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EFFECT OF SMEDAN LOAN GUARANTEE AND FINANCIAL LITERACY SERVICES ON THE PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES IN NORTH CENTRAL NIGERIA

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ABSTRACT
Many SMEs in North Central Nigeria face challenges such as limited access to finance and inadequate financial knowledge, which hinder growth and sustainability. This study examined the effect of loan guarantee and financial literacy services SMEDAN on the performance of SMEs in North Central, Nigeria. This utilised a quantitative research design using the survey approach. The population of the study consisted of 130,959 registered SMEs in North Central Nigeria, from which a sample size of 519 SMEs was selected. Data for the study were collected using an adapted questionnaire, while the responses obtained were analysed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The study found that the loan guarantee of SMEDAN have positive and significant effect on the performance of SMEs in North Central Nigeria, while the financial literacy services of SMEDAN have a positive but insignificant effect on the performance of SMEs in North Central Nigeria at 5% level of significance. The study concludes that loan guarantees of SMEDAN positively and significantly influence the performance of SMEs in North Central Nigeria, while, and financial literacy services of SMEDAN positively but insignificantly influence the performance of SMEs in North Central Nigeria. The study concludes that access to reliable financial support remains an important factor in improving the performance of SMEs in North Central Nigeria. However, while financial literacy services provided is not sufficient to improve SMEs performance. The study recommends that SME owners and managers in North Central Nigeria actively participate in SMEDAN's financial literacy and training programmes, focusing on practical knowledge such as budgeting, cash flow management, record-keeping, and strategic decision-making, and consistently apply these skills in their daily business operations to improve efficiency, reduce financial errors, and enhance overall business performance.
Keywords: *Financial Literacy Services, Loan Guarantee, Performance, SMEs, SMEDAN*

1. INTRODUCTION

Small and Medium Enterprises (SMEs) play a vital role in economic development across the world. They are widely regarded as the engine that drives job creation, innovation, and income generation in both developed and developing countries. Globally, SMEs account for about 90% of businesses and provide more than half of total employment, making their performance central to economic stability and inclusive growth (World Bank, 2022). In developing regions such as Africa, SMEs contribute nearly 80% of employment and form a major pillar of economic survival, especially among low- and middle-income households (International Finance Corporation-IFC, 2021). Despite their importance, many SMEs struggle to survive due to limited access to finance, weak managerial capacity, poor infrastructure, and unstable policy environments.

In Nigeria, SMEs are equally critical to national development. They account for over 90% of businesses and contribute approximately 48% to the country's Gross Domestic Product (Small and Medium Enterprises Development Agency of Nigeria (SMEDAN, 2021). Beyond economic contribution, SMEs serve as a pathway for poverty reduction, youth employment, and regional development. However, many Nigerian SMEs face serious challenges, particularly in accessing adequate financial support and acquiring the financial knowledge required to manage their businesses effectively. These challenges are more pronounced in North Central Nigeria, where infrastructural gaps, insecurity, and economic exclusion further limit business growth opportunities.

To address these persistent challenges, the Federal Government of Nigeria established the SMEDAN. The agency was created to promote the development of the SME sector through financial and non-financial support mechanisms. Among its key financial interventions are loan guarantees and financial literacy services. Loan guarantee schemes are designed to reduce the risk faced by financial institutions when lending to SMEs. By providing guarantees, SMEDAN encourages banks and other lending institutions to extend credit to SMEs that may otherwise be considered high-risk borrowers. This intervention helps bridge the financing gap and improves access to capital for business expansion and sustainability (SMEDAN, 2022).

Financial literacy services, on the other hand, focus on equipping SME owners and managers with essential knowledge and skills in areas such as bookkeeping, budgeting, credit management, financial planning, and risk management. Financial literacy enhances the ability of entrepreneurs to make informed financial decisions, manage cash flow effectively, and reduce business failure (OECD, 2020). Empirical evidence suggests that SMEs with stronger financial knowledge tend to perform better in terms of growth, profitability, and survival (Eze & Chika, 2022; Nmema & Madumere, 2025).

Although, existing studies have examined financial services and SME performance, many have focused primarily on microfinance or general access to credit without isolating the specific roles of loan guarantees and structured financial literacy programs. For instance, Ibitomi, Adekunle and Salisu (2024) examined the influence of financial literacy on SME performance in Abuja but did not consider the complementary effect of institutional loan guarantee schemes. Similarly, Attah and Wada (2023) concentrated on microfinance contributions to SME growth in Kogi State without examining guarantee-based lending structures. Studies such as Nwosu and Orga (2023)

also largely explored credit constraints in isolation, leaving a gap in understanding the combined effect of SMEDAN's targeted interventions.

Furthermore, much of the literature has focused on southern Nigeria or major urban centres, where financial institutions are more accessible. For example, Chukwuma and Chijindu (2023) investigated financial literacy in Enugu State, while Ibrahim and Adeoye (2021) examined microfinance and SME growth in Ibadan. These regions benefit from relatively stronger financial infrastructure compared to many parts of North Central Nigeria. As noted by Eze and Chika (2022), findings from one geopolitical zone may not be easily generalised to others due to contextual differences in economic structure and institutional support systems.

Methodologically, several previous studies relied heavily on descriptive statistics or basic regression techniques, which may not adequately capture the complex relationships between financial interventions and SME performance (Olagunju & Alimi, 2022; Ahmed, Bello & Yakubu, 2023). There is therefore a need for more robust analytical approaches capable of evaluating the multidimensional impact of SMEDAN's financial interventions.

Therefore, this study examines the effect of SMEDAN's loan guarantees and financial literacy services of on performance of small and medium enterprises in North Central, Nigeria. Specifically, the study examined the effect of:

i. Loan guarantees of SMEDAN on performance of SMEs in North Central, Nigeria; and
ii. Financial literacy services of SMEDAN on performance of SMEs in North Central, Nigeria.

Based on these objectives, the study addressed the following null hypotheses:

H_{01}: Loan guarantees of SMEDAN have no significant effect on performance of SMEs in North Central, Nigeria.

H_{02}: Financial literacy services of SMEDAN have no significant effect on performance of SMEs in North Central, Nigeria.

2. LITERATURE REVIEW AND THEORY

This section reviews relevant literature on SMEDAN's loan guarantee and financial literacy services and the performance of Small and Medium Enterprises (SMEs). The review focuses on the concepts of loan guarantees, financial literacy services, and SME performance, as well as the theoretical and empirical studies related to these variables.

