

Impact of Financial Literacy on the Growth of Micro, Small and Medium Enterprises (MSMEs) In Yola, Adamawa State

¹Ngati Danjuma Joseph, ²John O. Aiyedogbon & ³Obumneke Ezie

^{1,2&3}Department of Economics, Faculty of Social Sciences, Bingham University Karu

Article DOI: 10.48028/ijprds/ijasbsm.v12.i1.13

Abstract

This paper examined the impact of financial literacy on the growth of micro, small and medium enterprises in Yola, Adamawa State, Nigeria. The main objective was to determine how budgeting ability, bookkeeping and record-keeping, and debt management practices influenced business expansion, profitability, innovation, employment generation, and market share. The study adopted a survey research design and utilized a structured questionnaire to collect data from 323 registered micro; small and medium enterprise operators selected through a stratified random sampling technique. Responses were measured using a five-point Likert scale, and data were analysed using descriptive statistics, correlation analysis, and structural equation modelling. Findings showed that bookkeeping and record-keeping, as well as debt management practices, had positive and significant impacts on the growth of micro, small and medium enterprises. Bookkeeping was strongly associated with improved financial tracking and operational efficiency, while debt management practices significantly enhanced business sustainability through effective loan use and repayment discipline. Conversely, budgeting ability had a positive but statistically insignificant impact, suggesting that budgeting was not consistently practiced or integrated into financial decision-making among business owners in the study area. Based on these findings, specific recommendations were made. The Small and Medium Enterprises Development Agency of Nigeria, in collaboration with the National Directorate of Employment and the Adamawa State Ministry of Commerce and Industry, was advised to implement hands-on training programs focusing on practical budgeting techniques. The Corporate Affairs Commission and Financial Reporting Council of Nigeria were encouraged to promote and subsidize the use of simple, sector-appropriate bookkeeping tools for micro and small businesses. The Central Bank of Nigeria and Bank of Industry were recommended to institutionalize compulsory financial literacy training on debt management within all credit schemes targeted at micro, small and medium enterprises. These measures, if properly implemented, would embed financial literacy in enterprise operations, enhance financial decision-making, and support sustainable business growth in underserved regions such as Yola.

Keywords: *Financial literacy, MSME growth, Budgeting ability, Bookkeeping, Debt management*

Corresponding Author: Ngati Danjuma Joseph

<https://internationalpolicybrief.org/international-journal-of-advanced-studies-in-business-strategies-and-management-volume-12-number-1/>

Background to the Study

Financial literacy has increasingly gained recognition as a crucial factor influencing economic empowerment and business sustainability on a global scale. It encompasses the knowledge and skills needed to make informed and effective decisions regarding the use and management of money. According to the Organisation for Economic Co-operation and Development (OECD, 2022), financial literacy entails a combination of awareness, knowledge, skill, attitude, and behaviour necessary to make sound financial decisions and ultimately achieve financial well-being. Globally, numerous studies have shown that individuals and businesses equipped with strong financial literacy skills are better positioned to manage resources, access credit facilities, and navigate the complexities of financial markets. In developed economies such as those in Europe and North America, concerted efforts have been made to enhance financial literacy through formal education, public awareness campaigns, and targeted financial inclusion programs. Despite this progress, disparities remain, particularly in developing regions, where financial education is often overlooked or inadequately addressed (Dwyanti, 2024).

In Sub-Saharan Africa, financial literacy remains relatively low despite the growing recognition of its role in economic development. Many individuals and micro, small, and medium-sized enterprises (MSMEs) in the region operate without adequate financial knowledge, resulting in poor financial decision-making, limited access to financial services, and stunted business growth. According to the Global Financial Literacy Survey by Standard & Poor's (2023), only 26 percent of adults in Sub-Saharan Africa are considered financially literate, significantly lower than the global average of 33 percent. This deficiency poses a substantial barrier to economic inclusion and limits the potential for sustainable business growth across the continent. Governments and development partners have responded with initiatives such as financial literacy programs, digital financial services training, and mobile money education, but challenges persist due to infrastructural deficits, limited outreach, and cultural perceptions about finance (Lambert *et al.*, 2023).

In the Nigerian context, the situation mirrors broader regional trends but with distinct national characteristics. Nigeria, as Africa's most populous country and largest economy, is home to millions of small-scale entrepreneurs who form the backbone of its informal and formal business sectors. However, a 2022 report by the Enhancing Financial Innovation and Access (EFInA) found that only 35 percent of Nigerian adults are financially literate, with significant disparities between urban and rural areas. This gap has serious implications for MSMEs, which represent over 96 percent of all businesses in Nigeria and contribute about 48 percent to the national GDP (Ibe *et al.*, 2025). Many Nigerian MSMEs struggle with maintaining proper financial records, adhering to budgets, and managing credit effectively, which in turn affects their ability to access loans, invest in business development, and scale operations. This issue is particularly evident in regions like Yola, Adamawa State, where economic activities are heavily dominated by micro and small enterprises, yet financial education and institutional support remain limited (Gbemigun & Agbaje, 2022).

The growth and development of MSMEs have been widely recognized as vital for job creation, poverty reduction, and economic diversification globally. In high-income economies, MSMEs contribute significantly to employment and innovation, accounting for up to 60 to 70 percent of jobs (NBS, 2023). These enterprises serve as engines of economic dynamism, often leading in the adoption of new technologies and opening new market frontiers. In Nigeria, MSMEs represent approximately 96% of all businesses and contribute about 48% of national GDP while accounting for 84% of employment, according to the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN, 2022). The Nigerian MSME sector encompasses diverse enterprises spanning manufacturing, trading, services, agriculture, technology, and creative industries, operating in both formal and informal economies across urban and rural settings.

Despite their numerical dominance and economic significance, Nigerian MSMEs face formidable growth challenges including inconsistent electricity supply, poor transportation infrastructure, multiple taxation, limited access to affordable credit, weak institutional support, and inadequate business development services. Ibe *et al.* (2025) noted that approximately 80% of Nigerian MSMEs fail within their first five years of operation, a failure rate attributed to various factors including poor financial management, inadequate planning, undercapitalization, lack of business skills, and unfavourable operating environment. In Adamawa State, and Yola in particular, the business environment is compounded by insecurity, limited market access, and minimal institutional support, which hinders the expansion and sustainability of MSMEs. The entrepreneurial ecosystem in Yola is characterized by limited availability of business incubation services, few formal training institutions focused on entrepreneurship development, restricted access to market information and business intelligence, and weak linkages between MSMEs and larger corporations that could provide supply chain integration opportunities. Given that financially literate entrepreneurs are better equipped to make informed business decisions, manage resources effectively, and access funding opportunities, it is imperative to examine how core elements of financial literacy, represented by Bookkeeping and Record-Keeping, Budgeting Ability, and Debt Management Practices, have influenced the growth of MSMEs, with specific focus on Yola, Adamawa State.

