International Journal of Intellectual Discourse (IJID)
ISSN: 2636-4832 Volume 7, Issue 3. September, 2024

Assessing the effect of banditry on small and medium size enterprises performance in Kaduna, Katsina and Zamfara state Nigeria

Usman Junaidu[1], and Abubakar Abdulkadir Abuabdin[2]

[1]*Business Administration, Umaru Musa Yar'adua University, Katsina – Nigeria.*
[2]*Business Administration, Federal University, Gusau – Nigeria.*

Corresponding Author: ujunaidu@gmail.com

Abstract
The persistent rise in banditry in northern Nigeria has led to increased insecurity, severely disrupting economic activities, particularly among Small and Medium Enterprises (SMEs). This has resulted in a significant reduction in the operational capacity and growth of these businesses. This study investigates the impact of banditry on the performance of Small and Medium Enterprises (SMEs) in Kaduna, Katsina, and Zamfara states, Nigeria. Using Partial Least Squares Structural Equation Modeling (PLS-SEM), the research analyzed data from 300 valid responses collected through structured questionnaires administered to SME owners and managers. The study focuses on the frequency, severity, and geographical spread of banditry as key constructs influencing SME performance. The findings reveal that the frequency and severity of banditry incidents have significant negative effects on SME performance, while the geographical spread of banditry has a minimal impact. These results underscore the need for targeted interventions that prioritize reducing the frequency and severity of attacks, rather than merely addressing their geographic distribution. Recommendations include enhancing security measures, increasing community policing, and investing in local intelligence networks to mitigate banditry. SMEs are encouraged to adopt resilience strategies such as diversifying operations and investing in security infrastructure. This study contributes to the academic understanding of banditry's impact on business performance and emphasizes the importance of tailored interventions to support SME resilience and economic growth in affected regions.

Keywords: Banditry, Banditry Attacks, Frequency of Banditry Incidents, SMEs Performance, Severity of Geographical Spread of Banditry, Nigeria.

1. Introduction

Small and Medium Enterprises (SMEs) serve as the backbone of economic development in Nigeria, particularly in regions like Kaduna, Katsina, and Zamfara states. Nationally, SMEs contribute approximately 48% to Nigeria's GDP, employing over 80% of the country's workforce and accounting for 96% of businesses, according to the Nigeria Bureau of Statistics (NBS, 2022). In these states, SMEs are pivotal in driving employment, generating income, and alleviating poverty. For instance, Kaduna, Katsina, and Zamfara states collectively account for over 30% of Nigeria's agricultural output, with SMEs playing a crucial role in the agribusiness value chain (World Bank, 2023). In these economies, heavily reliant on agriculture, trade, and small-scale manufacturing, SMEs are integral to sustaining local economies and improving community livelihoods (Aminu & Shariff, 2023).

However, ongoing insecurity, particularly manifested through banditry, poses a significant threat to the survival and performance of SMEs. The impact of banditry has led to business closures, significant revenue losses, and job displacements. According to estimates from Nigeria's Ministry of Trade and Investment (2023), SMEs in these regions have collectively lost over ₦10 billion

annually in potential revenue due to persistent banditry attacks, severely impacting local economies. Banditry, marked by frequent attacks, widespread geographical impact, and severe violence, disrupts economic activities by leading to asset destruction, loss of workforce, and declining market access, thus exacerbating poverty levels (Garba & Yusuf, 2023). The socio-economic ramifications are severe, with banditry contributing to the displacement of over 500,000 people in these states, according to the International Organization for Migration (IOM, 2022). These disruptions highlight the urgent need for a thorough examination of banditry's impact on SMEs to guide effective policy and intervention strategies aimed at revitalizing the sector and promoting sustainable development in the affected regions (Eniola & Entebang, 2023).

The escalation of banditry in Kaduna, Katsina, and Zamfara states has reached critical levels, severely threatening the economic stability and growth of SMEs. Despite various efforts by governmental and non-governmental organizations to address the impact of insecurity on business activities, the persistent nature of banditry continues to undermine these efforts. In 2022 alone, banditry-related violence in these states resulted in a 25% decline in SME productivity and contributed to an unemployment rate of over 40%, further destabilizing these economies (Ibrahim & Musa, 2023; NBS, 2023). The continuing economic dislocation, increased unemployment, and a general decline in the quality of life are evident across the region, with SMEs being disproportionately affected.

Existing research has predominantly focused on the broader socio-political implications of banditry, with limited attention paid to its specific effects on SME performance. For instance, Abubakar and Olaleye (2021) found that security challenges have led to a 20% reduction in market share for SMEs in Northern Nigeria, while Yahaya & Sani (2022) noted that banditry-induced insecurity forced over 15% of SMEs in Katsina to shut down permanently in the past five years. These findings suggest a critical need to investigate how the frequency, geographical spread, and severity of banditry incidents influence the operational viability and sustainability of SMEs in these regions (Babatunde & Ojo, 2024).