2.1 Performance of SMEs

The performance of Small and Medium Enterprises (SMEs**)** generally refers to how well these businesses achieve their goals in terms of growth, profitability, sustainability, and overall business success over time (Molosiwa & Holland, 2025). SMEs performance reflects the ability of a business to effectively use its resources, manage its operations, and respond to market opportunities in order to increase sales, improve profits, expand its operations, and remain competitive in the market (Olawale, Francis & Yusuf, 2024). It also shows how well the enterprise can survive challenges and maintain stability in a dynamic business environment (Attamah, 2019). SMEs performance through indicators such as revenue growth, profitability, business expansion, productivity, and long-term survival (Molosiwa & Holland, 2025). Strong managerial skills, sound financial decisions, and effective resource management play an important role in improving SME

outcomes and ensuring that businesses remain viable and competitive in their respective industries (Esiebugie, Richard & Emmanuel, 2018; Kizza, 2019; Musthafa, Handra, Bachtiar, Taifur & Ariyanto, 2023;). Yepwi, Agu and Utoruwei (2025) explain that the performance of SMEs goes beyond simply making profit. It also involves achieving revenue targets, controlling operational costs, improving production capacity, increasing sales and customers, encouraging innovation, and retaining a motivated workforce. These elements together support the stability and growth of a business. For this study, the performance of SMEs proposed by Yepwi, Musa and Danjuma (2025) is adopted because it offers a broad and practical way of understanding SME performance through key indicators such as profitability, efficiency, innovation, and business growth.

2.2 Small and Medium Enterprises

In Nigeria, there is no single universal definition of Small and Medium Enterprises (SMEs) because different institutions describe them using slightly different criteria. For example, the Central Bank of Nigeria defines SMEs as businesses whose total assets, excluding land and buildings, fall between ₦5 million and ₦500 million and that employ between 11 and 300 workers. On the other hand, the Small and Medium Enterprises Development Agency of Nigeria provides a more detailed classification. According to SMEDAN, a small enterprise is a business that employs between 10 and 49 workers and has assets ranging from ₦5 million to less than ₦50 million, while a medium enterprise employs between 50 and 199 workers with assets valued between ₦50 million and less than ₦500 million, excluding land and buildings (SMEDAN, 2022). These definitions are very important because they guide government policies, determine which businesses can access financial support or intervention programmes, and help shape development initiatives aimed at strengthening SMEs in the country. For the purpose of this study, the classification provided by SMEDAN (2022) is adopted because it offers clearer categories that align well with Nigeria's national framework for enterprise development.

2.2.1 Loan Guarantees of SMEDAN

Loan guarantees are financial support mechanisms designed to help small and medium enterprises (SMEs) gain access to credit from financial institutions, particularly when they lack sufficient collateral or credit history. According to Thanasas, Koutoupis, Karapanagiotis, Gonidakis and Davidopoulos (2024), loan guarantee schemes are public policy instruments through which a government or supporting agency guarantees a portion of a loan obtained by SMEs from commercial banks. By sharing the risk associated with lending, these schemes encourage financial institutions to provide credit to small businesses that might otherwise be considered too risky to finance. Similarly, Sepúlveda-Molina, Fuente-Cabrero, Santero-Sánchez and Laguna-Sánchez (2022) describe loan guarantees as institutional arrangements that transfer or share part of the credit risk from financial institutions to a guarantor, usually a government agency or specialized fund. Through this mechanism, SMEs are able to obtain loans under better conditions such as lower collateral requirements, longer repayment periods, or reduced interest rates. From another perspective, Bertoni, Colombo and Quas (2023) note that government-backed loan guarantees are widely used globally to improve SMEs' access to debt financing. These guarantees compensate for the limited creditworthiness and lack of collateral commonly experienced by small businesses, thereby reducing the financial risks faced by banks.

2.2.3 Financial Literacy Services of SMEDAN

According to Molosiwa and Holland (2025), financial literacy involves the ability of business owners to understand and apply financial knowledge in areas such as budgeting, debt management, financial planning, and investment decision-making in order to improve the financial stability and long-term performance of their enterprises. These skills enable SMEs to manage financial risks effectively, maintain proper records, and allocate resources efficiently for business sustainability. Similarly, Musthafa *et al.* (2023) describe financial literacy as the combination of financial knowledge, attitudes, and behaviours that allow entrepreneurs to manage financial resources effectively and make sound financial decisions regarding loans, budgeting, and investment activities. They further explain that improving the financial literacy of SME owners through training programmes, workshops, and financial advisory services helps them overcome financial management challenges and enhances their ability to operate competitively in the market. **B**itomi *et al.* (2024) define financial literacy as the knowledge and skills required by individuals to function effectively within the financial system, enabling them to make informed judgments and decisions regarding financial matters such as savings, investments, credit management, and risk assessment.

2.3 Review of Empirical Literature

This part reviews empirical literature relating to the study variables.

2.3.1 Loan Guarantees of SMEDAN and SMEs Performance

Thanasas *et al.* (2024) conducted a study to systematically review the existing literature on loan guarantee schemes for small and medium enterprises (SMEs). The study adopted a systematic literature review design. The population consisted of academic studies on loan guarantee schemes published between 2010 and 2022, and a sample of 67 relevant studies was selected from ABS-ranked journals and major academic databases. Data were collected through secondary sources, particularly journal publications and scholarly databases, while the method of analysis involved qualitative classification and thematic review of the selected studies. The findings reveal that loan guarantee schemes are widely used as public policy tools to address credit constraints faced by SMEs, particularly those lacking collateral. A major limitation of the study is that it relies exclusively on secondary data from previously published research, which limits the ability to draw direct empirical conclusions regarding the real impact of loan guarantees on SME performance across different economic environments.

Bertoni *et al.* (2023) examined the long-term impact of government loan guarantees on the performance of SMEs in France. The study aimed to determine whether guaranteed loans improve firm growth, survival, and productivity. Using a quantitative longitudinal design, the researchers analysed panel data from 57,208 SMEs that benefited from loan guarantees between 2002 and 2016. Secondary data were obtained from financial databases such as ORBIS and DIANE, and analysed using propensity score matching and difference-in-differences techniques. The findings show that SMEs with guaranteed loans recorded higher sales, employment, and asset growth than firms without such support, with stronger benefits for younger and smaller businesses facing financial constraints. However, the study focused only on SMEs in France, which may limit the applicability of the findings to other countries with different financial systems.

Huang *et al.* (2023) examined how government loan guarantee platforms affect SMEs' access to credit and financial performance in China. The study used a quasi-experimental design and

analysed panel data from 2,863 SMEs listed on the National Equities Exchange and Quotations (NEEQ) between 2005 and 2019. Data were obtained from firms' financial statements and government records and analysed using difference-in-differences and propensity score matching techniques. The findings show that loan guarantee platforms improved SMEs' access to long-term credit, but they were also linked to lower profitability and reduced investment in research and development. The study concluded that while loan guarantees help firms obtain financing, they may reduce efficiency in the use of funds. However, the focus on listed SMEs limits the generalisation of the findings to smaller or informal businesses.