The paper provided answers to the following questions:

- i. What impact does book-keeping and record-keeping have on the growth of MSMEs in Yola, Adamawa State?
- ii. How has budgeting ability influenced the growth of the growth of MSMEs in Yola, Adamawa State?
- iii. To what extent does debt management practices impact the growth of MSMEs in Yola, Adamawa State?

Literature Review

Financial Literacy

Financial literacy has been widely recognized as a fundamental capability for effective financial decision-making, particularly among small business owners. It referred to the

knowledge and application of essential financial principles that enable individuals and enterprises to manage resources efficiently. According to Lusardi and Mitchell (2022), financial literacy encompassed the understanding of financial concepts and the skills necessary to apply such knowledge to real-life financial decisions, including budgeting, saving, borrowing, and investing. Scholars consistently emphasized that financial literacy went beyond theoretical knowledge, highlighting its role in shaping behaviours that improve financial outcomes for micro, small, and medium enterprises (MSMEs).

Bookkeeping and record-keeping, as components of financial literacy, were defined as the systematic recording of financial transactions in a business. Eze and Obiekwe (2023) described these practices as tools for tracking business performance, evaluating financial positions, and enhancing transparency. Accurate record-keeping enabled MSME owners to assess their profitability, manage cash flow, and meet regulatory requirements, thereby supporting long-term growth. Budgeting ability, another core aspect, involved the planning and allocation of resources to achieve business objectives. According to Ibrahim and Salihu (2022), budgeting was a discipline that allowed entrepreneurs to forecast revenues and control expenses, which is critical for business sustainability. It helped in setting financial goals, identifying resource gaps, and ensuring financial discipline. Debt management practices were also highlighted in literature as essential financial skills. This construct referred to the ability to evaluate credit terms, manage borrowing, and ensure timely repayment of loans. As noted by Bello and Ahmed (2024), effective debt management enabled MSMEs to access financing without falling into insolvency, thereby improving their capacity for investment and expansion. In this study, financial literacy is defined as the ability of MSME owners to apply bookkeeping and record-keeping, budgeting ability, and debt management practices effectively to enhance their business growth outcomes.

Micro, Small and Medium Enterprises (MSMEs) Growth

The growth of Micro, Small and Medium Enterprises (MSMEs) has been conceptually defined as the progressive improvement in the size, output, and performance of business entities within the micro, small, and medium scale categories. Scholars have regarded MSME growth as a diverse measure, encompassing both financial and non-financial dimensions that reflect an enterprise's ability to scale, innovate, and sustain operations over time. According to Yusuf and Danjuma (2023), MSME growth referred to the increase in key performance indicators such as profitability, sales volume, customer base, market share, and employment generation. It also included structural changes such as transitioning from informal to formal operations, expanding business locations, or diversifying product offerings.

Research literature has emphasized that MSME growth was not only a reflection of business success but also a significant indicator of economic development in low and middle-income countries. Obasi and Ekong (2022) described MSME growth as the enterprise's ability to survive, adapt, and expand despite environmental or structural challenges, particularly in volatile economies. They noted that growth among MSMEs signified an improvement in competitive capacity, operational efficiency, and contribution to gross domestic product

(GDP). Similarly, Bello and Ibrahim (2024) explained that growth could be captured both quantitatively, through measures like increased revenue and staff size, and qualitatively, through innovation, improved brand recognition, and enhanced business processes. For this study, MSME growth is defined as the measurable improvement in business performance and capacity among micro, small, and medium enterprises, captured through business expansion, market share, employment generation, innovation, sales growth, and profitability. These dimensions reflect both the internal capabilities and external performance of MSMEs, serving as indicators of their contribution to local and national economic development.

Theoretical Underpinning

The theoretical foundation for this study is the Human Capital Theory, originally developed by Theodore Schultz in 1961 and later expanded by Gary Becker. The Human Capital Theory posited that individuals and firms could enhance productivity and economic outcomes through deliberate investments in knowledge, education, and skill development. In the context of financial literacy, this theory suggests that MSME owners who acquire and apply financial management skills, such as bookkeeping and record-keeping, budgeting, and debt management, are more likely to experience improved business performance and growth. Yusuf and Danjuma (2023) supported this view by emphasizing that the accumulation of financial knowledge equips entrepreneurs with the capacity to make informed decisions, optimize resource allocation, and adapt to dynamic market conditions.

The relevance of the Human Capital Theory to this study lies in its explanation of how access to financial knowledge serves as an internal asset that strengthens the capacity of MSMEs to grow sustainably. It supports the notion that building the financial capabilities of entrepreneurs leads to outcomes such as increased profitability, innovation, business expansion, and employment generation. However, despite its explanatory power, critics like Marginson (2019) argued that the theory often underestimates the influence of external constraints such as institutional barriers, unequal access to resources, and macroeconomic volatility, which can limit the benefits of human capital investments, especially in developing economies. This criticism has prompted broader discussions and refinements by scholars who argue for more integrative approaches that consider both individual capacity and structural challenges. Therefore, this study anchors on the Human Capital Theory to explore how financial literacy, as a form of human capital, contributes to the growth of MSMEs in Yola, Adamawa State. It views financial literacy not merely as a technical skill but as a strategic asset that, when properly developed, can enhance the competitiveness and sustainability of small enterprises.

Empirical Review

Empirical investigations into the relationship between financial literacy and MSME growth have gained considerable attention in recent years, particularly due to the rising recognition of MSMEs as critical drivers of economic development. These studies have assessed the impact of various dimensions of financial literacy on micro, small and medium business performance. Molosiwa and Holland (2025) conducted a systematic literature review focused on SME

performance in Botswana and broader contexts. Drawing on 18 empirical studies published between 2016 and 2024, the review highlighted that budgeting and record-keeping literacy most consistently predicted profitability and access to finance. Debt management literacy was linked with lower default risk and more stable growth trajectories, while digital financial literacy supported fintech use and cost efficiency. The study positioned financial literacy as both human capital and a strategic resource. However, the aggregation of findings from diverse study designs and measurement instruments introduced heterogeneity in proxy definitions. Potential publication bias was also acknowledged, raising questions about the generalizability of uniformly positive results across varied contexts.