This study aims to examine the effect of the frequency of banditry incidents on SME performance in Kaduna, Katsina, and Zamfara states; the impact of the geographical spread of banditry on these businesses; and the effect of the severity of banditry attacks on their performance. By addressing these objectives, the research will provide valuable insights into the specific ways in which banditry affects SME operations and overall performance.

The findings will be crucial for policymakers, security agencies, and other stakeholders involved in economic development and security management, as they will inform the design of targeted interventions to enhance SME resilience against the impacts of banditry. This study will contribute to the economic recovery and growth of Kaduna, Katsina, and Zamfara states and expand the existing body of knowledge on the intersection of security and economic development, particularly in conflict-prone regions (Alabi & Olowookere, 2023; Mohammed & Adebayo, 2024).

2. Empirical Review

Conceptual Review

Small and Medium Enterprises

Small and Medium Enterprises (SMEs) are vital to Nigeria's economic development, contributing significantly to employment, income generation, and innovation. In Nigeria, SMEs are categorized based on the number of employees, with micro enterprises having fewer than 10 employees, small enterprises employing 10

to 49 people, and medium enterprises employing between 50 and 249 people (National Bureau of Statistics, 2022). SME performance is assessed through metrics such as financial stability, growth, and market share, and it is influenced by internal factors like management practices and access to finance. Effective management, strategic planning, and operational efficiency are critical for success, while limited access to finance can restrict growth and innovation (Eniola & Entebang, 2023; Babatunde & Ojo, 2024). Externally, the performance of SMEs is shaped by economic conditions, regulatory frameworks, and market dynamics. Economic stability fosters demand and opportunities, while regulatory environments impact costs and operational practices (Garba & Yusuf, 2023). Market factors like competition and technological advancements also play a role in determining SME performance. In addition, resilience and flexibility are crucial for SMEs to adapt to challenges such as infrastructure deficits, security issues, and economic fluctuations (Alabi & Olowookere, 2023). In Nigeria, improving SME performance requires coordinated efforts from government and stakeholders to enhance access to finance, provide capacity-building support, and reduce regulatory burdens (Mohammed & Adebayo, 2024).

Banditry: Frequency of Incidents, Geographical Spread, and Severity of Attacks

Banditry, characterized by armed robbery, kidnapping, and violent attacks, poses significant challenges to economic stability and social cohesion, especially in northern Nigeria. **The frequency of banditry incidents** refers to how often these criminal activities occur, creating a pervasive climate of fear and instability. High-frequency banditry disrupts economic activities by deterring investment, increasing business costs, and forcing Small and Medium Enterprises (SMEs) to allocate resources towards security and asset protection rather than growth initiatives. The socio-economic ramifications are severe, as frequent attacks lead to reduced economic activity, heightened poverty, and increased unemployment, which hampers long-term economic development (Aminu & Shariff, 2023; Eniola & Entebang, 2023; Garba & Yusuf, 2023). This trend underscores the necessity for comprehensive security enhancements and economic support programs to alleviate the adverse impacts on businesses and communities (Alabi & Olowookere, 2023).

The geographical spread of banditry highlights the expansion of criminal activities across various regions, significantly affecting local economies and security dynamics. As banditry spreads, it disrupts economic activities across Nigeria's northern states like Kaduna, Katsina and Zamfara, where agriculture and trade are particularly vulnerable (Garba & Yusuf, 2023). The widespread nature of banditry complicates security efforts, as law enforcement struggles to address dispersed criminal activities, leading to increased business costs and economic instability. Moreover, the displacement of communities due to banditry exacerbates humanitarian challenges and places additional strain on host regions (Babatunde & Ojo, 2024; Mohammed & Adebayo, 2024). Effective responses to the geographical spread of banditry require enhanced regional security collaboration, improved intelligence-sharing, and targeted economic interventions to stabilize affected areas (Eniola & Entebang, 2023).

The severity of banditry attacks refers to the intensity and scale of these criminal acts, ranging from minor thefts to high-intensity violence such as armed confrontations and kidnappings. Severe banditry attacks, marked by extreme violence and significant property damage, have a profound impact on SMEs, leading

to substantial asset losses, diminished consumer confidence, and disrupted supply chains (Eniola & Entebang, 2023). In northern Nigeria, severe attacks result in casualties, community displacement, and widespread social instability, disrupting social networks and complicating recovery efforts (Garba & Yusuf, 2023; Mohammed & Adebayo, 2024). The economic and psychological impacts of severe banditry necessitate both immediate security measures and long-term strategies to restore social cohesion and economic stability (Babatunde & Ojo, 2024; Ibrahim & Musa, 2023).

