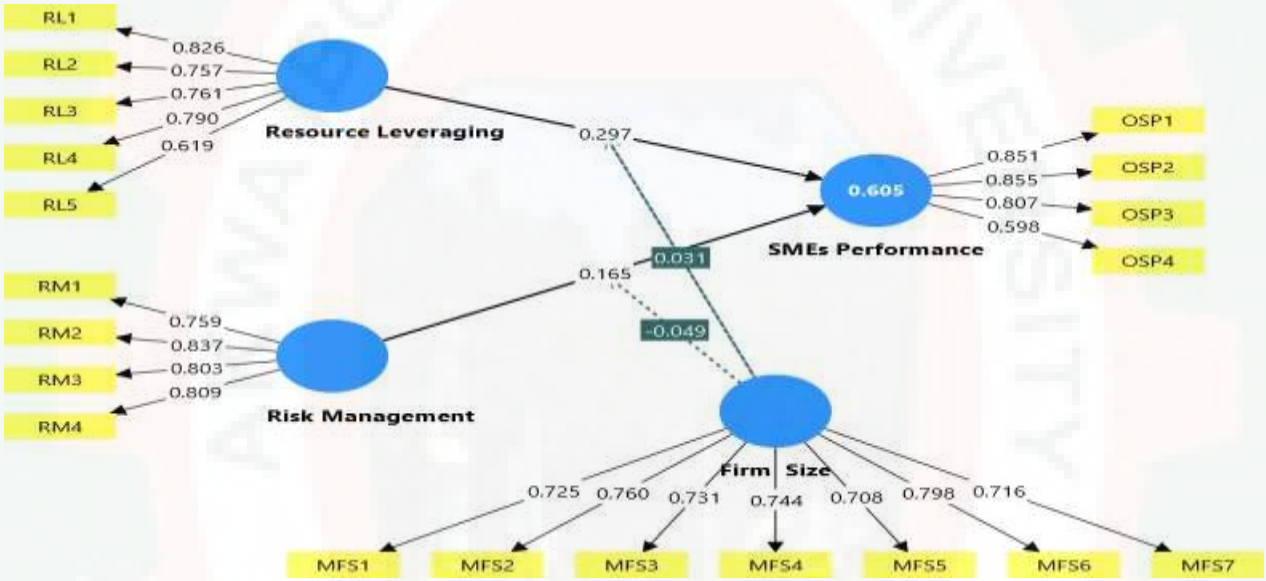


Figure 2: *The study's measurement model.*
Source: Field Survey (2025).

Furthermore, this study provides the discriminant validity of the constructs using the heterotrait-monotrait (HTMT) ratio criterion. This is because HTMT ratio criterion has a better specificity and sensitivity rate than a Fornell-Lacker and cross-loading criteria, the heterotrait-monotrait ratio criterion is considered preferable by Henseler, Ringle and Sarstedt (2016). Table 1 present the HTMT ratio criterion.

Table 1: *HTMT Ratio Criterion Results*

	FM	RL	RM	SMEsP	FS x RM	FS x RL
FM						
RL	0.639					
RM	0.765	0.671				

SMEsP	0.746	0.768	0.741		
FS x RM	0.610	0.457	0.621	0.488	
FS x RL	0.563	0.569	0.464	0.511	0.773

Source: Field Survey (2025).

The Heterotrait-Monotrait (HTMT) ratio results presented in Table 1 indicate that the constructs exhibit discriminant validity. The HTMT values range from 0.457 to 0.773, with the highest value being 0.773, which is below the recommended threshold of 0.85 and 0.90 (Gold, Malhotra, & Segars, 2001; Kline, 2011). This suggests that the constructs are distinct and do not suffer from multicollinearity, indicating that the variables are measuring unique aspects of the research model. The results provide evidence of discriminant validity, supporting the notion that the constructs are conceptually distinct and can be treated as separate variables in the analysis.

b. Evaluation of Structural Model

The study's tested hypotheses, R^2 value, and F^2 value are presented in Table 2. As a general rule, at the 5% level of significance, hypotheses are accepted or rejected, depending on their p-value. In this study, all the hypotheses are formulated in alternative form.