Ibe *et al.* (2025) conducted a primary survey on MSME survival across Bauchi, Gombe, and Taraba states in Nigeria's North East. Focusing on SME resilience in fragile environments, they collected 2025 data and analysed it using Pearson correlation and multiple regression techniques. Their findings revealed that budgeting literacy, record-keeping literacy, and financial decision-making skills were positively associated with long-term business sustainability. In particular, credit management literacy enhanced shock resilience and working capital access. While the study established a strong link between aggregate financial literacy and MSME survival, the reliance on cross-sectional, self-reported data from only three states limited its external validity. Moreover, the design could not establish causality or track financial behaviour over time.

Dwyanti (2024) explored financial management practices among MSMEs in Indonesia through a synthesis of prior empirical literature, without collecting new data. The study, situated within the domain of entrepreneurship and small business management, highlighted consistent relationships between budgeting literacy, record-keeping literacy, and debt management literacy with improved financial outcomes such as better cash flow control, timely bill payments, and increased profitability. It also observed that banking services literacy, including use of mobile and formal banking systems, contributed to improved liquidity planning. The narrative review design provided rich insights but lacked uniform definitions for proxies across studies, and no meta-analysis was performed, which restricted conclusions about the magnitude and causal direction of effects. The methodological approach, while broad, did not provide sector-specific or contextual variations in financial literacy's influence on business growth.

Hasan *et al.* (2024) examined MSME success in Indonesia using a large cross-sectional dataset analysed with Partial Least Squares Structural Equation Modelling (PLS-SEM). Located within the domain of entrepreneurship and innovation, the study conceptualized financial literacy as a latent variable with indicators such as budgeting discipline, numeracy, and knowledge of financial tools, along with other forms of literacy. Financial literacy significantly influenced MSME success, with entrepreneurial creativity acting as a partial mediator. However, because multiple literacies were included in the structural model, the independent effects of specific financial literacy proxies, such as debt or record-keeping literacy, were difficult to isolate. The use of self-reported performance rather than audited

financial data also introduced potential measurement bias and limited the precision of findings.

Lambert *et al.* (2023) analysed financial literacy among African MSMEs using a quantitative design that regressed sustainability outcomes on financial knowledge, skills, and experience. Although the time frame was not disclosed, the study utilized standard regression methods and reported significant positive effects across all proxies. Financial skills were most strongly associated with planning and risk mitigation, while financial experience improved investment sequencing and cost efficiency. The researchers emphasized the policy implications of capacity-building for MSME operators. Yet, the study offered limited information on sampling or country representation. Moreover, the broad categorization of sustainability outcomes lacked sectoral specificity, and variations in local regulatory environments were not addressed.

Tran and Nguyen (2023) investigated the financial literacy-growth nexus in Vietnamese MSMEs between 2015 and 2022. Using logistic regression and a dataset from the Ministry of Planning and Investment, the study found that proper bookkeeping increased access to government grants and formal financing. Budgeting skills contributed to better inventory and cash flow management, while debt management reduced financial distress and supported innovation. However, the study assumed uniformity in literacy levels across regions, overlooking rural-urban differences and their implications on business growth, which could have added more depth to the analysis.

In a study conducted by Bello and Ahmed (2023) in Northern Nigeria, the researchers examined how financial literacy influenced the performance of MSMEs over the period 2015 to 2021. Using a cross-sectional survey and multiple regression analysis, the study found that record-keeping significantly improved business expansion and profitability. Budgeting ability was positively associated with effective cost control and operational planning. Debt management practices were also linked to better access to credit and reduced default rates. The study, however, relied heavily on self-reported data, which may have introduced subjectivity and bias. Additionally, the use of a single region limited the generalizability of the findings across different economic contexts.

Obiekwe and Nwachukwu (2023) carried out a study in South-Eastern Nigeria to assess the influence of financial literacy components on MSME performance. Covering the period from 2017 to 2022 and utilizing panel data regression, the study found that effective record-keeping was strongly correlated with increased profitability and market share. Budgeting skills were also instrumental in cost minimization, while proper debt management improved loan repayment behaviour. Despite its relevance, the study's narrow focus on only registered MSMEs overlooked informal businesses, which constitute a large portion of Nigeria's enterprise landscape, thereby limiting the comprehensiveness of the results.

Kariuki and Kamau (2022) explored the effects of financial literacy on small business growth in Nairobi County, Kenya, using data collected from 2018 to 2021. The researchers applied

structural equation modelling to assess how budgeting skills, bookkeeping practices, and credit management influenced sales growth and market penetration. Their findings showed that budgeting practices significantly enhanced business planning and revenue forecasting. Accurate bookkeeping was associated with increased investor confidence and credit access. While the study provided useful insights, it focused only on urban-based enterprises, excluding rural perspectives and failing to account for variations in infrastructure and financial access across regions.

In Ghana, Boateng and Osei (2022) analysed the role of financial literacy in enhancing MSME survival and growth in the Greater Accra Region. The study employed a longitudinal survey and used fixed-effects regression models. It concluded that regular financial documentation and disciplined budgeting significantly improved long-term business sustainability. Debt management had a less pronounced effect but was positively related to creditworthiness and reduced insolvency. The study's strength lay in its longitudinal design, but it did not disaggregate results by sector, making it difficult to determine sector-specific impacts of financial literacy on MSMEs.

Frimpong *et al.* (2022) investigated the influence of financial literacy on firm performance among MSMEs in Ghana using survey data and structural equation modelling. Financial literacy was modeled as a composite of knowledge and behaviour, and access to digital finance was tested as a mediating variable. The results showed that higher competence in budgeting and record-keeping positively predicted profitability and sales growth, and these effects were more pronounced when access to mobile financial services was present. The study offered a coherent mediation model; however, it relied on a broad literacy index and did not disaggregate the effects of specific skills like debt management or banking practices, which limited proxy-level insights.