Empirical Review

The increasing threat of banditry in northern Nigeria has attracted significant academic attention, with several studies examining its impact on the economy, particularly on Small and Medium Enterprises (SMEs). Jimoh et al. (2023) conducted a study in Kaduna State, analyzing how insecurity negatively affects SME performance. They found that frequent banditry attacks lead to disruptions in business activities, resulting in reduced profitability, limited market access, and high operational costs. However, their study did not focus on the geographical spread of banditry and how this broader dispersion of insecurity influences SME operations in neighboring regions like Katsina and Zamfara.

Garba and Yusuf (2023) explored the implications of insecurity on business operations in Katsina and Kaduna States, revealing that the economic impact extends beyond physical destruction of property to include the psychological burden on business owners and employees. Their research emphasized how the fear of attacks discourages investment and expansion. Nevertheless, they did not differentiate between the frequency and severity of banditry incidents, leaving a gap in understanding how these two distinct factors uniquely affect SME performance.

Mohammed and Adebayo (2024) provided further insight into the socioeconomic impact of banditry, highlighting the detrimental effects on rural SMEs in Zamfara State. They noted that the severity of banditry incidents, especially those involving mass kidnappings, can lead to prolonged business shutdowns and community displacement, which further aggravates business performance. However, this study primarily focused on rural enterprises, leaving urban SMEs underexplored, particularly in terms of how frequent or severe attacks may have differing impacts depending on geographical location.

Babatunde and Ojo (2024) examined the broader economic implications of banditry across northern Nigeria, including Kaduna, Katsina and Zamfara states. Their findings indicated that SMEs bear the brunt of economic instability caused by frequent banditry attacks, yet the study did not explore the influence of geographical spread and severity of the attacks in-depth. While they acknowledged that banditry reduces the operational capacity of businesses, their research did not explicitly address the spatial aspects of insecurity or how this affects SMEs' strategic responses to banditry threats.

Although the above studies provide valuable insights into the relationship between banditry and SME performance, they do not comprehensively address the multidimensional aspects of banditry—namely, the frequency, geographical spread, and severity of attacks. The existing literature tends to focus on isolated cases or specific regions, without offering a comparative analysis of how these factors collectively influence SME performance across multiple states. This leaves a critical gap in understanding how SMEs in northern Nigeria are impacted differently depending on these variables.

The current study aims to fill these gaps by examining the effects of banditry on SMEs in Kaduna, Katsina and Zamfara states,

focusing on three distinct dimensions: the frequency, geographical spread, and severity of banditry incidents. By doing so, it provides a more nuanced understanding of how different aspects of banditry influence SME performance across these states.

Theoretical Review

In this part, the Institutional theory is used to support the main theory- Resource-Based View (RBV) Theory to help in explaining the relationship between banditry and the SMEs performance.

The RBV Theory, proposed by Barney (1991), emphasizes that a firm's competitive advantage and performance are derived from its unique resources and capabilities. RBV assumes that firms possess heterogeneous resources, and those that are valuable, rare, inimitable, and non-substitutable (VRIN) can lead to sustained competitive advantage. In the context of this study, SMEs operating in environments affected by banditry face significant threats to their resources, such as physical assets, human capital, and supply chains. Banditry incidents disrupt the flow of goods and services, diminish market access, and impose additional costs related to security. From an RBV perspective, the frequency, geographical spread, and severity of banditry attacks can negatively impact SMEs' access to critical resources, thereby impairing their performance. Applying RBV helps to understand how the loss of resources due to banditry undermines SME performance, as well as how some SMEs may leverage internal capabilities or strategic innovations to cope with these challenges and sustain their operations despite the hostile environment (Barney & Clark, 2007; Wernerfelt, 1984).

Institutional Theory, as developed by scholars like Scott (2001) and North (1990), posits that organizations are influenced by the broader institutional environment, which includes formal rules, regulations, and informal social norms. It assumes that institutional structures and stability are essential for businesses to thrive, as firms depend on a predictable environment for resource allocation, contract enforcement, and security. In regions affected by banditry, such as Kaduna, Katsina and Zamfara states, the failure of institutions to maintain law and order creates an unstable environment for SMEs. The frequency, spread, and severity of banditry reflect institutional weaknesses, and this instability hinders SME performance by increasing operational risks and disrupting business continuity. This study can explore how institutional failures exacerbate the impact of banditry on SMEs and how these businesses adapt to survive in such contexts by developing informal strategies or seeking alternative support structures (DiMaggio & Powell, 1983). Thus, the theory underpins the relationship between institutional shortcomings and SMEs' performance in regions plagued by banditry.

Research Framework

This research framework examines the effect of banditry on Small and Medium Enterprises (SMEs) performance in Kaduna, Katsina, and Zamfara states through the lenses of the Resource-Based View (RBV) and Institutional Theory.

The RBV posits that SMEs' performance is influenced by their unique resources and capabilities. This study hypothesizes that the frequency (H1) and severity (H2) of banditry incidents negatively affect SME performance, while the geographical spread (H3) has a minimal impact. Institutional Theory suggests that weak governance and security institutions exacerbate the operational risks posed by banditry (H4).