2.3.2 Financial Literacy Services of SMEDAN and SMEs Performance

Molosiwa and Holland (2025) examined the impact of financial literacy on the performance of small and medium-sized enterprises (SMEs). The study adopted a systematic literature review design, focusing on previously published empirical studies related to financial literacy and SME performance. The population of the study consisted of existing academic research works on SME financial literacy, and 18 empirical studies published between 2016 and 2024 were reviewed. Data were collected through secondary sources, including peer-reviewed journal articles and reports, while the method of analysis involved thematic and qualitative synthesis of the literature. The findings show that financial literacy significantly improves performance of SMEs. However, a major limitation of the study is that it relied solely on secondary data from previous studies,

Ibitomi *et al.* (2024) investigated the effect of financial literacy on the performance of small and medium-scale enterprises in Abuja, Nigeria. The study adopted a survey research design, using primary data collected from SME operators. The population consisted of SME owners and operators across the six area councils of Abuja, while 550 respondents were selected, out of which 469 valid responses were used for the analysis. Data were collected through structured questionnaires, and the method of analysis used was multiple regression analysis. The findings reveal that financial knowledge and financial behavior had a significant positive effect on SME performance, while financial attitude also improved business performance. The study is limited by its focus on Abuja alone, which may reduce the generalizability of the findings to other regions in Nigeria.

Musthafa *et al.* (2023) conducted a study to review the relationship between financial literacy and the performance of micro, small and medium enterprises (MSMEs). The study adopted a literature review research design, where existing studies were systematically examined to identify patterns and findings related to financial literacy. Data were collected through secondary sources such as indexed journal databases, while the method of analysis involved qualitative review and synthesis of existing empirical studies. The findings indicate that financial literacy, particularly in the areas of financial knowledge, financial attitude, and financial behavior, plays a critical role in improving performance of MSMEs. Despite its contributions, the study has limitations because it did not use primary data to test the relationship between financial literacy and MSME performance directly. As a result, the findings are largely theoretical and may not fully capture the real-life experiences of SME operators in different economic environments.

Kizza (2019) examined the relationship between financial literacy and the financial performance of SMEs in Kikuubo Shopping Centre, Kampala, Uganda. The study used a correlational research design and collected data from 160 SME owners and employees through questionnaires and

interviews. Descriptive and inferential statistics were used for analysis. The findings show that financial literacy particularly financial knowledge, skills, and experience had a positive and significant effect on SME performance, measured through business survival, profitability, and growth. However, the study was limited because it focused on only one commercial area and relied mainly on respondents' perceptions rather than actual financial records.

2.4 Resource-Based View Theory

This study adopts Resource-Based View (RBV) Theory as the underpinning theory. The theory was developed by Barney (1991), and it explains that the performance of a firm depends largely on the internal resources and capabilities it possesses and how well they are utilized. The theory argued that firms achieve sustained competitive advantage when they possess resources that are valuable, rare, difficult to imitate, and non-substitutable (VRIN) (Barney, 1991). However, the theory has been criticized for not clearly defining what qualifies as a strategic resource, for paying limited attention to external environmental factors, and for assuming that resource advantages can remain stable despite rapidly changing market conditions (Peteraf, 1993).

The Resource-Based View (RBV) theory, developed by Barney (1991), posits that a firm's performance is largely determined by the internal resources and capabilities it possesses, especially those that are valuable, rare, difficult to imitate, and non-substitutable (VRIN). While RBV traditionally focuses on internal resources, it is also applicable to external support when such resources are effectively acquired and embedded within the firm. In the context of this study, SMEDAN's loan guarantees, though externally provided, become internal strategic resources once SMEs access the funds and deploy them to acquire productive assets, expand operations, or invest in growth initiatives. Similarly, financial literacy services transform into internal capabilities when business owners apply the knowledge and skills gained in budgeting, cash flow management, and financial planning. Through this process, external financial support and advisory interventions are converted into firm-specific resources and capabilities, enhancing operational efficiency, decision-making, and competitiveness. Therefore, RBV provides a suitable framework to understand how SMEDAN's loan guarantees and financial literacy programmes strengthen SMEs' internal capacities and ultimately improve their performance in North Central Nigeria.

3. METHODOLOGY

This study employed a quantitative research design using a survey approach because it allows for the systematic collection of numerical data from a large number of SMEs, making it possible to measure relationships between SMEDAN's loan guarantees, financial literacy services, and SME performance. The survey approach enables the researcher to capture standardized responses, compare trends across different enterprises, and apply statistical techniques to test hypotheses objectively. The target population used for this study comprises of registered small and medium-sized enterprises (SMEs) operating in different sectors across the North Central, Nigeria, which includes Benue, Kogi, Kwara, Nasarawa, Niger, Plateau States, and the Federal Capital Territory (FCT), Abuja. According to records from the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN, 2023), the North Central, Nigeria has a total of 130,959 registered SMEs. Therefore, the population of this study consists of 130,959 owners/managers of the registered SMEs in North Central Nigeria, as presented in Table 1.

Table 1: Population of SMEs in North Central, Nigeria

S/N	STATE	POPULATION
1	Benue	14,851
2	Kogi	12,610
3	Kwara	25,356
4	Nasarawa	10,728
5	Niger	23,197
6	Plateau	21,356
7	FCT	22,861
	Total	130,959

Source: SMEDAN (2023)

The sample size for this study was determined using Taro Yamane's (1967) formula, which produced a sample of 399 owners/managers of registered SMEs in North Central Nigeria. To address the possibility of non-response, an additional 30% (120 respondents) was added, bringing the total sample size to 519 owners/managers of registered SMEs in North Central Nigeria. This approach is supported by Singh and Masuku (2014), who noted that increasing the sample size in survey research helps reduce the risk of missing data and improves the reliability of the results. To select the respondents, the study adopted a multi-stage sampling procedure, which combined stratified random sampling, proportional allocation, and judgmental sampling techniques. Stratified random sampling ensured fair representation of SMEs across different groups, proportional allocation reflected the actual distribution of firms within each group, while judgmental sampling helped in selecting respondents with the relevant knowledge and experience needed for the study. The stratified random sampling and proportional allocation stages used probability sampling. Stratification and proportional allocation ensured that every SME in each group had a known and non-zero chance of being selected, making the sample representative of the population. The judgmental sampling stage used non-probability sampling. Here, respondents were purposefully selected based on their knowledge and experience, rather than randomly, to ensure that the data collected came from individuals who could provide relevant and reliable insights for the study. The target respondents were the owners or managers of the registered SMEs.

