

## EFFECT OF FINANCIAL LITERACY ON THE GROWTH OF MICRO ENTERPRISES IN NORTH CENTRAL NIGERIA

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### Abstract

*Nigeria successive governments have put in place policy measures and support schemes to develop the micro enterprise sub-sector and to increase its performance and growth. Micro enterprises in Nigeria have not performed creditably well and they have not played expected role in spite of the fact that they have been regarded as the backbone for employment generation, food security and economic growth. This study examined the effect of financial literacy on the growth of micro enterprises in North Central Nigeria. The population for study consists of 62,663 registered micro enterprises (MEs) operating in North Central Nigeria, while the sample size for this study is 397 MEs owners operating in North Central Nigeria. Data for this study was collected using a well structure questionnaire and the data collected was coded and analysed using partial least squares of structural equation modelling (PLS-SEM). The study found that financial behavior has positive and significant effect on the growth of micro enterprise in North Central Nigeria. Also, the study revealed that that financial skill has positive and insignificant effect on the growth of micro enterprise in North Central Nigeria. the study concluded that the ability to understand and apply financial principles such as budgeting, financial reporting, and cash flow management will help enterprise owners to makes informed decision, manage risk and achieved financial stability. The study recommends that entrepreneurial support programs should go beyond building financial skill sets and focus more on ensuring the practical application of such skills in daily business operations.*

**Key words:** Financial literacy, financial behavior, financial skill, growth

### INTRODUCTION

Growth of micro enterprises is a vital aspect of economic development, particularly in regions like North Central Nigeria, where these businesses contribute significantly to challenges that hinder their growth, with financial literacy emerging as a critical factor influencing their success. All over the world, those who own and run companies need to appreciate financial literacy to ensure optimum performance. Managers have been known to understand that they need entrepreneurial life-force in order to manage the firm's finance. But in 2022, the Foreign, Commonwealth and Development Office (FCDO) study showed that financial literacy levels are quite low in African countries compared to other countries. In seven African countries, only half of the adult population had knowledge of basic financial products, and about 50 per cent did not use both formal and informal financial products. Only one-third of the examined population of adults had a bank account. Nearly 60 per cent of the people in South Africa who were surveyed were not familiar with the term 'interest' World Bank (2023).

According to Beck and Cull (2018), African financial systems, including Nigeria's, are underdeveloped and limited, indicating that financial literacy among Micro Enterprises (MEs) in Nigeria is also low. According to Galstian, (2017), the failure rate of MEs is about 85 out of every 100 in African companies due to the lack of managerial decision skills and low financial literacy levels. Likewise, in Nigeria, about 59 per cent of micro enterprise operators reported difficulties in making use of financial services, these poor financial literacy challenges lead to micro enterprises operators' poor performance and in-ability to grow their businesses (Tamimi & Kalli, 2016).

In Nigeria, this aspect of management is somehow overlooked. Re-investment and bootstrapping seem not to be the guiding principle, especially in private companies. Instead funds are taken out of the companies for personal projects, thereby starving companies of healthy financial standing needed to take advantage of sudden opportunities. Performance is thereby compromised and growth is stunted. The concept of micro enterprises growth has two strategic results that are frequently referred to in the literature which are either success or failure. In the field of management, micro enterprises can be taken as measures of good or indifferent management. But it might occur due to other reasons such as luck.

The effects of micro enterprises growth rest on whether the business has attained its objectives or not (Mabhungu & Van Der Poll, 2017).

Micro enterprises are a central marvel in business management. It has been projected in the literature (Hitt et al., 2016; Nzewi et al., 2017). Growth can be considered as the ability of a business enterprise to come across or surpass its pre-set objectives or goals as agreed upon by its investors over a definite period (Kim & Patel, 2017). Though, growth appears to be conceptualized, rationalized and measured in diverse directions, hence making cross comparison difficult. According to Eniola and Entebang (2015), growth is generally employed as a measure of a business health over a definite period. This puts performance as one of the key issues for entrepreneurs.

The ability to establish business growth is a better approach to explore whether a business enterprise is progressing or not, through the use of indicators which permit easy way to look into the enterprise situation such as the financial and non-financial measurement. For instance, annual sale turnover rate, performance rate, number of employees, employee's competency, innovation, competition and resources availability are all critical elements to bringing about strategic development in business performance which will lead to the growth (Simpson, et al., 2012; Javed & Muhammad, 2011). However, a key standard to business growth are clear vision and mission, competitive advantage, innovation and R&D, strategic partnership and continues learning which means instituting what an individual or business enterprise desires to accomplish over a specified period of time; the objectives must be precise, quantifiable, attainable, accurate and timely planned (Kim & Patel, 2017). Growth incorporates various meanings, comprising cash flow management, survival, profitability, innovation and competition (Eniola & Entebang, 2016).