The framework encompasses three independent variables—frequency, severity, and geographical spread of banditry incidents—and one dependent variable, SME performance, assessed through profitability, market access, and

growth metrics. Additionally, institutional factors such as community policing and governance quality serve as moderating variables that may influence the relationship between banditry and SME performance.

3. Methodology

The population of this study consisted of 96,682 registered Small and Medium Enterprises (SMEs) in Kaduna, Katsina, and Zamfara states, as reported by SMEDAN (2021). A sample size of 422 was determined using the Krejcie and Morgan (1970) formula, with an additional 10% to account for non-response bias. The study adopted a quantitative research design and applied Partial Least Squares Structural Equation Modeling (PLS-SEM) to evaluate the impact of banditry on SME performance. Data were gathered through a structured questionnaire distributed to SME owners and managers, with 300 valid responses received. The questionnaire assessed the dimensions of banditry—frequency, severity, and geographical spread—and SME performance.

The measurement instruments for banditry were adapted from previous studies on conflict and insecurity in developing economies, specifically drawing from established scales such as those used by Aliyu and Amadi (2020) and Iyaka et al. (2019), which have been validated in similar contexts. The SME performance measurement was adopted from Gupta and Govindarajan (1984), focusing on financial and operational performance indicators. The adaptation of these instruments involved minor modifications to reflect the unique context of SMEs in northern Nigeria, particularly regarding the regional impact of banditry.

To ensure the reliability and validity of the adapted instruments, the study evaluated the measurement model using Cronbach's alpha, composite reliability, and Average Variance Extracted (AVE). The structural model was tested using bootstrapping to determine path coefficients and their significance. The analysis revealed that while the frequency and severity of banditry had a significant negative effect on SME performance, the geographical spread of banditry had a minimal impact. These findings highlight the importance of targeted interventions to reduce the adverse effects of banditry and enhance the resilience of SMEs in affected regions.

4. Results and Discussion

Data Analysis

The study utilized Partial Least Squares Path Modeling (PLS-SEM) to test the hypothesis, leveraging its advantages in handling complex models without sample size constraints, non-parametric predictor specification, and accommodation of both reflective and formative measures. PLS-SEM's suitability for social science research with non-normal data (Cain et al., 2017; Hair et al., 2017; Knief & Forstmeier, 2021) made it an ideal choice for analyzing the relationships between banditry incidents and SMEs performance, comprising a measurement model examining relationships between latent variables and their indicators, and a structural model assessing relationships between latent variables.

Measurement Model Assessment

PLS-SEM evaluates the measurement model in two stages: assessing reliability of measures and examining validity of constructs, ensuring accuracy and consistency through a rigorous approach (Hair et al., 2021; Sarstedt et al., 2021) crucial for meaningful conclusions.

Assessment of Constructs' Consistency, Reliability and Validity

Table 1 Mesureament Model

Constructs	Indicators	Outer Loadings	Cronbach's alpha	Composite reliability (rho_a)	Average variance extracted (AVE)
Frequency of Banditry Incidents	FBI1	0.765	0.766	0.793	0.588
	FBI2	0.851			
	FBI3	0.710			
	FBI4	0.734			
Geographical Spread of Banditry	GSB2	0.647	0.678	0.682	0.507
	GSB3	0.733			
	GSB4	0.782			
	GSB5	0.678			
Severity of Banditry Attacks	SBA1	0.856	0.788	0.822	0.545
	SBA2	0.734			
	SBA3	0.619			
	SBA4	0.838			
	SBA5	0.607			
SMEs Performance	SMEP1	0.837	0.880	0.890	0.679
	SMEP2	0.887			
	SMEP3	0.686			
	SMEP4	0.829			
	SMEP5	0.866			

The measurement model results as shown in Table 1 above, indicate good internal consistency and reliability for the constructs of Frequency of Banditry Incidents (FBI), Severity of Banditry Attacks (SBA), and SMEs Performance (SMEP), with Cronbach's alpha and composite reliability values ranging from 0.766 to 0.890. The Average Variance Extracted (AVE) values for these constructs (0.588, 0.545, and 0.679, respectively) suggest that they explain a significant portion of the variance in their indicators. However, the Geographical Spread of Banditry (GSB) construct shows slightly lower internal consistency and reliability (Cronbach's alpha = 0.678, composite reliability = 0.682), and its AVE value (0.507) indicates that it may benefit from additional indicators to better capture the underlying phenomenon. Overall, the results suggest that the constructs are generally well-defined and reliable, but some refinement may be necessary to improve their validity.