Gbemigun and Agbaje (2022) studied SMEs in Ondo State, Nigeria, using survey data and regression analysis. They emphasized accounting-based proxies for financial literacy, such as the preparation of financial statements, disciplined transaction recording, and clear separation of personal and business finances. Firms with stronger bookkeeping literacy demonstrated better access to formal credit and experienced improved sales growth. Despite its relevance, the study's subnational focus and reliance on self-reported indicators constrained generalizability, and the lack of analysis on debt management or banking service use left out other important aspects of financial literacy that could influence growth outcomes.

Methodology

This paper adopted a survey research design to examine the impact of financial literacy on the growth of Micro, Small and Medium Enterprises (MSMEs) in Yola, Adamawa State. The survey design was appropriate given its strength in collecting firsthand data directly from MSME owners and managers, enabling the researcher to capture current financial literacy practices and growth indicators. It allowed for the measurement of the independent variable, financial literacy, through proxies such as bookkeeping and record-keeping, budgeting ability,

and debt management practices, and their relationship with MSME growth indicators. The design also supported the use of structured questionnaires, facilitating standardized responses suitable for statistical analysis and the generalization of findings across the target population within the study area.

The target population for this study consisted of registered Micro, Small and Medium Enterprises (MSMEs) in Yola, Adamawa State, totalling 1,108 businesses, as documented by the Adamawa State Board of Internal Revenue. These enterprises operate across a variety of sectors including trade, services, agriculture, and small-scale manufacturing, reflecting the economic complexity and entrepreneurial activity within the region. Focusing on registered MSMEs ensured that the study engaged with formally recognized businesses operating within established regulatory frameworks, thereby enhancing the credibility and reliability of the data collected. The selection of Yola as the study area was deliberate, given its role as the administrative and commercial centre of Adamawa State, with an expanding MSME sector that plays a key role in employment creation and local economic development. Concentrating on this population enabled the study to examine how financial literacy influences MSME growth within a dynamic but economically under-supported environment.

A stratified random sampling technique was employed in this study to ensure a balanced and representative selection of respondents from the population of registered Micro, Small and Medium Enterprises (MSMEs) in Yola, Adamawa State. This approach was well-suited to the study due to the diverse nature of MSMEs in the area, which differ by sector, size, and operational focus. The sampling process began by dividing the total population of 1,108 registered MSMEs into distinct strata based on their primary business sectors, including trade, services, agriculture, and manufacturing. This stratification ensured that each sector was adequately represented in the final sample, allowing the study to capture the varying financial literacy experiences and business growth patterns across different enterprise categories.

Using the Taro Yamane formula, the sample size was determined as follows:

$$n = \frac{N}{1 + N(e)^2}$$

Where;

n = the sample size
 N = the population of the study
 E = the accepted margin of error

Therefore,
$$n = \frac{1,108}{1 + 1,108(0.025)^2} = 294$$

To account for potential non-responses or unreturned questionnaires, an attrition rate of 10 percent was applied to the initially determined sample size of 294. This led to an additional 29 respondents being added, bringing the total sample size to 323.

The paper utilized a carefully structured questionnaire as the primary tool for data collection. To ensure that responses accurately represented the financial literacy experiences of MSMEs in Yola, Adamawa State, participants were selected using a simple random sampling technique from the stratified sample. The questionnaire featured closed-ended questions designed to gather consistent and comparable responses across participants. It was specifically developed to capture variables related to the study objectives, focusing on dimensions of financial literacy such as bookkeeping and record-keeping, budgeting ability, and debt management practices, alongside key indicators of MSME growth including business expansion, profitability, innovation, and employment generation.

Responses were measured using interval data on a five-point Likert scale, with options ranging from “strongly agree” to “strongly disagree,” numerically coded from 5 to 1. This format allowed respondents to express the degree of their agreement with various financial behaviour and performance-related statements, generating standardized and quantifiable data suitable for statistical evaluation of the relationships under study.

For data analysis, the paper employed both descriptive and inferential statistical methods to explore the connection between financial literacy and MSME growth in Yola. Descriptive statistics such as mean, standard deviation, minimum, maximum, skewness, and the Jarque-Bera test were used to assess the distribution, normality, and general characteristics of the data. These initial tests confirmed data suitability for more advanced analysis. To explore associations between financial literacy proxies and growth indicators, Pearson correlation analysis was conducted. This helped reveal the strength and direction of linear relationships between variables. The core analysis was conducted using Structural Equation Modeling (SEM) through SmartPLS software, which allowed for the simultaneous estimation of multiple relationships involving independent and dependent variables. Model fit was evaluated using SRMR, d_{ULS} , and d_G indices. Key outputs such as path coefficients, p-values, and R-squared values provided insight into the significance, strength, and explanatory power of the hypothesized relationships, offering a comprehensive view of how financial literacy impacts MSME growth in the study area.

The formulated model specifications were utilized for the study, which are presented as follows:

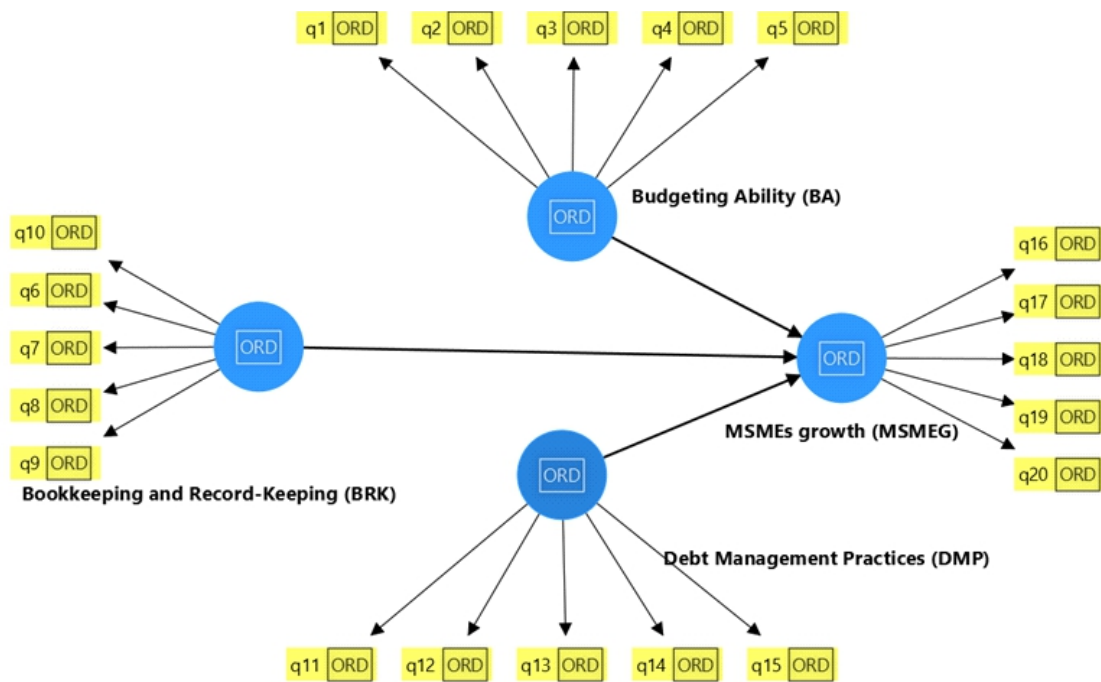


Fig. 1.
Source: Researcher's Computation Using Smart-PLS 4.0 (2025)

Where;
 BA = Budgeting Ability
 BRK = Bookkeeping and Record-Keeping
 DMP = Debt Management Practices
 MSMEG= Regulatory compliance dashboard

Results and Discussion

Descriptive Statistics

Descriptive statistics provide a summary of the basic features of a dataset, offering insights into the central tendency, dispersion, and distribution patterns of variables under investigation. These statistical components, mean, standard deviation, skewness, kurtosis, and normality tests, help to describe and interpret how respondents in a study behave or respond in relation to the variables measured. In this context, descriptive statistics were used to evaluate responses related to the growth of MSMEs (MSMEG) and the independent variables: Budgeting Ability (BA), Bookkeeping and Record-Keeping (BRK), and Debt Management Practices (DMP).

Table 1: Summary Statistics

	Mean	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Prob.	Obs
MSMEG	4.31123	0.8123	-0.0173	3.0900	1.6067	0.1936	323
BA	3.45966	0.9141	0.1824	3.9186	9.1411	0.0017	323
BRK	4.21125	0.8125	-0.3100	3.0169	1.2262	0.1314	323
DMP	4.62366	0.7696	-0.0015	3.0286	1.1001	0.2396	323

Source: Researcher's Computation (2025)

Starting with MSME growth (MSMEG) in Table 1, the mean score of 4.3112 indicates that, on average, respondents agreed positively to items measuring business growth. This suggests that a significant number of MSMEs reported experiences of expansion, sales increases, or other indicators of growth. The standard deviation of 0.8123 reflects moderate variability in responses, implying a generally consistent pattern across the sample. The skewness value of -0.0173 indicates an almost symmetric distribution, while the kurtosis of 3.0900 suggests a distribution close to normal. The Jarque-Bera statistic of 1.6067 with a p-value of 0.1936 confirms the normality of the data, as the p-value is above the 0.05 threshold.

Budgeting Ability (BA) recorded a lower mean of 3.4597, suggesting that respondents were more neutral or slightly agreeable on average about their budgeting practices. This lower central value indicates room for improvement in this area. The standard deviation of 0.9141 shows a wider spread of responses, suggesting varied budgeting behaviours among MSME operators. Skewness was slightly positive at 0.1824, indicating a mild rightward tilt in the distribution. The kurtosis value of 3.9186 suggests a leptokurtic distribution with heavier tails. The Jarque-Bera value of 9.1411 and a significant p-value of 0.0017 indicate that the distribution deviates significantly from normality, which may reflect uneven budgeting capabilities across the population.

For Bookkeeping and Record-Keeping (BRK), the mean score of 4.2113 reflects a generally positive response, indicating that many MSME operators maintained sound record-keeping practices. The standard deviation of 0.8125 shows moderate variability among responses. A skewness of -0.3100 suggests a slight leftward tilt, meaning that more responses were clustered at the higher end of the scale. The kurtosis of 3.0169 is close to normal distribution characteristics. The Jarque-Bera statistic of 1.2262 with a p-value of 0.1314 indicates that the data do not significantly deviate from normality.

Debt Management Practices (DMP) yielded the highest mean score of 4.6237, indicating strong agreement among respondents regarding their debt management behaviours. This high average suggests that most MSME owners demonstrated effective practices such as understanding loan terms, timely repayments, and borrowing discipline. The standard deviation of 0.7696 indicates relatively low variation, pointing to consistency in responses.

The skewness value of -0.0015 shows a nearly symmetric distribution, while the kurtosis of 3.0286 supports a distribution close to normal. The Jarque-Bera statistic of 1.1001 with a p-value of 0.2396 confirms that the responses are normally distributed.

Correlation Analysis

Correlation analysis is a statistical method used to measure the strength and direction of linear relationships between two variables. In this study, correlation analysis was applied to examine the degree of association between each of the financial literacy components, Budgeting Ability (BA), Bookkeeping and Record-Keeping (BRK), and Debt Management Practices (DMP), and the dependent variable, Growth of MSMEs (MSMEG). Alongside this, the Variance Inflation Factor (VIF) was employed to test for multicollinearity among the independent variables. The VIF helps to identify if any predictor variable is highly correlated with another, which could distort regression estimates. The decision rule is that a VIF value below 5 indicates no multicollinearity concern, while values above 10 signal a serious multicollinearity problem.

Table 2: Pairwise correlation and Multicollinearity Results

	MSMEG	BA	BRK	DMP	Centered VIF
MSMEG	1 ----				
BA	0.3256 (0.0011)	1 ----			1.0255
BRK	0.6233 (0.0000)	0.4102 (0.0000)	1 ----		1.2391
DMP	0.8449 (0.0000)	0.5231 (0.0000)	0.4863 (0.0000)	1 ----	1.1167

Source: Researcher's Computation Using Smart-PLS 4.0 (2025)

Starting with the correlation results in Table 2, Budgeting Ability (BA) showed a moderate positive correlation with MSME growth ($r = 0.3256$, $p = 0.0011$). This indicates that as MSME operators engage more effectively in budgeting practices, there is a corresponding tendency for their businesses to report higher growth. Although the relationship is statistically significant, the strength of the association is relatively modest, suggesting that budgeting contributes to growth, but may not be the most dominant factor among the financial literacy components.