Micro Enterprises play a key part in the growth and success of the national economy. Therefore, it is necessary to develop the micro enterprise sector, especially managers who can influence running the business of their enterprises as well as their employees in terms skills, behaviour, attitude and awareness (Aminu, 2016; Kisunza, & Theuri, 2014)

Financial skills refers to the Practical abilities and competencies needed for financial management, including financial planning, budgeting, savings and investment etc. These skills enable them to monitor their financial performance, make informed decisions, and adapt their strategies as needed. A lack of financial skills can lead to mismanagement and ultimately hinder business growth Organization for Economic Co-operation and Development (OECD, 2016).

Financial Behavior involves the actions and habits of individuals regarding their financial management practices. Positive financial behaviors, such as disciplined saving and prudent spending, are associated with better business outcomes. Entrepreneurs who engage in sound financial behaviors are more likely to reinvest profits into their enterprises, thereby fostering growth and resilience against economic challenges (Mason & Harrison, 2006).

Financial literacy of the operators of micro enterprises improves the utilization of financial resources because financially - literate operators of micro enterprises are more likely to utilize and access financial services which help to improve the performance of their business (Fatoki, 2014). Low degree of financial literacy of business operators of micro enterprises can prevent them from adequately assessing and understanding different financing provisions, and navigating complex loan applications (Vincent, 2014). Financially literate operator of micro enterprises are more likely to make better financial decisions and maintain a better overall financial well-being. Financial literacy education provides an individual with the ability to recognize commercial opportunities, knowledge, self-esteem and skills hence, improving his business performance and growth (Aminu, 2016; Kisunza, & Theuri, 2014). People who cannot read and write are also slow to comprehend during seminars where members are taught on skills like book-keeping, arithmetical skills, project management skills and communication skills (Xiao & Porto, 2017).

### **Statement of the Problems**

In the past one or two decades, the Nigeria successive governments have put in place policy measures and support schemes to develop the micro enterprise sub-sector and to increase its performance and growth. Micro enterprises in Nigeria have not performed creditably well and they have not played expected role in spite of the fact that they have been regarded as the backbone for employment generation, food security and economic growth. Micro enterprises have been faced with many problems in Nigeria. One of these problems could be lack of financial literacy of a managers which is evident in their inability to keep complete accounting records and also failure to understand that the business fund is strictly for business operation. This invariably might be resulted into a situation where micro businesses operators makes inappropriate financial decisions. This problem could ultimately affect the growth of micro enterprises in north central Nigeria. In addition to the above could be lack of financial knowledge, financial attitude, financial skill, financial behavior, financial awareness and financial discipline.

According to report by the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) 2021 stated that about 80% of micro businesses in Nigeria fail within the first 5 years of operation. Also, another report by the National Bureau of Statistics (NBS) and the United Nations Development Programme (UNDP) 2022 reported that the failure rate of micro enterprises in Nigeria is as high as 70% in the first 3 years. It was further reported by the International Finance Corporation (IFC) estimates that the failure rate of micro, small, and medium enterprises (MSMEs) in Nigeria is around 60% within the first 5 years. A survey conducted by the Nigeria Employers' Consultative Association (NECA) revealed that only about 20% of micro businesses in Nigeria survive beyond the first year of operation. Further studies was conducted by the Centre for the Study of the Economies of Africa (CSEA) (2023), suggesting that the high failure rate of micro businesses in Nigeria is largely attributed to challenges such as lack of financial literacy, inadequate infrastructure, and an unstable macroeconomic environment.

Studies abound in the subject area; Menike (2016) Chenikong (2013), Agyapong and Attram (2019), Njorog (2013), Ngek (2016), Chepngetich (2016) among others. However, majority of these studies were conducted outside the geographical location of Nigeria, and those conducted in Nigeria, were either not on Micro enterprises (MEs) or were done outside the North Central region of the country. Additionally, many of these studies used techniques of analysis other than the Partial Least Squares Structural Equation Modelling (PLS-SEM) which accommodates lag in distributional assumptions associated with primary data collection.