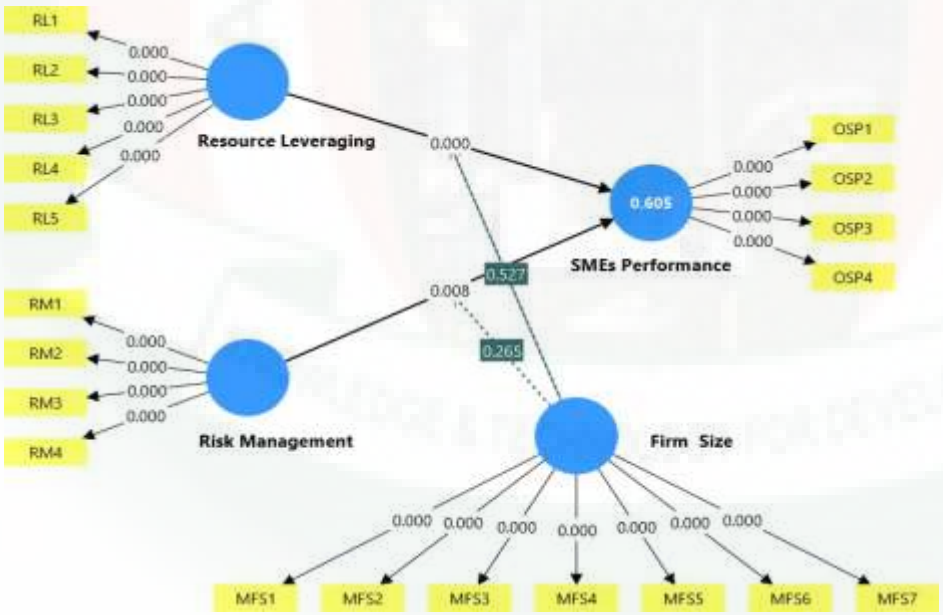
Table 2: *Structural Model Results*

Hypotheses	← Value	STDEV	T-Statistics	P. Value	Decision
H_1: RM -> SMEsP	0.165	0.062	2.650	0.008	Accepted
H_2: RL -> SMEsP	0.297	0.058	5.114	0.000	Accepted
H_3: FS x RM-> SMEsP	-0.049	0.044	1.115	0.265	Rejected
H_4: HFS x RL -> SMEsP	0.031	0.049	0.632	0.527	Rejected

Source: Field Survey (2025).

The reflection of Table 2 is displayed in figure 3.

Figure 3: *Bootstrapping Model*



Source: Field Survey (2025).

The structural model results presented in Table 2 indicate that risk management (RM) and resource leveraging (RL) have a positive and statistically significant impact on SMEs performance in northeast Nigeria. Specifically, the beta values ( ) of 0.165 and 0.297, with p-values of 0.008 and 0.000, respectively, suggest that both RM and RL are significant predictors of SMEs performance, supporting hypotheses H1 and H2. The finding on RL is consistent with Nwokah and Dick (2020), who found that resource leveraging has a positive and significant impact on organizational competitiveness, and productivity.

However, the moderating effect of firm size (FS) on the relationships between RM, RL, and SMEs performance is not statistically significant, leading to the rejection of hypotheses H3 and H4. The beta values of -0.049 and 0.031, with p-values of 0.265 and 0.527, respectively, indicate that firm size does not significantly influence the impact of RM and RL on SMEs performance. This finding contrasts with Hung, Vinh, and Thai (2021), who reported a positive and substantial interaction between business size and business success, but is consistent with Kijkasiwat and Phuensane (2020), who found that firm size can reduce the influence of innovation on firm performance. The findings on RM are consistent with previous studies, such as Syrová and Špička (2022), Mojekeh et al. (2018), and Fard et al. (2020), which reported that risk management affects SMEs performance. The results suggest that SMEs in northeast Nigeria can benefit from focusing on risk management and resource leveraging strategies to improve their performance.

c. Coefficient of Determination.

Another crucial instrument for evaluating structural models is the R^2 (Hair et al., 2014; Hair et al., 2016; Henseler, Ringle, & Sinkovics, (2009). The model's R^2 value for this investigation is displayed in Table 3.

Table 3: *Coefficient of Determination Using R^2 Value*

Construct	R-square
SMEs Performance	**0.605**

Source: Field Survey (2025).