Table 2. Sample Size Distribution using Bowley's Proportional Allocation Technique

SN	State	Population Frequency	Sample Size Distribution Using Bourley's Techniques
1	Benue	14,851	$\frac{14,851}{130,959} \times 519 = 59$
2	Kogi	12,610	$\frac{12,610}{130,959} \times 519 = 50$
3	Kwara	25,356	$\frac{25,356}{130,959} \times 519 = 100$
4	Nasarawa	10,728	$\frac{10,728}{130,959} \times 519 = 42$
5	Niger	23,197	$\frac{23,197}{130,959} \times 519 = 92$
6	Plateau	21,356	$\frac{21,356}{130,959} \times 519 = 85$
7	FCT	22,861	$\frac{22,861}{130,959} \times 519 = 91$
	Total	**130,959**	**519**

Source: Researcher's Computation (2025)

The study used a structured questionnaire adapted from previous studies by Agnese, Malangone, and Rocco (2019), Sági (2017), Molosiwa and Holland (2025), Aiyedogbon, Zubairu and Yusuf (2023), and Yepwi *et al.* (2025). Adapting the instrument from these studies ensured that the questionnaire covered the key issues relevant to the research and helped minimise possible errors during data collection. To ensure the quality of the instrument, both reliability and validity tests were conducted, and the results produced a Cronbach's alpha value of 0.945, indicating a very high level of internal consistency. In addition, a pilot test was carried out to improve the clarity of the questionnaire and to confirm that the instrument was appropriate and effective for the study environment.

For the analysis of the data, the study employed Partial Least Squares Structural Equation Modeling (PLS-SEM), which is a suitable statistical technique for analysing complex relationships among multiple variables. PLS-SEM was chosen because it allows the researcher to examine several relationships at the same time, works well with relatively smaller sample sizes, and does not require strict assumptions about data distribution. The analysis was conducted using SmartPLS software version 3 and followed a two-stage process. The analysis in this study followed a two-stage approach. The first stage involved assessing the measurement model, which focused on confirming the reliability and validity of the constructs. This stage included tests such as Cronbach's alpha and composite reliability to measure internal consistency, factor loadings to assess indicator reliability, convergent validity using Average Variance Extracted (AVE), and discriminant validity using HTMT ratio.

The second stage focused on evaluating the structural model to test the study's hypotheses. This included conducting collinearity test using Variance Inflation Factor (VIF), examining path coefficients to measure the strength and direction of relationships, t-statistics and p-values for significance testing, R^2 to determine the explanatory power of the model, f^2 to assess effect sizes, and overall model fit measures such as SRMR, d_ULS, and d_G. Together, these tests ensured that the model was both valid and capable of providing meaningful insights into the effects of SMEDAN services on SME performance.

To ensure the credibility and integrity of the research process, the study followed established ethical guidelines. Participants were informed about the purpose of the study and their informed consent was obtained before they took part in the survey. They were also assured that their responses would remain confidential and would be used strictly for academic purposes. In addition, respondents were clearly informed that they had the right to withdraw from the study at any time without any negative consequences. All the information collected was confidentialized and securely stored in order to protect the privacy of the participants (Saunders, Lewis & Thornhill, 2019; Creswell & Creswell, 2018). The questionnaire was distributed physically with the assistance of seven research assistants, with one assistant assigned to each of the selected states in the North Central Nigeria. Out of the 519 copies of questionnaire that were administered, 413 were properly completed and returned, representing 80% of the total questionnaire, and these were considered valid and used for the final analysis. The model for the study is presented in Figure 1.

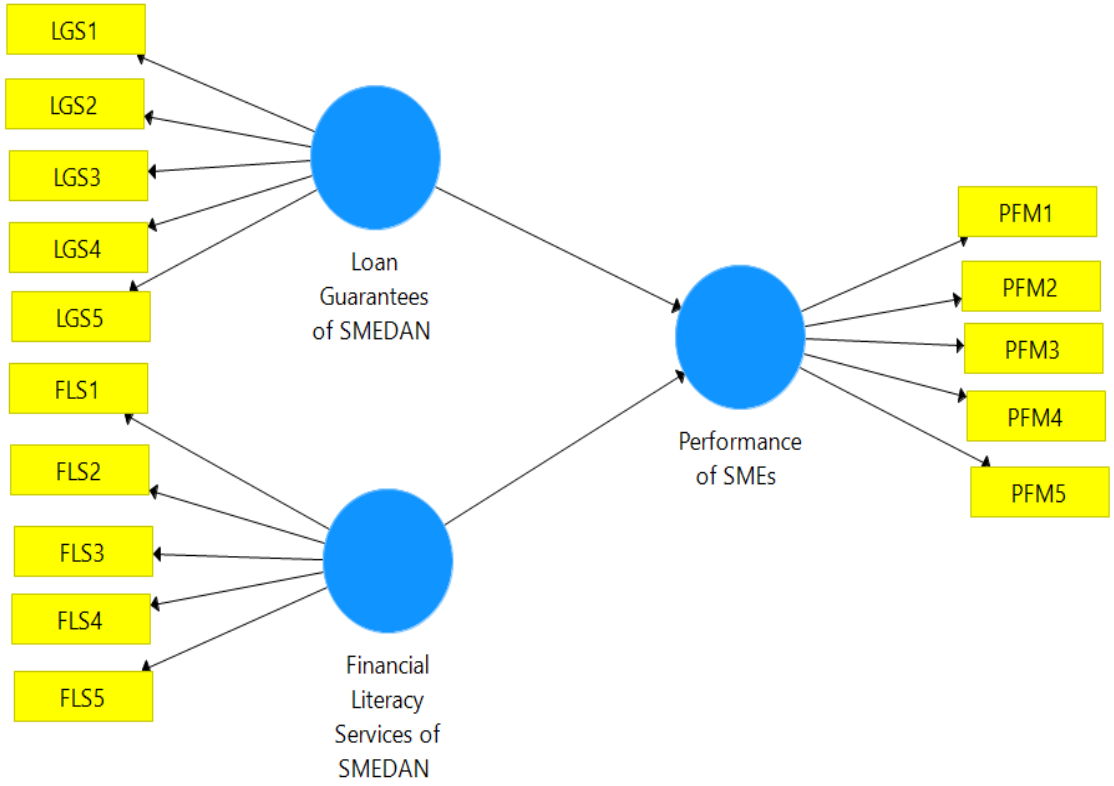


Fig. 1 The Model of the Study
Source: SmartPLS, 2025

4. RESULTS AND DISCUSSIONS

This section presents the results of the data analysis and the discussion of the findings of the study. The analysis is based on the responses obtained from the valid questionnaires collected from the sampled SMEs in North Central Nigeria. The section first presents the results generated from the statistical analysis using PLS-SEM, including the assessment of the measurement model and the structural model. This is followed by a discussion of the findings, where the results are interpreted and compared with existing studies to explain how SMEDAN loan guarantees and financial literacy services influence the performance of SMEs.