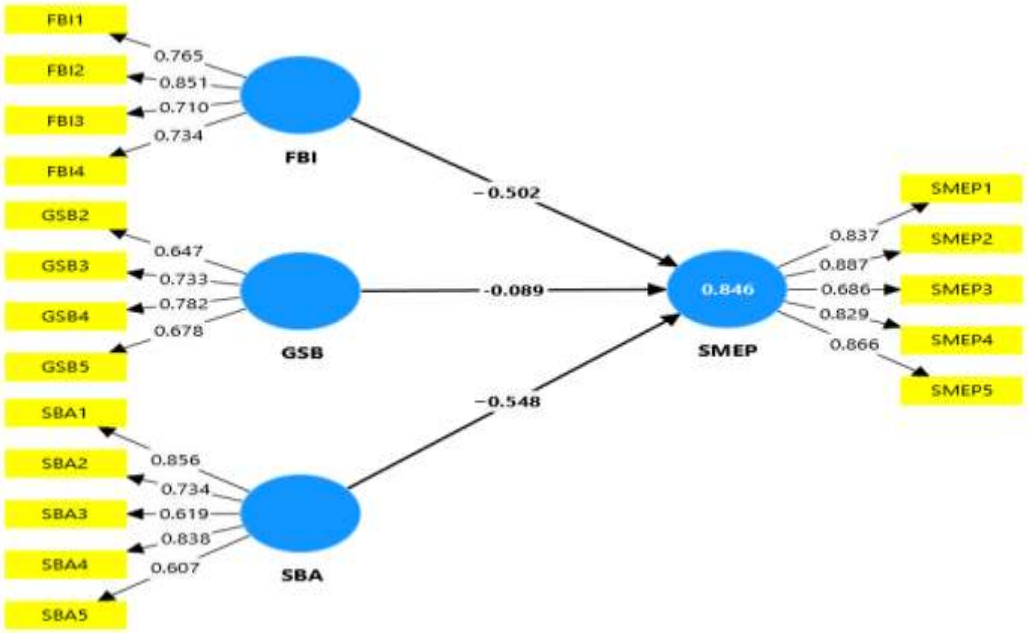

Fig. 1 Measurement Model

Table 2 Heterotrait-monotrait ratio (HTMT)

	FBI	GSB	SBA	SMEP
Frequency of Banditry Incidents				
Geographical Spread of Banditry	0.734			
Severity of Banditry Attacks	0.772	0.774		
SMEs Performance	0.633	0.813	0.650	

The Heterotrait-Monotrait (HTMT) ratio in Table 2 indicates the discriminant validity of the constructs, which is essential in establishing the distinctiveness of each construct. The HTMT ratios range from 0.633 to 0.813, which are below the recommended threshold of 0.90 (Henseler et al., 2015). This suggests that each construct is empirically distinct from the others, and there is no issue of multicollinearity. Specifically, the HTMT ratios indicate that Frequency of Banditry Incidents, Geographical Spread of Banditry, Severity of Banditry Attacks, and SMEs Performance are distinct constructs, and their correlations are not excessively high, thus providing evidence of discriminant validity (Hair et al., 2017). This is crucial in establishing the validity of the research model and ensuring that the constructs are measuring distinct aspects of the research phenomenon.

Structural Model

This study used PLS algorithm to obtain R^2 and Q^2 values, and bootstrapping to determine path coefficient significance, with effect size (f^2) examination to assess practical significance. PLS algorithm effectively handles complex models, providing reliable estimates (Hair et al., 2021), while bootstrapping offers robust confidence intervals without strong data distribution assumptions (Sarstedt et al., 2021). Additionally, Q^2 values were obtained to evaluate the model's predictive relevance, complementing R^2 values and providing a comprehensive understanding of the model's performance (Chin, 1998).

Hypotheses Testing

The study employed a bootstrapping procedure to determine the significance of path coefficients between exogenous and endogenous constructs, providing robust confidence intervals without strong assumptions about data distribution (Sarstedt et al., 2021). This allowed for the examination of the strength and direction of relationships between constructs, enabling the evaluation of the hypothesized paths.

Table 3 Path coefficients

	Original sample (O)	Sample mean (M)	Standard deviation	T statistics	P values
Frequency of Banditry Incidents -> SMEs Performance	-0.500	-0.496	0.043	11.643	0.000
Geographical Spread of Banditry -> SMEs Performance	-0.091	-0.095	0.071	1.271	0.204
Severity of Banditry Attacks -> SMEs Performance	-0.552	-0.562	0.086	6.434	0.000

The path coefficients in Table 3 indicate the relationships between the constructs, with Frequency of Banditry Incidents, Geographical Spread of Banditry, and Severity of Banditry Attacks having negative impacts on SMEs Performance. Specifically, the frequency and severity of banditry incidents have significant negative effects on SMEs performance ($\beta = -0.500$, $p < 0.001$ and $\beta = -0.552$, $p < 0.001$ respectively), indicating that as the frequency and severity of banditry incidents increase, SMEs performance is likely to decrease. In contrast, the geographical spread of banditry has an insignificant negative effect on SMEs performance ($\beta = -0.091$, $p = 0.204$). These findings are consistent with previous research highlighting the detrimental effects of banditry on business operations and performance (Jimoh et al., 2023). The negative relationships suggest that banditry incidents can disrupt business activities, leading to decreased performance.