Bookkeeping and Record-Keeping (BRK) demonstrated a stronger positive correlation with MSME growth ($r = 0.6233$, $p < 0.0001$). This shows a substantial and significant relationship, indicating that effective record-keeping is more closely associated with MSME performance. This aligns with earlier descriptive findings, which revealed consistently high record-keeping practices among respondents, further reinforcing the importance of this skill in supporting structured business growth. Debt Management Practices (DMP) showed the strongest

positive correlation with MSME growth ($r = 0.8449$, $p < 0.0001$). This very high and statistically significant coefficient suggests that MSME owners who practice sound debt management are highly likely to experience better growth outcomes. This finding corroborates the descriptive statistics, where DMP recorded the highest mean score, reflecting widespread application of responsible borrowing and repayment practices among MSMEs in Yola.

In terms of multicollinearity, the Centered VIF values for all independent variables were well below the threshold of 5. Specifically, BA had a VIF of 1.0255, BRK had 1.2391, and DMP had 1.1167. These low VIF scores confirm that there is no multicollinearity among the predictors, indicating that each independent variable provides unique explanatory information to the model. The absence of multicollinearity supports the robustness of the regression model and affirms the statistical validity of using all three financial literacy components in further inferential analysis.

SEM Regression Results

Structural Equation Modelling (SEM) is a robust multivariate statistical technique that allows researchers to examine complex relationships between observed and latent variables. In the context of this study, SEM was employed to assess the direct effects of the three components of financial literacy, Budgeting Ability (BA), Bookkeeping and Record-Keeping (BRK), and Debt Management Practices (DMP), on the growth of Micro, Small and Medium Enterprises (MSMEG). The path coefficients (Beta), t-statistics, and p-values provided insights into the strength, direction, and significance of each relationship within the model.

Table 3: SEM Regression Output

Dependent Variable: MSMEG				
Path		Path Coefficients		
Model	Beta	Standard deviation (STDEV)	T statistics (O/STDEV)	p-value
BA -> MSMEG	0.080	0.076	1.044	0.297
BRK -> MSMEG	0.321	0.097	3.311	0.001
DMP -> MSMEG	0.585	0.069	8.455	0.000
Goodness of fit				
R-square		Adjusted-R-square		f-stat
0.7370		0.5247		4.569 (0.000)
Model Fit Result				
Model fit indices		Estimated model		
SRMR		0.0061		
d_ ULS		0.0018		
d_ G		0.0022		

Source: Researcher's Computation Using Smart-PLS 4.0 (2025)

The regression results in Table 3 revealed that Budgeting Ability (BA) had a beta coefficient of 0.08, with a t-statistic of 1.044 and a p-value of 0.2970. This indicates that while the relationship between budgeting and MSME growth was positive, it was not statistically significant at the conventional 0.05 level.

In contrast, Bookkeeping and Record-Keeping (BRK) showed a statistically significant positive effect on MSME growth, with a beta coefficient of 0.321, a t-statistic of 3.311, and a p-value of 0.0010. This confirms that proper financial documentation and systematic record-keeping play a meaningful role in enhancing business performance. The strongest predictor in the model was Debt Management Practices (DMP), with a high beta coefficient of 0.585, a t-statistic of 8.455, and a p-value of 0.0000. This result is both statistically and practically significant, implying that MSMEs that effectively manage their debt obligations are far more likely to experience growth.

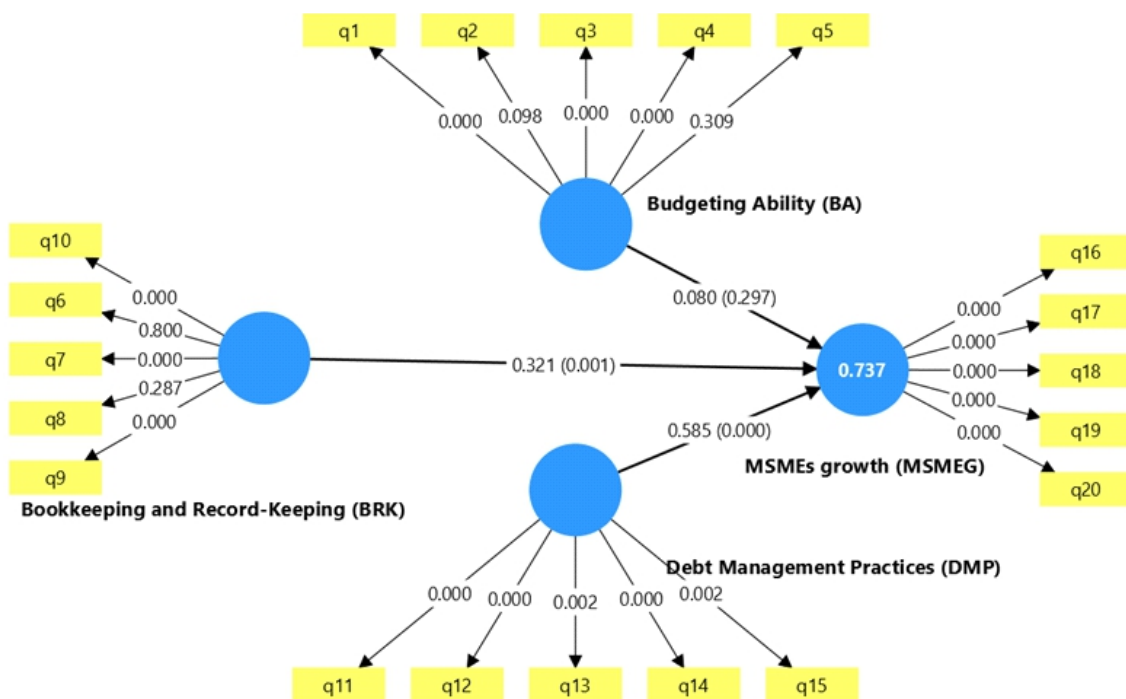


Fig. 2.
Source: Researcher's Computation Using Smart-PLS 4.0 (2025)

The R-square value of 0.7370 indicates that approximately 73.7% of the variance in MSME growth can be explained by the combined effect of the three financial literacy components, Budgeting Ability (BA), Bookkeeping and Record-Keeping (BRK), and Debt Management Practices (DMP). This is a high proportion, suggesting a strong model fit and confirming that the independent variables included in the study collectively play a significant role in influencing business growth among MSMEs in Yola, Adamawa State.