Assessment of Measurement Model

This section presents the assessment of the measurement model to determine the reliability and validity of the constructs used in the study. The evaluation focuses on key indicators such as internal consistency reliability, convergent validity, and discriminant validity to ensure that the measurement items accurately represent the variables under investigation. This step is important because it confirms that the measurement instruments used in the study are appropriate and capable of producing reliable and valid results before proceeding to the structural model analysis.

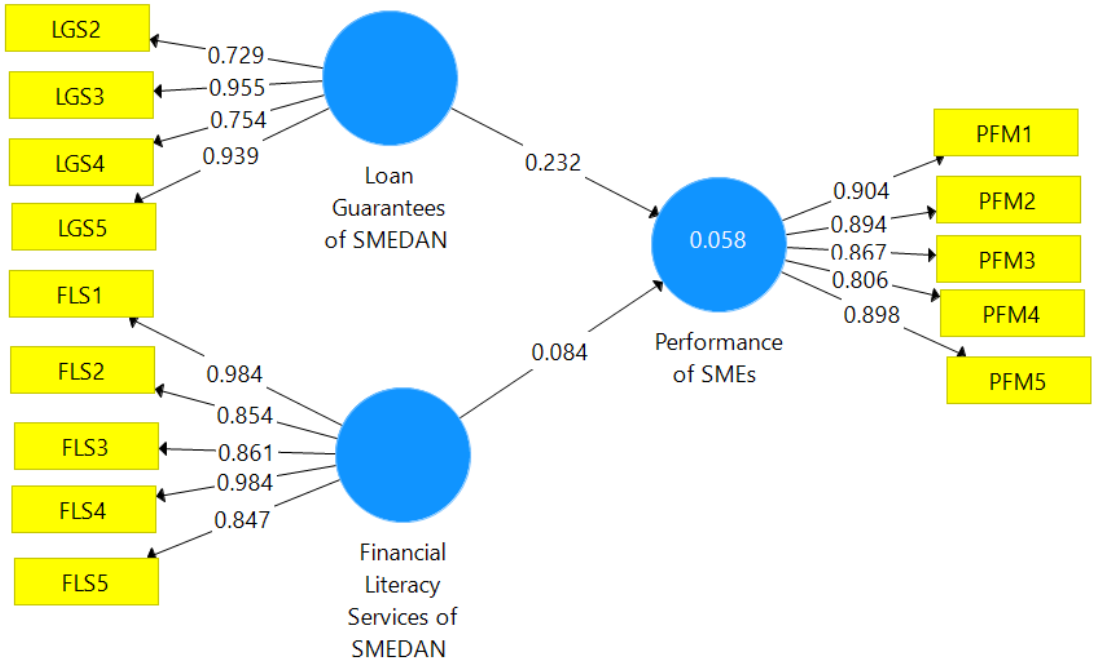


Fig. 2: Measurement model of the study constructs and indicators.
Source: SmartPLS Output, 2025

Indicators' Loadings

Table 3: Factor Loadings

	Performance of SMEs	**Loan Guarantees of SMEDAN**	**Financial Literacy Services of SMEDAN**
Items	Loadings	Loadings	Loadings
PFM1	0.904		
PFM2	0.894		
PFM3	0.867		
PFM4	0.806		
PFM5	0.898		
LGS2		0.729	
LGS3		0.955	
LGS4		0.754	
LGS5		0.939	
FLS1			0.984
FLS2			0.854
FLS3			0.861
FLS4			0.984
FLS5			0.847

Source: SmartPLS Output, 2025

Table 3 presents the factor loadings of the measurement items used to assess the constructs in the study. The results show that all the retained items have strong loadings, indicating that they are good measures of their respective constructs. For the performance of SMEs, the items (PFM1–PFM5) recorded high loadings ranging from 0.806 to 0.904, which suggests that the items strongly represent the performance construct. Similarly, the items measuring SMEDAN loan guarantees (LGS2–LGS5) show acceptable to very strong loadings ranging from 0.729 to 0.955, confirming that these items adequately capture the loan guarantee variable. However, LGS1 was removed from the model because its factor loading was 0.456 which is below the acceptable threshold of 0.70, which could weaken the reliability of the construct. For SMEDAN financial literacy services, all items (FLS1–FLS5) recorded very high loadings between 0.847 and 0.984, indicating a very strong relationship between the indicators and the construct. The results demonstrate that the retained items have strong factor loadings above the recommended threshold of 0.70, confirming that the measurement items are reliable and suitable for further analysis.

Validity and Reliability of the Constructs

Table 4: Construct Reliability and Validity

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Performance of SMEs	0.923	0.942	0.765
Loan Guarantees of SMEDAN	0.867	0.912	0.724
Financial Literacy Services of SMEDAN	0.959	0.959	0.825

Source: SmartPLS Output, 2025

Table 4 presents the results of the reliability and validity tests for the constructs used in the study. The findings show that all the constructs demonstrate strong internal consistency, as indicated by the Cronbach's alpha values, which range from 0.867 to 0.959, all above the recommended threshold of 0.70. This indicates that the items used to measure each construct are consistent and reliable. Similarly, the composite reliability values, which range from 0.912 to 0.959, further confirm that the constructs have a high level of reliability. In terms of convergent validity, the Average Variance Extracted (AVE) values for all constructs are between 0.724 and 0.825, which are above the acceptable benchmark of 0.50, indicating that the indicators adequately explain the variance of their respective constructs. Therefore, these results suggest that the measurement model demonstrates strong reliability and adequate convergent validity, confirming that the constructs used in the study are appropriate for further structural model analysis.

Discriminant Validity

Table 5: Heterotrait-Monotrait Ratio (HTMT)

	Performance of SMEs	Loan Guarantees of SMEDAN	Financial Literacy Services of SMEDAN
Performance of SMEs			
Loan Guarantees of SMEDAN	0.111		
Financial Literacy Services of SMEDAN	0.080	0.242	

Source: SmartPLS Output, 2025

Table 5 presents the Heterotrait–Monotrait Ratio (HTMT) results used to assess the discriminant validity of the constructs in the study. Discriminant validity helps to confirm that each construct in the model is distinct and measures a different concept. The results show that the HTMT values between performance of SMEs and loan guarantees of SMEDAN (0.111), performance of SMEs and financial literacy services of SMEDAN (0.080), and loan guarantees of SMEDAN and financial literacy services of SMEDAN (0.242) are all well below the recommended threshold of 0.85. This indicates that the constructs are clearly different from one another and that there is no issue of overlap among them. Therefore, the results confirm that the measurement model satisfies the requirement for discriminant validity, meaning that each variable in the study captures a unique aspect of the model and is suitable for further analysis in the structural model.