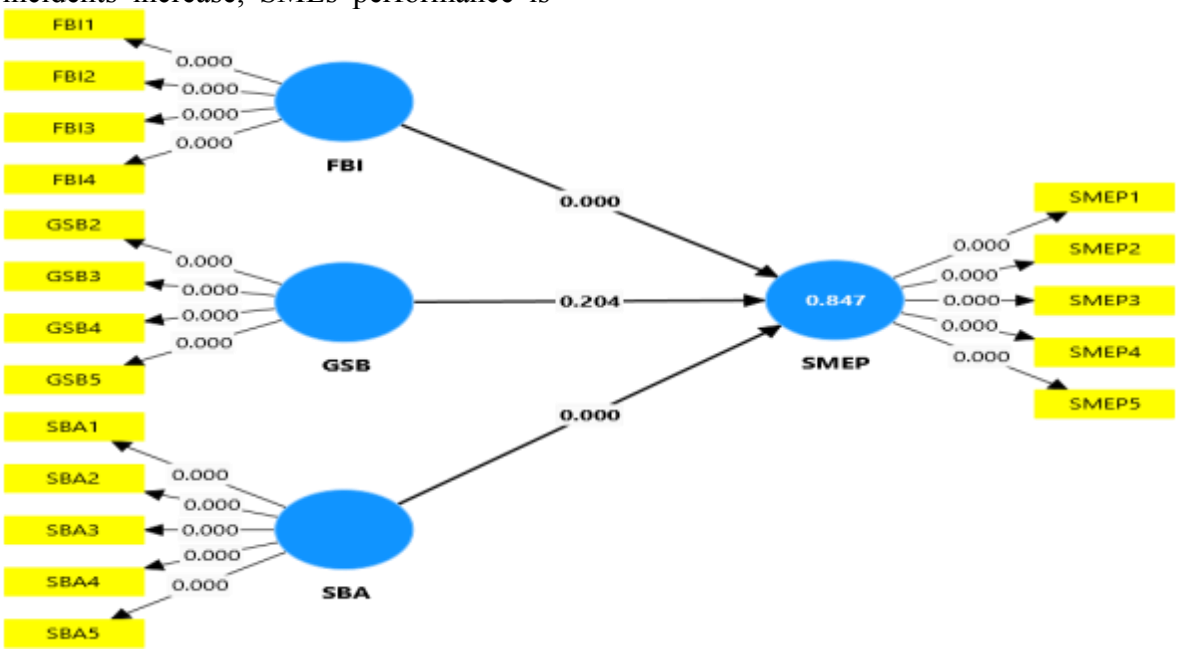

Fig. 2 Structural Model

Coefficient of Determination (R^2), Effect Size (F^2) and Predictive Relevance (Q^2)

R^2 (Coefficient of Determination) measured the variance explained by the predictors, providing insight into the model's explanatory power. F^2 (Effect Size) examined the practical significance of relationships between constructs, complementing statistical significance. Q^2 (Predictive Relevance) evaluated the model's ability to predict new data, assessing its predictive validity and relevance.

Table 4 R-Square, Adjusted R-Square, F-Square and Q-Square

	R-square	R-square adjusted	F-square	Q - Square
SMEP	0.846	0.844	-	0.838
Frequency of Banditry Incidents -> SMEs Performance	-	-	0.627 (Large effect)	-
Geographical Spread of Banditry -> SMEs Performance	-	-	0.015 (Small effect)	-
Severity of Banditry Attacks -> SMEs Performance	-	-	0.438 (Large effect)	-

The results in Table 4 indicate a high predictive power of the model, with an R-square value of 0.846 and an adjusted R-square value of 0.844, suggesting that 84.6% of the variance in SMEs Performance (SMEP) can be explained by the predictors. The F-square values indicate the effect size of each predictor, with Frequency of Banditry Incidents and Severity of Banditry Attacks having large effects (0.627 and 0.438 respectively) on SMEP, while Geographical Spread of Banditry has a small effect (0.015). The Q-square value of 0.838 indicates a high predictive relevance of the model (Hair et al., 2017). These results suggest that the frequency and severity of banditry incidents have a significant impact on SMEs performance, while the geographical spread has a minimal effect.

Discussion

The results of this study offer significant insights into the impact of banditry on the performance of Small and Medium Enterprises (SMEs) in Nigeria, evaluated through three key hypotheses. The discussion of the findings will be framed around each hypothesis, and related studies will be integrated to provide clarity.

Hypothesis 1: Frequency of Banditry Incidents (FBI) negatively impacts SME performance.