The Adjusted R-square value of 0.5247 accounts for the number of predictors relative to the sample size. It adjusts the R-square downwards to prevent overestimation of explanatory power when multiple independent variables are involved. Although lower than the unadjusted R-square, the adjusted value still indicates that over 52% of the variation in MSME growth is explained by the predictors after correcting for model complexity. This further supports the model's validity. The F-statistic of 4.569 with a p-value of 0.000 confirms the overall significance of the regression model. It implies that the joint influence of BA, BRK, and DMP on MSME growth is statistically significant, and the likelihood that this result occurred by chance is extremely low. In essence, the model provides a good fit to the data and is appropriate for predicting and explaining the growth dynamics of MSMEs based on the financial literacy components examined in this paper.

The SRMR value of 0.0061 is well below the commonly accepted threshold of 0.08, indicating an excellent fit between the observed data and the estimated model. SRMR measures the difference between the observed and predicted correlations, and lower values suggest a better model. A value this low implies that the model's predictions are highly consistent with the actual data patterns from respondents.

The d_{ULS} (0.0018) and d_G (0.0022) values further reinforce the model's strong fit. Both indices assess the discrepancy between the empirical and model-implied correlation matrices using different distance measure. There are no strict cutoffs for d_{ULS} and d_G , but lower values generally indicate better fit, particularly when compared to benchmark models. The extremely small values obtained here confirm that the proposed model accurately captures the structural relationships without significant deviation.

Discussion of Findings

Findings from the study showed that budgeting ability had a positive but insignificant impact on the growth of Micro, Small and Medium Enterprises (MSMEs) in Yola, Adamawa State. The implication of this result is that while MSME operators are aware of the importance of budgeting, the practical application of budgeting practices in business decision-making remains weak or inconsistent. This limited impact suggests that many MSMEs either do not budget regularly or do so without integrating their budget into strategic planning, thereby failing to influence outcomes such as business expansion or profitability. This aligns with the findings of Boateng and Osei (2022), who noted that although Ghanaian MSMEs demonstrated basic budgeting awareness, a significant proportion lacked the discipline to follow through, limiting its effect on long-term growth. Similarly, Ibe *et al.* (2025) observed that budgeting alone did not drive MSME sustainability in North-East Nigeria unless combined with other financial planning tools. However, this outcome contradicts the conclusion of Hasan *et al.* (2024), whose study in Indonesia reported that budgeting discipline significantly enhanced operational efficiency and business success, especially among digitally literate entrepreneurs.

On the other hand, bookkeeping and record-keeping had a positive and significant impact on MSME growth. This implies that maintaining accurate and up-to-date financial records

enables MSMEs to monitor their cash flows, track expenses, and assess profitability more effectively, thereby improving decision-making and operational performance. The result validates the argument by Eze and Obiekwe (2023), who found that well-maintained records improved access to external funding and helped Nigerian MSMEs scale their operations. It also agrees with the work of Frimpong *et al.* (2022), who discovered that Ghanaian MSMEs with strong record-keeping practices experienced higher sales and better financial control. These findings reinforce the position that bookkeeping is not only a regulatory requirement but a practical management tool critical to enterprise development. While this finding was strongly supported across studies in different regions, Obasi and Ekong (2022) cautioned that record-keeping alone may not be effective if MSME owners lack the capacity to interpret and use financial data strategically, pointing to a potential gap between data collection and financial decision-making.

The most significant finding from the study was that debt management practices had a strong positive and highly significant impact on MSME growth. This demonstrates that MSME operators who actively manage their debts, by understanding loan terms, making timely repayments, and avoiding unnecessary borrowing, are more likely to experience growth in areas such as innovation, profitability, and employment. The result highlights the role of credit discipline and financial prudence in sustaining business operations. This outcome is consistent with the findings of Lambert *et al.* (2023), who reported that strong debt management among African MSMEs enhanced investment planning and reduced insolvency risk. It also agrees with Molosiwa and Holland (2025), who observed that MSMEs with structured debt management approaches in Botswana were better positioned to access additional financing and scale their operations. Conversely, Dwyanti (2024) cautioned that in contexts where formal banking systems are underdeveloped or inaccessible, debt management practices may reflect personal discipline rather than structured financial literacy, thereby limiting their scalability. Nonetheless, the significance of this finding in the current study affirms the strategic importance of credit management in driving sustainable business outcomes among MSMEs in underserved regions.

Conclusion and Recommendations

This study set out to examine the impact of financial literacy, measured through budgeting ability, bookkeeping and record-keeping, and debt management practices, on the growth of Micro, Small and Medium Enterprises (MSMEs) in Yola, Adamawa State. The findings revealed that while budgeting ability had a positive but insignificant impact, bookkeeping and debt management practices had strong and significant effects on MSME growth. These outcomes imply, first, that budgeting, though important, is not yet effectively institutionalized among MSME operators to drive measurable outcomes. Second, the significance of bookkeeping practices highlights the role of organized financial documentation in supporting business control and strategic planning. Third, the strong influence of debt management highlights the importance of financial discipline and responsible borrowing in sustaining and expanding business operations. Collectively, the results confirm that targeted financial capabilities significantly shape the growth pattern of

MSMEs, with some skills proving more influential than others in resource-constrained environments.

In light of the findings from this study, the following recommendations were suggested:

- i. There is a need for targeted and institution-led interventions to improve financial literacy practices among MSMEs in Yola, Adamawa State. The insignificant impact of budgeting ability on MSME growth suggests that many business owners lack the practical knowledge to prepare, monitor, and adjust financial plans. To address this, the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), in collaboration with the National Directorate of Employment (NDE) and the Adamawa State Ministry of Commerce and Industry, should implement structured training programs focused specifically on business budgeting. These programs should incorporate real-life scenarios, templates, and exercises that demonstrate how to create and use budgets to guide daily operations and financial decisions. Training should be delivered through periodic workshops, community-based sensitization campaigns, and mobile outreach to ensure accessibility for rural and informal business operators.
- ii. Given the significant role of bookkeeping and record-keeping in enhancing business growth, the Corporate Affairs Commission (CAC) and Financial Reporting Council of Nigeria (FRCN), in partnership with local chambers of commerce, should promote the adoption of simplified financial recording tools tailored for micro and small enterprises. This can be achieved by subsidizing or licensing affordable bookkeeping applications and offering basic accounting toolkits for MSMEs that are registered or in the process of formalization. Furthermore, non-governmental organizations (NGOs) and business incubators operating in the region should provide on-site assistance and mentorship to ensure that MSMEs not only acquire these tools but are able to use them consistently and correctly.
- iii. Considering that debt management practices had the most significant impact on MSME growth, the Central Bank of Nigeria (CBN) and Bank of Industry (BOI) should institutionalize financial literacy modules into all MSME financing schemes. Before disbursing any funds, applicants should be required to complete short training on credit evaluation, interest rate implications, loan repayment planning, and consequences of default. These institutions should also collaborate with microfinance banks, commercial banks, and cooperative societies to establish advisory units that offer personalized debt counselling services to MSMEs. These practical, institution-driven recommendations will not only strengthen financial literacy but also embed these practices into the operational culture of MSMEs, ensuring long-term growth and sustainability.