Assessment of the Structural Model

This section presents the assessment of the structural model, which focuses on examining the effect among the variables in the study. At this stage, the analysis evaluates how SMEDAN loan guarantees and financial literacy services affect the performance of SMEs in North Central Nigeria.

Collinearity Test using Variance Inflation Factor (VIF)

A collinearity test is an important statistical procedure used to check whether there is multicollinearity among the variables in a model. In this study, collinearity was assessed using the Variance Inflation Factor (VIF), which helps determine whether the independent variables are highly correlated with one another.

Table 6: Variance Inflation Factor (VIF)

Variables	VIF
Loan Guarantees of SMEDAN	1.008
Financial Literacy Services of SMEDAN	1.008

Source: SmartPLS Output, 2025

Table 6 presents the Variance Inflation Factor (VIF) values used to assess the presence of multicollinearity among the independent variables in the model. The results show that loan guarantees of SMEDAN and financial literacy services of SMEDAN both recorded a VIF value of 1.008. This value is far below the commonly accepted threshold of 5.0, indicating that there is no multicollinearity problem among the variables. This means that the independent variables are not highly correlated with each other and each variable contributes uniquely to explaining the performance of SMEs. Therefore, the result confirms that the model is statistically sound and suitable for further structural model analysis.

Model Fit

Table 7: Fit Summary

	Saturated Model	Estimated Model
SRMR	0.062	0.062
d_ULS	0.402	0.402
d_G	4.337	4.337
Chi-Square	3120.672	3120.672
NFI	0.955	0.955

Source: SmartPLS Output, 2025

Table 7 presents the model fit summary, showing that the proposed model adequately represents the observed data. The SRMR value of 0.062, below the 0.08 threshold, indicates minimal differences between the observed and model-implied data. The discrepancy measures d_ULS (0.402) and d_G (4.337) are identical for both the saturated and estimated models, reflecting stability and consistency in estimation. The Chi-square value of 3120.672 captures overall discrepancies, while the Normed Fit Index (NFI) of 0.955 indicates a good fit. Overall, these results suggest that the model is suitable for examining the relationships between SMEDAN loan guarantees, financial literacy services, and SME performance in North Central Nigeria.

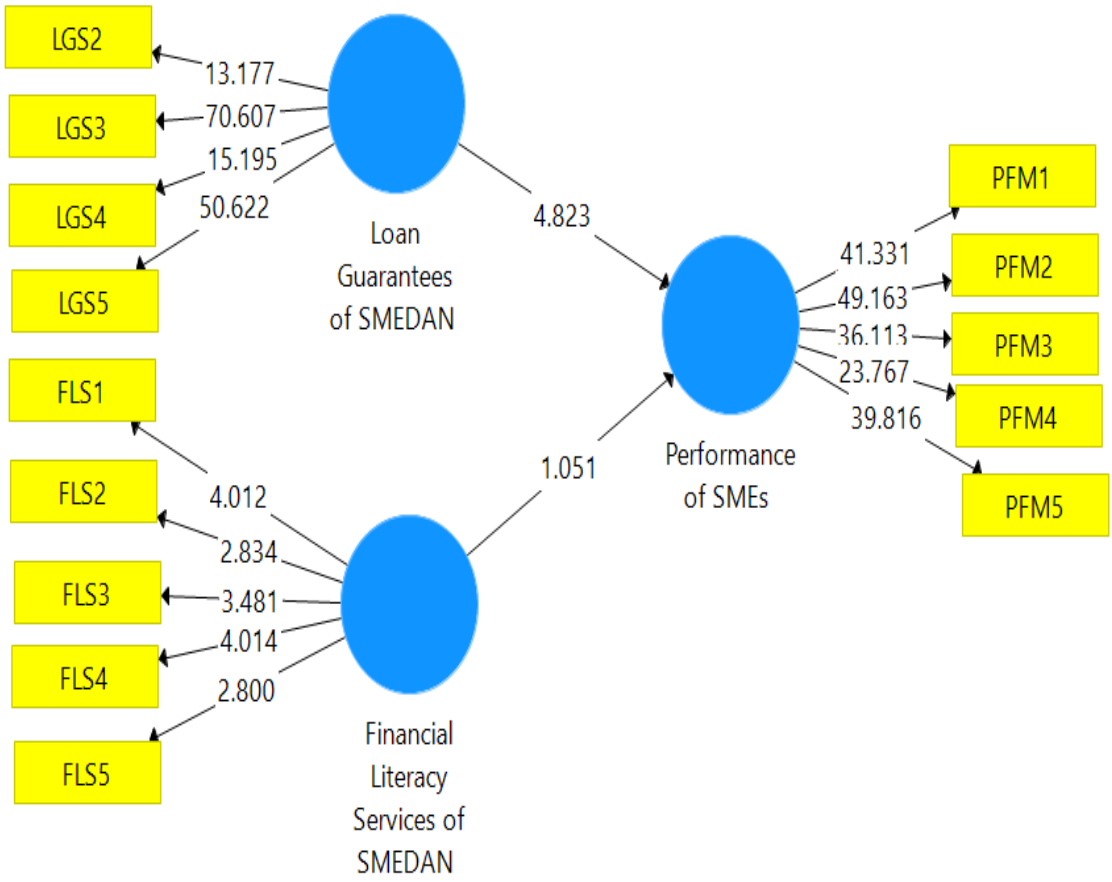


Fig. 3: Structural Model and Hypotheses Testing.
Source: SmartPLS Output, 2025

Path Coefficients

The results presented in the path coefficient table 8 shows the effect of loan guarantees of SMEDAN and financial literacy services SMEDAN on performance of SMEs in North Central, Nigeria. These findings allow the study to evaluate the hypotheses and draw conclusions about the effect of loan guarantees of SMEDAN and financial literacy services SMEDAN on performance of SMEs in North Central, Nigeria.

Table 8: Path Coefficient

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Decision
Loan guarantees of SMEDAN -> Performance of SMEs	0.232	0.242	0.048	4.823	0.000	Rejected
Financial Literacy Services of SMEDAN-> Performance of SMEs	0.084	0.079	0.080	1.051	0.294	Accepted

Source: SmartPLS Output, 2025

Figure 3 and Table 8 present the structural model and the results of the hypotheses tested in this study. The table shows the original sample (O), which represents the estimated path coefficient, the sample mean (M), standard error, t-statistics, and p-values. In assessing the structural model, the study focused mainly on the beta coefficients, t-values, and their corresponding p-values to determine the strength and significance of the relationships between the variables. These results were generated using the bootstrapping technique, which helps to produce more reliable estimates for hypothesis testing.