The study confirmed that the frequency of banditry incidents significantly negatively affects SME performance ($\beta = -0.500$, $p < 0.001$). This finding is consistent with Jimoh et al. (2023), who highlighted that recurrent banditry episodes disrupt daily business operations, leading to financial losses and limiting business expansion. The frequent occurrence of such attacks exhausts the resources of SMEs, hindering their ability to recover fully between incidents. Similarly, Aliyu and Amadi (2020) demonstrated that the high frequency of insecurity in conflict-affected areas creates an unpredictable environment, eroding business confidence and long-term planning. By consistently interrupting business processes, frequent attacks cause not only short-term losses but also impede SMEs' ability to achieve sustainable growth. This finding integrates well with earlier studies by showing that businesses in high-frequency attack zones

suffer more immediate operational challenges than those that may only face sporadic violence.

Hypothesis 2: Geographical Spread of Banditry (GSB) negatively impacts SME performance.

The geographical spread of banditry, however, had an insignificant negative effect on SME performance ($\beta = -0.091$, $p = 0.204$). This suggests that while banditry may be widespread across regions, its actual impact on individual SMEs depends more on the frequency and intensity of attacks rather than their geographic spread. This finding aligns with the work of Iyaka, Mohammed, and Shehu (2019), who argued that SMEs in conflict zones may develop resilience strategies that allow them to cope with widespread insecurity, such as decentralizing operations or adopting mobile business models. The minimal impact of geographical spread in this study suggests that businesses in banditry-affected regions may focus more on local security conditions than on the broader regional spread of violence. Furthermore, earlier findings by Oyebanji et al. (2018) demonstrated that businesses operating in multiple locations or regions may adapt by diversifying risks, reducing their exposure to banditry's regional spread. Thus, the integration of this result with prior research suggests that the geographical distribution of banditry, while significant for regional economic development, may not be the primary concern for individual SMEs compared to the direct frequency and severity of attacks they experience.

Hypothesis 3: Severity of Banditry Attacks (SBA) negatively impacts SME performance.

The severity of banditry attacks had a substantial negative effect on SME performance ($\beta = -0.552$, $p < 0.001$), confirming that more intense forms of banditry inflict greater damage on businesses. This aligns with Gupta and Govindarajan's (1984) findings that severe violence, including kidnappings, armed robbery, and destruction of property, causes long-term disruptions to business operations. When attacks are severe, they not only result in physical damage but also psychological trauma to employees, leading to increased absenteeism and lower productivity. These severe disruptions often lead to significant financial losses, requiring more extended recovery periods, as noted in the study by Jimoh et al. (2023). The current study also mirrors Gupta's findings, integrating with previous literature that underscores the long-lasting effects of violent attacks on businesses, which face difficulties in regaining pre-attack operational capacity. Severe attacks exacerbate the vulnerability of SMEs, especially in terms of resource depletion, loss of key personnel, and the destruction of business infrastructure, making recovery even more challenging. Thus, this study strengthens the view that the severity of banditry incidents is a critical determinant of the extent to which SMEs are negatively affected, further emphasizing the need for security measures focused on reducing the intensity of violence.

This detailed examination of each hypothesis contributes to the broader literature on the impact of insecurity on business operations. While frequency and severity of banditry were confirmed as the major disruptors, the minimal impact of geographical spread suggests a more complex interaction between business resilience and regional insecurity, a topic deserving further exploration in future research.

5. Conclusion and Recommendations

Conclusion

The study provides valuable insights into the profound effects of banditry on the performance of Small and Medium Enterprises (SMEs) in Kaduna, Katsina and Zamfara states, Nigeria. The analysis, utilizing Partial Least Squares Structural Equation Modeling (PLS-SEM),

demonstrates that the frequency and severity of banditry incidents have significant negative impacts on SME performance, with large effect sizes. In contrast, the geographical spread of banditry has a minimal effect. These findings underscore the need for focused policy interventions aimed at reducing the frequency and severity of banditry attacks, rather than solely addressing their geographic distribution. The high predictive power of the model further supports the robustness of the results, which have important implications for both policymakers and business owners in addressing the challenges posed by insecurity. Additionally, the study highlights the need for SMEs to adopt resilience strategies, such as investing in security measures and diversifying operations, to mitigate the adverse effects of banditry. The research also contributes to the academic understanding of banditry's impact on business performance, suggesting that future research should continue to explore this issue, considering its unique contextual characteristics in different regions.

Recommendations

Based on the study's findings, it is recommended that policymakers and security agencies prioritize efforts to reduce the frequency and severity of banditry incidents in Kaduna, Katsina and Zamfara states, as these factors significantly impact SME performance. This can be achieved through enhanced security measures, increased community policing, and investment in local intelligence networks to prevent attacks. Additionally, SMEs should be encouraged to adopt risk management strategies, such as diversifying their operations, investing in security infrastructure, and collaborating with local authorities to safeguard their businesses. Future research should focus on developing tailored interventions that address the unique characteristics of banditry in these regions to support SME resilience and long-term economic growth.