The coefficient of determination, as presented in Table 3, reveals that the R^2 value is 0.605, indicating that approximately 60.5% of the variance in SMEs performance in northeast Nigeria can be attributed to the combined effects of risk management and resource leveraging. This suggests that these two factors are significant predictors of SMEs performance, accounting for more than half of the observed differences. On the other hand, the remaining 39.5% of the variance is attributable to other factors not explored in this study, and this highlights the complexity of SMEs performance and the need for further research to identify additional influential variables.

d. Size of Exogenous Variables

The size of the exogenous variables on the endogenous variable is shown in Table 4.

Table 4: ***The Exogenous Variables' Effects and Sizes***

Construct	*F-Square*	Size
Resource Leveraging	0.128	Small
Risk Management	0.033	Small
Firm Size x Risk Management	0.007	No Effect
Firm Size x Resource Leveraging	0.003	No Effect

Source: Field Survey (2025)

The analysis of the exogenous variables' effects on SMEs performance in Northeast Nigeria reveals that resource leveraging and risk management exert small yet significant influences, with F-Square values of 0.128 and 0.033, respectively. Conversely, the moderating effects of firm size on the relationships between risk management, resource leveraging, and SMEs performance are negligible, as evidenced by F-Square values of 0.007 and 0.003, respectively, indicating no substantial impact. These findings suggest that while risk management and resource leveraging contribute to SMEs performance, their effects are relatively modest, and firm size does not significantly alter these relationships.

e. Exogenous Variables' Predictive Relevance

The RMSE Q^2 was employed in this investigation to evaluate the exogenous variables' predictive value. Table 5 displays the outcome.

Table 5: *Predictive Relevance*

Construct	Q^2predict	RMSE	MAE
SMEs Performance	0.579	0.656	0.483

Source: Field Survey (2025)

The results presented in Table 5 demonstrate the predictive relevance and accuracy of the model in forecasting SMEs performance. The Q^2 value of 0.579 indicates that the model possesses good predictive relevance, suggesting that it can explain a substantial proportion of the variance in SMEs performance. Furthermore, the root means square error (RMSE) of 0.656 and means absolute error (MAE) of 0.483 collectively indicates that the model exhibits satisfactory prediction accuracy, with the RMSE value signifying a relatively low level of error in the predictions. Overall, these metrics suggest that the model is robust and reliable in predicting SMEs performance.

3.3 Implications

The study's findings have significant implications for SMEs in Northeast Nigeria. The results suggest that risk management and resource leveraging are crucial strategies for enhancing SMEs' performance in the region. Specifically, SMEs that adopt effective risk management and resource leveraging strategies are likely to experience improved performance, regardless of their size. Although firm size was found to affect SMEs' performance, its moderate role on the relationships between risk management, resource leveraging, and SMEs' performance was not statistically significant. This suggests that SMEs of all sizes can benefit from implementing risk management and resource leveraging strategies, and that these strategies can be effective across different firm sizes. As such, policymakers and practitioners should prioritize supporting SMEs in developing and implementing these strategies to enhance their performance and contribute to the region's economic growth.

3.4. Conclusion and Recommendations

This study concludes that risk management and resource leveraging strategies significantly influence the performance of SMEs in Northeast Nigeria. The findings suggest that SMEs in the region can enhance their performance by adopting effective risk management and resource leveraging strategies. Contrary to expectations, firm size does not moderate the relationships between risk management, resource leveraging, and SMEs' performance. Based on these findings, it is recommended that:

1. SMEs owners and managers prioritize risk management and resource leveraging strategies to enhance their businesses' performance.

2. SMEs owners and managers focus on developing capabilities in risk management and resource leveraging to improve their competitiveness.
3. Policymakers and support institutions provide training and resources to help SMEs develop effective risk management and resource leveraging strategies, regardless of firm size.
4. Future research explores other factors that may influence the performance of SMEs in Northeast Nigeria, such as entrepreneurial orientation and innovation.

REFERENCES

Abdullahi, M. S., Adieza, A., Arnaut, M., Nuhu, M. S., Ali, W., & Lawal Gwadabe, Z. (2025). Antecedents of employee performance through perceived organizational support: a moderating role of job satisfaction among employees of SMEs in an emerging economy. *Journal of Organizational Effectiveness: People and Performance*, *12*(3), 537-558.

Abid, N., Dowling, M., Ceci, F., & Aftab, J. (2023). Does resource bricolage foster SMEs' competitive advantage and financial performance? A resource-based perspective. *Business Strategy and the Environment*, *32*(8), 5833-5853.