Hypothesis 1: Loan guarantees of SMEDAN and Performance of SMEs
The result of hypothesis one shows that loan guarantees of SMEDAN have a positive and significant effect on the performance of SMEs. The path coefficient ($\beta = 0.232$) indicates that an increase in loan guarantee support is associated with an improvement in SME performance. The result is statistically significant because the t-value (4.823) is greater than the required benchmark of 1.96, and the p-value (0.000) is less than 0.05. This means that loan guarantees provided through SMEDAN play an important role in improving the growth, productivity, and overall performance of SMEs in North Central Nigeria. Based on this result, the null hypothesis was rejected, confirming that loan guarantees significantly influence SME performance.

This finding is in consistent with the study conducted by Bertoni *et al.* (2023), who found that firms that received guaranteed loans recorded higher sales, increased employment, and growth in assets compared to those that did not receive such support. This suggests that access to guaranteed financing helps SMEs overcome credit constraints and expand their business activities. Similarly, the result of the present study shows that loan guarantees significantly improve the growth and overall performance of SMEs in North Central Nigeria, confirming that financial support mechanisms such as loan guarantees can play a critical role in strengthening the capacity and sustainability of small businesses.

The result of this study supports the view of the Resource-Based View (RBV) Theory, which explains that the performance of a firm improves when it has access to valuable resources that strengthen its internal capabilities. In this case, SMEDAN loan guarantees serve as an important financial resource that helps SMEs overcome credit constraints and obtain funding needed for business expansion and operations. According to RBV, when firms gain access to such valuable resources, they are better able to improve productivity, increase profitability, and achieve sustainable growth (Barney, 1991). Therefore, the positive and significant effect of loan guarantees on SME performance suggests that financial support provided through SMEDAN strengthens the resource base of SMEs, enabling them to perform better and remain competitive.

Hypothesis 2: Financial Literacy services of SMEDAN and Performance of SMEs
For the second hypothesis, the result also shows that financial literacy services of SMEDAN have a positive but statistically insignificant effect on the performance of SMEs. The path coefficient ($\beta = 0.084$) suggests that financial literacy services have a positive effect on performance of SME. This is because the t-value (1.051) is lower than the threshold value of 1.96, and the p-value (0.294) is greater than 0.05. This indicates that although financial literacy services may contribute to improving SME performance, the effect was not strong enough to be confirmed statistically in this study. Therefore, the null hypothesis was accepted, suggesting that financial literacy services do not significantly influence SME performance in the study area.

This finding contradicts the finding of Musthafa et al. (2023), who found that financial literacy generally supports business improvement through better financial knowledge, attitude, and behaviour. In the same way, the result of the present study shows that although financial literacy services may help improve SME performance, the effect was not statistically significant among SMEs in North Central Nigeria.

From the perspective of the Resource-Based View (RBV) Theory, the result suggests that although financial literacy services represent an important knowledge-based resource for SMEs, their impact on performance may depend on how effectively entrepreneurs are able to apply the knowledge gained in managing their businesses. RBV explains that firm performance improves when valuable resources are not only available but are also properly utilized to build strong capabilities. In this study, financial literacy services showed a positive but statistically insignificant effect on SME performance, which may indicate that while SMEs received financial knowledge and training, many business owners may not yet be fully translating this knowledge into practical financial management and strategic decisions. As a result, the resource exists, but its full potential to improve SME performance may not have been fully realised in the study area.

R Square

Tabe 9: R Square

	R Square	R Square Adjusted
Performance of SMEs	0.558	0.551

Source: SmartPLS Output, 2025

Table 9 presents the R-square and adjusted R-square values for the dependent variable, which is the performance of SMEs. The result shows an R-square value of 0.558, indicating that 55.8% of the variation in SME performance in North Central Nigeria is explained by the independent variables included in the model, namely loan guarantees of SMEDAN and financial literacy services of SMEDAN. This suggests that these factors play an important role in influencing how SMEs perform in the region. The adjusted R-square value of 0.551 further confirms this result by showing that, even after adjusting for the number of predictors in the model, about 55.1% of the changes in SME performance are still explained by the variables in the study. Overall, this indicates that the model has moderate explanatory power, while the remaining 44.2% of the variation in SME performance may be influenced by other factors not included in the model.

Although, the model explains a substantial proportion of the variation in SME performance (55.8%), this does not mean that each predictor contributes equally to that explanation. The

significant explanatory power of the model is largely driven by the influence of SMEDAN's loan guarantee services, while financial literacy services, despite showing a positive relationship with performance, does not produced a direct effect to reach statistical significance. This could be because the benefits of financial literacy often emerge gradually over time and depend on how effectively SME owners apply the knowledge and skills acquired in managing their businesses. As a result, financial literacy may contribute to performance indirectly or in the long term, even though its immediate effect is not statistically significant in the current model.

Effect Size

Table 10: F Square

	Performance of SMEs
Loan Guarantees of SMEDAN	0.157
Financial Literacy Services of SMEDAN	0.007

Source: SmartPLS Output, 2025

Table 10 presents the effect size (F-square) of the independent variables on the performance of SMEs. The result shows that loan guarantees of SMEDAN have an F-square value of 0.157, which indicates a moderate effect on SME performance. This means that loan guarantees make a meaningful contribution to improving the growth and overall performance of SMEs in North Central Nigeria. On the other hand, financial literacy services of SMEDAN recorded an F-square value of 0.007, which indicates a very small effect on SME performance. This suggests that although financial literacy services may provide some benefits to SME operators, their influence on business performance in this study is relatively weak compared to the effect of loan guarantees.

5. CONCLUSION AND RECOMMENDATIONS

This study concludes that loan guarantees and financial literacy services of SMEDAN influence the performance of SMEs in North Central Nigeria in different ways. The findings show that loan guarantees have a positive and significant effect on SME performance, indicating that access to guaranteed financing helps businesses expand their operations, improve productivity, and enhance overall growth. On the other hand, financial literacy services show a positive but statistically insignificant effect on SME performance, suggesting that although financial knowledge and training may support business improvement, their impact has not been enough to significantly influence SME performance in the study area. Therefore, the study suggests that while improving access to finance through loan guarantees is important for SME growth, greater efforts are also needed to strengthen financial literacy programmes and ensure that SMEs owners are able to effectively apply the knowledge gained to improve their business performance.

Based on the findings of this study, the following recommendations are proposed:

i. SME owners and managers in North Central Nigeria should actively take advantage of SMEDAN loan guarantee programmes to improve their access to formal financing from financial institutions. This can be achieved by regularly seeking information about available SMEDAN support programmes, registering their businesses with relevant government agencies, preparing proper business plans and financial records, and maintaining good relationships with financial institutions.

ii. SME owners and managers in North Central Nigeria should make greater effort to participate in financial literacy and training programmes offered by SMEDAN and ensure that the knowledge gained is applied in their daily business operations. This can be achieved through attending workshops and training sessions organised by SMEDAN, seeking guidance from business development experts, learning proper financial management practices such as budgeting and record keeping, and consistently applying these skills when making financial and business decisions.