References

Abubakar, M., & Olaleye, F. (2021). Insecurity and the decline of small and medium enterprises in Northern Nigeria. *Journal of Security and Development, 9*(2), 110-126.

Alabi, M. O., & Olowookere, A. T. (2023). Resilience and performance of SMEs in emerging economies: Evidence from Nigeria. *Journal of Small Business Management, 61*(1), 123-145.

Alabi, S., & Olowookere, T. (2023). Business resilience in conflict-prone regions: A study of SMEs in Northern Nigeria. *Journal of Development Economics and Policy, 15*(4), 200-218.

Aliyu, M. S., & Amadi, R. U. (2020). Impact of insecurity on small and medium enterprises in Northern Nigeria: A case study of Kaduna and Kano States. *Journal of Conflict and Security Studies, 5*(2), 45-63.

Aminu, I., & Shariff, M. N. M. (2023). The role of SMEs in economic development: Evidence from Nigeria. *International Journal of Business and Economic Development, 11*(2), 34-45.

Babatunde, I. A., & Ojo, J. A. (2024). Economic impact of insecurity on SMEs: A study of Northern Nigeria. *Journal of Economic and Social Research, 22* (1), 45-59.

Babatunde, T., & Ojo, A. (2024). Banditry and its effects on economic development in Northern Nigeria. *African Journal of Economic and Social Studies.* (Forthcoming).

Eniola, A. A., & Entebang, H. (2023). SME firm performance-financial innovation and challenges: Empirical evidence from Nigeria.

Journal of Entrepreneurship in Emerging Economies, 15 (1), 61-79.

Garba, M. A., & Yusuf, H. A. (2023). Insecurity and the performance of SMEs in Northern Nigeria: A focus on Katsina, Sokoto, and Zamfara States. *Journal of Development Economics and Policy, 15*(3), 78-91.

Gupta, A. K., & Govindarajan, V. (1984). Business unit strategy, managerial characteristics, and business unit effectiveness at strategy implementation. *Academy of Management Journal, 27* (1), 25-41.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)*. SAGE Publications.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science, 43* (1), 115-135.

Ibrahim, K., & Musa, A. (2023). Insecurity, unemployment, and economic decline in Northern Nigeria: An examination of the Kaduna, Katsina, and Zamfara States. *African Economic Review, 12* (1), 87-102.

Ibrahim, S., & Musa, A. S. (2023). Banditry and its impact on small businesses in Northern Nigeria: The role of stakeholder interventions. *African Journal of Business and Economic Research, 19* (2), 112-126.

International Organization for Migration (IOM). (2022). *Displacement tracking matrix (DTM) report for Nigeria.* Geneva: International Organization for Migration.

Iyaka, S. M., Mohammed, A. A., & Shehu, M. A. (2019). Banditry and its impact on rural economic development in Northwestern Nigeria. *African Journal of Development Studies, 10* (3), 78-90.

Jimoh, B. A., Dika, M. A., Yawai, G., & Tunde, S. L. (2023). Effect of insecurity on small medium enterprises performance in Kaduna State. *Journal of Management & Organization, 4* (2), 1-16.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement, 30* (3), 607-610.

Mohammed, A., & Adebayo, O. T. (2024). The persistent challenge of banditry and its effects on SMEs: Evidence from Nigeria. *Nigerian Journal of Economic Studies, 18* (2), 87-103.

Mohammed, S., & Adebayo, L. (2024). The role of policy in enhancing SME resilience in Northern Nigeria amid security challenges. *Nigerian Journal of Policy and Strategic Studies.* (Forthcoming).

National Bureau of Statistics. (2022). *Annual report on micro, small, and medium enterprises (MSMEs).* Nigerian Bureau of Statistics.

Nigeria Bureau of Statistics (NBS). (2022). *SMEs contribution to GDP and employment in Nigeria.* Abuja: Nigeria Bureau of Statistics.

Nigeria's Ministry of Trade and Investment. (2023). *Annual report on the impact of insecurity on SMEs in Northern Nigeria.* Abuja: Ministry of Trade and Investment.

SMEDAN. (2021). *Small and Medium Enterprises Development Agency of Nigeria annual report.* Retrieved from [SMEDAN's official website].

World Bank. (2023). *Agricultural sector overview in Northern Nigeria. Washington*, DC: The World Bank Group.

Yahaya, B., & Sani, M. (2022). Impact of banditry on SMEs in Katsina State: An empirical study. *Journal of Business and Economic Development, 7* (3), 45-58.

SMEDAN. (2021). *National survey of micro small & medium enterprises.* National Bureau of Statistics. Retrieved from www.smedan.gov.ng.