Adamu, Z., & Ayuba, V. (2024). Exploring the effectiveness of vocational skill acquisition interventions in Nigeria. A perspective from north-eastern Nigeria. *Austin Journal of Business Administration and Management*, *8*(3-2024).

Ahmad, S. A., & Teo, P. C. (2024). The implementation of enterprise risk management (ERM) frameworks in small and medium enterprises (SMEs): A literature review. *International Journal of Academic Research in Business and Social Sciences*, *14*(9), 290-307.

Alapa, I. F., Ugbe, U. A., & Alakali, T. F. (2025). Enhancing Resilience of Small and Medium Enterprises through Knowledge Management in Security-Challenged Regions: Evidence from Northeast Nigeria. *Jalingo Journal of Social and Management Sciences*, *6*(4), 152-166.

Althawadi, A. (2025). A Strategic Framework for Enhancing SME Competitiveness and Growth. In *Sustainable Data Management: Navigating Big Data, Communication Technology, and Business Digital Leadership. Volume 1* (pp. 289-301). Cham: Springer Nature Switzerland.

Aoun, J. (2023). The impact of risk management on the performance of small medium enterprises amid the crisis: the case of Lebanon. *Dutch journal of finance and management*, *6*(2), 25718.

Balaji, S., Shreshta, L., & Sujatha, K. (2024). A Study on Risk Management in Corporate Business. *Involvement International Journal of Business*, *1*(3), 197-209.

Barraza de la Paz, J. V., Rodríguez-Picón, L. A., Morales-Rocha, V., & Torres-Argüelles, S. V. (2023). A systematic review of risk management methodologies for complex organizations in industry 4.0 and 5.0. *Systems*, *11*(5), 218.

Bon, S. F., & Hartoko, S. (2022). The effect of dividend policy, investment decision, leverage, profitability, and firm size on firm value. *European Journal of Business and Management Research*, *7*(3), 7-13.

Gold, A. H., Malhotra, A., & Segars, A. h. (2001). Knowledge management: An organizational capabilities perspective. *Journal of Management Information System.* 18(1), 185-214.

Hanmaikyur, T. J., Onu, A. J. C. & Jinjiri, R. K., (2016). Entrepreneurial marketing practices and return on investment performance of SMEs in Nigeria. Sahel Analyst: *Journal of Management Science., 14*, 37-55.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2016). Anew criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115-135.

Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). *The Use of Partial Least Squares Path*

Modeling in International Marketing: A New challenges to international marketing. Emerald Group Publishing Limited.

Hossain, M. S., Ali, M. S., Islam, M. Z., Ling, C. C., & Fung, C. Y. (2024). Nexus between profitability, firm size and leverage and tax avoidance: evidence from an emerging economy. *Asian Review of Accounting*, *32*(5), 759-780.

Hunt, S. D. & Morgan, R. M. (1996). The resource-advantage theory of competition: dynamics, path dependencies, and evolutionary dimensions. *Journal of marketing*, *60*(4), 107-114.

Hunt, S.D. (2012). The evolution of resource-advantage theory Six events, six realizations, six contributions. *Journal of Historical Research in Marketing*, *4*(1), 7-29.

Igbekoyi, O. E., Oluwagbade, O. I., & Dagunduro, M. E. (2024). Risk management and uncertainty interplay. *International Journal of Economics and Financial Management*, *9*, 188-198.

Indaswarie, Y. P., & Yustisia, N. (2022). Effect of enterprise risk management, company size and leverage on company value. *Indonesian Development of Economics and Administration Journal*, *1*(1), 9-17.

Inuwa, M. L., Abaye, F. I., & Bello, H. S. (2025). Digital marketing, human capital and performance of small and medium enterprises (SME) in northeast Nigeria: A conceptual review. *Lead City Journal of the Social Sciences (LCJSS)*, *10*(3), 116-130.

Isibor, N. J., Ibeh, A. I., Ewim, C. P. M., Sam-Bulya, N. J., & Martha, E. (2022). A financial control and performance management framework for SMEs: Strengthening budgeting, risk mitigation, and profitability. *International Journal of Multidisciplinary Research and Growth Evaluation*, *3*(1), 761-768.

Kijkasiwat, P., & Phuensane, P. (2020). Innovation and firm performance: The moderating and mediating roles of firm size and small and medium enterprise finance. *Journal of Risk and Financial Management*, *13*(5), 97.