REFERENCES

Agnese, P., Malangone, V., & Rocco, A. (2019). Financial literacy and small business performance: Evidence from European SMEs. *Journal of Small Business and Enterprise Development*, 26(6–7), 1007–1023.

Ahmed, S., Bello, M., & Yakubu, A. (2023). Financial access and small business sustainability in Nigeria. *Journal of African Business Studies*, 15(2), 102–118.

Aiyedogbon, J. O., Zubairu, M., & Yusuf, A. (2023). Financial literacy and the performance of small and medium enterprises in Nigeria. *Journal of Entrepreneurship and Business Innovation*, 10(1), 45–60.

Attah, R., & Wada, I. (2023). Contribution of small and medium scale enterprises to economic growth in Kogi State, Nigeria. *Nigerian Journal of Entrepreneurship*, 9(1), 45–59.

Attamah, N. (2019). Financial literacy and SMEs performance in Nigeria. *INOSR Applied Sciences*, 5(1), 48–55.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120.

Bertoni, F., Colombo, M. G., & Quas, A. (2023). The long-term effects of loan guarantees on SME performance. Elsevier, 1-45. https://www.sciencedirect.com/science/article/pii/S0929119923000573

Central Bank of Nigeria. (2020). *Guidelines for the regulation and supervision of microfinance banks in Nigeria*. Central Bank of Nigeria. https://pdf4pro.com/view/central-bank-of-nigeria-

Chukwuma, O., & Chijindu, E. (2023). Financial literacy and performance of SMEs in Enugu State. *Journal of Business and Economic Development*, 12(3), 78–90.

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.

Esiebugie, U. M., Richard, A. T., & Emmanuel, A. L. (2018). Financial literacy and performance of small and medium scale enterprises in Benue State, Nigeria. *International Journal of Economics, Business and Management Research*, 2(4), 65-79.

Eze, P., & Chika, N. (2022). Institutional support and SME performance in Nigeria. *International Journal of Small Business and Entrepreneurship Research*, 10(4), 55–70.

Huang, P., Liu, Z., & Tan, X. (2023). The Impact of Government Loan Guarantees on Smes' Credit Availability and Performance Evidence from China, 1-25. SSRN: https://ssrn.com/abstract=4446390 or http://dx.doi.org/10.2139/ssrn.4446390

Ibitomi, T., Adekunle, R., & Salisu, M. (2024). Financial literacy and SME performance in Abuja, Nigeria. *Journal of Finance and Development Studies*, 14(1), 88–104. https://www.eajournals.org/

Ibrahim, K., & Adeoye, A. (2021). Microfinance and SME growth in Ibadan, Oyo State. *African Journal of Economic Review*, 9(2), 120–134.

International Finance Corporation. (2021). *MSME finance gap report*. World Bank Group.

Kizza, J. (2019). Financial literacy and financial performance of small and medium enterprises in Uganda. *International Journal of Research and Innovation in Social Science,* 3(10), 666-674.

Molosiwa, T., & Holland, J. (2025). The impact of financial literacy on the performance of small and medium-sized enterprises (SMEs): A review of literature. *International Journal of Research in Business and Social Science*, 14(3), 320–332. https://www.ssbfnet.com/ojs/index.php/ijrbs.

Musthafa, I., Handra, H., Bachtiar, N., Taifur, W. D., & Ariyanto, E. (2023). Financial literacy and performance of micro, small and medium enterprises: A literature review. *Journal of Management, Accounting, General Finance and International Economic Issues,* 3(1), 287-303. *https://ojs.transpublika.com/index.php/MARGINAL/*

Nwosu, B., & Orga, C. (2023). Credit constraints and small business performance in Nigeria. *Journal of African Financial Studies,* 8(2), 66–81.

OECD (2020). *OECD/INFE 2020 international survey of adult financial literacy*. OECD Publishing.

Olagunju, Y., & Alimi, T. (2022). Access to finance and performance of SMEs in Nigeria. *Journal of Economics and Sustainable Development,* 13(5), 23–37.

Olawale, B. V., Francis, A. C., & Yusuf, M. M. (2024). Financial literacy and financial performance of SMEs in Zamfara State, Nigeria. *International Journal of Economics and Financial Management,* 9(5).68-82. DOI: 10.56201/ijefm.v9.no5.

Penrose, E. (1959). *The theory of the growth of the firm*. Oxford University Press.

Peteraf, M. A. (1993). The cornerstones of competitive advantage: A resource-based view. *Strategic Management Journal*, 14(3), 179–191.

Sági, J. (2017). The role of financial literacy in the performance of small and medium enterprises. *Public Finance Quarterly*, 62(3), 358–374.

Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* (8th ed.). Pearson Education Limited.

Sepúlveda-Molina, A., Fuente-Cabrero, C., Santero-Sánchez, R., & Laguna-Sánchez, P. (2022). Credit guarantee schemes for small and medium business: A comprehensive review of the literature. https://ssrn.com/abstract=4872124 or http://dx.doi.org/10.2139/ssrn.4872124

Singh, A. S., & Masuku, M. B. (2014). Sampling techniques and determination of sample size in applied statistics research: An overview. *International Journal of Economics, Commerce and Management,* 2(11), 1–22.

SMEDAN (2021). *SME survey report*. SMEDAN. Small and Medium Enterprises Development Agency of Nigeria

SMEDAN (2022). *Annual report*. SMEDAN. Small and Medium Enterprises Development Agency of Nigeria

SMEDAN (2023). *SME survey report*

Thanasas, G. L., Koutoupis, A. G., Karapanagiotis, N. A., Gonidakis, F. K., & Davidopoulos, L. G. (2024). SMEs' loan guarantee schemes: A systematic literature review. *International Journal of Globalisation and Small Business,* 14(2), 107–137. https://www.researchgate.net/publication/385203785

World Bank. (2022). *Small and medium enterprises (SMEs) finance*. World Bank Group.

Yamane, T. (1967). *Statistics: An introductory analysis* (2nd ed.). Harper and Row

Yepwi, K., Musa, A., & Danjuma, I. (2025). Financial capability and the growth of small and medium enterprises in emerging economies. *Journal of Small Business Management,* 63(1), 122–140.

Yepwi, S. A. I., Agu, M. N., & Utoruwei, B. S. (2025). External business environment and performance of small and medium enterprises (SMEs) in Bayelsa State, Nigeria. *International Journal of Social Science Humanity & Management Research,* 4(3), 504–512. https://doi.org/10.58806/ijsshmr.2025v4i03n13