References

- Bello, S., & Ibrahim, K. (2024). Evaluating performance metrics of MSMEs in Northern Nigeria, *Journal of Small Business Growth and Development*, 6(1), 101–117.
- Bello, T., & Ahmed, S. (2024). Debt management practices and SME sustainability in Northern Nigeria. *Journal of Finance and Business Development*, 7(1), 88–102.
- Boateng, E., & Osei, R. (2022). Financial literacy and MSME sustainability in Ghana, a longitudinal study. *African Journal of Economic Policy*, 29(3), 88–104.
- Dwyanti, D. (2024). The importance of financial literacy in financial management in micro, small and medium enterprises. *Jurnal Aplikasi Manajemen dan Bisnis*, 10(2), 1–10.
- EFInA. (2022). *Access to financial services in Nigeria survey 2022*. Enhancing Financial Innovation and Access. <https://www.efina.org.ng>
- Eze, C., & Obiekwe, O. (2023). Record-keeping practices and business performance among Nigerian SMEs. *African Journal of Accounting and Finance*, 15(2), 112–125.
- Frimpong, S. E., Boame, S. A., & Abor, J. Y. (2022). Financial literacy, access to digital finance and SME performance, *Cogent Economics & Finance*, 10(1), 2121356.
- Gbemigun, A., & Agbaje, O. (2022). Financial accounting literacy and growth of SMEs, evidence from Ondo State, Nigeria, *Academy of Management Journal [Nigeria]*, 16(1), 42–56.
- Hasan, M., Jannah, M., Supatminingsih, T., Said Ahmad, M. I., Sangkala, M., Najib, M., & Elpisah. (2024). Understanding the role of financial literacy, entrepreneurial literacy, and digital economic literacy on entrepreneurial creativity and MSMEs success. *Cogent Business & Management*, 11(1), 2433708.
- Ibe, E. O., Ajayi, D. O., & Jabi, N. J. (2025). Impact of financial literacy on the survival of micro, small and medium scale enterprises in the North East, Nigeria, *International Journal of Recent Innovations in Academic Research*, 9(3), 142–148.
- Ibrahim, M., & Salihu, U. (2022). Budgeting culture and SME financial performance in Sub-Saharan Africa, *Journal of Development Finance*, 10(3), 45–58.
- Kariuki, J., & Kamau, M. (2022). Influence of financial literacy on small business growth in Kenya, *East African Business Review*, 12(1), 55–70.
- Lambert, E., Deyganto, K. O., & Algasse, K. (2023). *The role of financial literacy on sustainable development of micro, small and medium enterprises in Africa*. *Qeios*.

- Lusardi, A., & Mitchell, O. S. (2022). Financial literacy and financial decision-making, *Journal of Economic Literature*, 60(1), 5–44.
- Marginson, S. (2019). Limitations of human capital theory, *Studies in Higher Education*, 44(2), 287–301.
- Molosiwa, T., & Holland, J. (2025). The impact of financial literacy on the performance of small and medium sized enterprises, a review of literature, *International Journal of Research in Business and Social Science*, 14(3), 320–332.
- Obasi, R., & Ekong, U. (2022). Enterprise growth dynamics in Nigeria, focus on micro and small businesses. *Journal of African Economic Policy*, 12(2), 88–103.
- Obiekwe, C., & Nwachukwu, G. (2023). Financial literacy and enterprise growth, evidence from South-East Nigeria. *Journal of Development Finance*, 18(1), 65–81.
- OECD. (2022). *Recommendation on financial literacy*. Organisation for Economic Co-operation and Development. <https://www.oecd.org>
- SMEDAN & NBS. (2022). *MSME Survey Report 2022*. Small and Medium Enterprises Development Agency of Nigeria & National Bureau of Statistics. <https://www.smedan.gov.ng>
- Standard & Poor's. (2023). *Global financial literacy survey*. S&P Global. <https://www.spglobal.com>
- World Bank. (2022). *Small and Medium Enterprises (SMEs) finance*. <https://www.worldbank.org>
- Tran, L. T., & Nguyen, P. H. (2023). The impact of financial literacy on SME growth in Vietnam. *Asia-Pacific Journal of Business Administration*, 15(1), 39–58.
- Yusuf, M., & Danjuma, A. (2023). Determinants of small business growth in Sub-Saharan Africa, *International Review of Business and Entrepreneurship*, 8(3), 45–62.

Appendices
Questionnaire

	Questions	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Budgeting Ability	I prepare a budget before making major business expenditures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	I regularly compare actual spending with the planned budget.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	I revise my business budget when there are changes in income or expenses.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	I can identify and categorize fixed and variable expenses in my business.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	I set financial goals and align them with my budget plans.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bookkeeping and Record-Keeping	I record all income and expenses of the business consistently.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	I maintain separate records for personal and business transactions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	I keep receipts and invoices for all business transactions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	I update my financial records at regular intervals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	I use a method or system (manual or digital) to organize financial records.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Debt Management Practices	I understand the terms and conditions before accepting a loan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	I monitor repayment schedules for all debts owed by my business.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	I avoid taking loans with high interest rates when possible.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	I assess the repayment ability of my business before borrowing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	I prioritize timely repayment of business debts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Growth of MSMEs

	Questions	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Growth of MSMEs	My business has expanded its customer base over the past two years.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	There has been a noticeable increase in the number of employees.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	My business regularly introduces new products or services.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Business revenues have shown a steady increase in recent periods.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	I have been able to increase my business's presence in new markets.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>