Kilenthong, P., Hultman, C. M. & Hills, G. E. (2016). Entrepreneurial marketing behaviours: impact of firm age, firm size and firm's founder. *Journal of Research in Marketing and Entrepreneurship*.

Kim, S., & Ha, T. (2023). Influential variables and causal relations impact on innovative performance and sustainable growth of SMEs in aspect of industry 4.0 and digital transformation. *Sustainability*, *15*(9), 7310.

Kusumawijaya, I. K., & Astuti, P. D. (2024). The Impact of Human Capital and Knowledge Creation on Sustaining Competitive Advantage and Innovation in Medium-Sized Companies in Bali. International Journal of Sustainable Development & Planning, 19(6).

Mahrous, A., Genedy, M. A. & Kalliny, M. (2020). The impact of characteristics of intra-organizational environment on entrepreneurial marketing intensity and performance in Egypt. *Journal of Entrepreneurship in Emerging Economies*.

Marlina, R. (2024). Harnessing Community Resources: Exploring Management Strategies for SME Development. *Golden Ratio of Community Services and Dedication*, *4*(1), 12-23.

Mio, C., Costantini, A., & Panfilo, S. (2022). Performance measurement tools for sustainable business: A systematic literature review on the sustainability balanced scorecard use. *Corporate social responsibility and environmental management*, *29*(2), 367-384.

Norkio, A. (2024). Intangible capital and financial leverage in SMEs. *Managerial Finance*, *50*(2), 434-450.

Rahman, S. A., Taghizadeh, S. K., Khan, G. M., & Radomska, M. (2024). Intellectual capital and competitiveness improvement among micro-small-medium enterprises: a resource orchestration view. *Journal of Small Business and Enterprise Development*, *31*(5), 829-851.

Rizq, A. T., & Parveen, M. (2025). Harnessing HR Dynamics: Key to Competitive Advantage and Sustainability in Small and Medium Enterprises. *Access Journal*, *6*(1), 217-241.

Setiawan, D., Adhariani, D., Harymawan, I., & Widodo, M. (2023). E-commerce and micro and small industries performance: The role of firm size as a moderator. *Journal of Open Innovation: Technology, Market, and Complexity*, *9*(3), 100142.

Shakatreh, M., Rumman, M. A. A., & Mugableh, M. I. (2023). Reviewing the framework of risk management: policy and hedging. *International Journal of Professional Business Review: Int. J. Prof. Bus. Rev.*, *8*(1), 7.

Sheng, L., Zhang, C., Xu, J., Zhou, Q., & Zhang, X. (2025). Quantitative measurement of thermal performance of a cylindrical lithium-ion battery. *Measurement*, *239*, 115458.

Shrivastava, V. K., Balasubramanian, J., Katyal, A., Yadav, A., & Yogananthan, S. (2023). Understanding the significance of risk management in enterprise management dynamics. *Multidisciplinary Reviews*, 6.

Syrová, L., & Špička, J. (2022). Exploring the indirect links between enterprise risk management and the financial performance of SMEs. *Risk management*, *25*(1), 1.

Tariq, M. U. (2025). Innovative strategies for enhancing SME competitiveness in emerging economies. In *Models, Strategies, and Tools for Competitive SMEs* (pp. 151-172). IGI Global.

Willie, M. (2025). Leveraging digital resources: a resource-based view perspective. *Golden Ratio of Human Resource Management*, *5*(1), 01-14.

Yahaya, H. D., & Nadarajah, G. (2023). Determining key factors influencing SMEs' performance: A systematic literature review and experts' verification. *Cogent Business & Management*, *10*(3), 2251195.

Yahaya, H. D., Geidam, M. M., Abdullahi, U., & Iqbal, M. S. (2025). Examining the influence of strategic orientation on the performance of small and medium enterprises in Nigeria. *Fane-Fane International Multidisciplinary Journal*, *9*(2 September), 273-291.

Yang, X., & Wang, J. (2023). The relationship between sustainable supply chain management and enterprise economic performance: does firm size matter? *Journal of Business & Industrial Marketing*, *38*(3), 553-567.

Zhang, Y., & Ayele, E. Y. (2022). Factors affecting small and micro enterprise performance with the mediating effect of government support: Evidence from the Amhara Region Ethiopia. *Sustainability*, *14*(11), 6846.