### **Objective of the Study**

The core objective of this study is to examine the effect of financial literacy on the growth of micro enterprises in North Central Nigeria. The study is guided by the following specific objectives;

- i. To examine the effect of financial skills on the growth of micro enterprises in north central Nigeria
- ii. To investigate the effect of financial behavior on the growth of micro enterprises in north central Nigeria

## **LITERATURE REVIEW**

### **Growth of micro enterprises**

Smith (2022) defined growth as "the process of increasing in physical size, value, or importance, often measured through economic indicators such as GDP. This definition emphasizes quantitative measures, particularly in economic contexts. Johnson (2023) offers a broader view, stating that growth encompasses "not only economic expansion but also improvements in quality of life, social equity, and environmental sustainability. This perspective highlights the multidimensional nature of growth, suggesting that it should be assessed through various qualitative and quantitative metrics. Lee (2021) argued that "growth should be understood as a dynamic process that involves changes in structure, function, and relationships within systems" This definition points to the complexity of growth, indicating that it is not merely about size or output but also about the interconnections and transformations within systems. Turner (2022) defined growth as "the increase in the capacity of an individual, organization, or economy to produce

goods and services over time. This definition highlights the productive aspect of growth, focusing on output and capabilities.

Martinez (2023) suggested that "growth is not solely about quantitative increases; it also includes enhancements in human capital, innovation, and technological advancement. This view underscores the role of knowledge and innovation in driving growth, emphasizing qualitative improvements alongside quantitative measures. Roberts (2021) noted that "sustainable growth refers to a pattern of growth that meets the needs of the present without compromising the ability of future generations to meet their own needs. Baker (2022) described growth as "the continuous improvement in the economic, social, and environmental well-being of individuals and communities". This definition emphasizes a holistic view of growth, integrating economic progress with social and environmental factors. White (2023), "growth represents an expansion that can be quantified through metrics such as income, employment, and investment, but also through qualitative measures like community engagement and social cohesion". This perspective highlights the dual nature of growth, recognizing both measurable and subjective aspects.

### **Financial literacy**

Lusardi and Mitchell (2023) defined financial literacy as "the ability to understand and use financial information to make informed choices regarding personal finance." This definition emphasizes the importance of not only knowledge but also the practical application of financial concepts to enhance individual financial stability and decision-making. Huston (2024) described financial literacy as "the set of skills and knowledge that enables an individual to make informed and effective decisions with all of their financial resources." Huston highlights the comprehensive nature of financial literacy, encompassing budgeting, investing, and understanding financial products to achieve financial goals. OECD (2024) states that financial literacy is "the ability to make informed judgments and to take effective actions regarding the use and management of money. Klontz et al. (2023) argued that financial literacy includes "the understanding of financial concepts, the ability to manage personal finances, and the behavioral aspects that influence financial decisions." This definition integrates both cognitive and emotional elements, acknowledging that financial behavior is as crucial as knowledge in achieving financial literacy. Atkinson and Messy (2024) defined financial literacy as "the knowledge, skills, and confidence to effectively manage financial resources

Miller, et al. (2023) defined financial literacy as "the ability to understand and critically evaluate financial products and services, enabling individuals to make informed choices that enhance their financial security." This definition emphasizes the critical thinking aspect of financial literacy, highlighting the importance of evaluating financial options. Lusardi (2023) elaborates that financial literacy is "the knowledge of financial concepts and the capacity to apply this knowledge in real-life scenarios, particularly concerning saving, investing, and planning for the future." This perspective reinforces the practical application of financial knowledge in everyday decision-making. Friedman and Hsu (2024) described financial literacy as "the competence to manage financial resources effectively, which includes budgeting, saving, investing, and understanding credit." This definition highlights the various components that constitute financial literacy, reflecting its comprehensive nature.

### **Financial skills**

Financial skills are often defined as the ability to understand and apply financial concepts to make informed decisions regarding budgeting, saving, investing, and managing debt. According to Lusardi and Mitchell (2014), financial skills involve not only the knowledge of financial products but also the ability to apply this knowledge in real-life situations to achieve financial well-being. This definition underscores the practical application of financial knowledge in everyday financial decisions. OECD (2020) defined financial skills as a combination of knowledge, attitudes, and behaviors that enable individuals to make informed and effective decisions regarding their financial resources. World Bank (2021) described financial skills as the competencies required to understand financial concepts, to manage personal finances, and navigate financial systems. Financial skills reflect a comprehensive understanding of the



competencies necessary for effective financial management, encompassing knowledge, application, and behavioral aspects.

Gerrans et al. (2017) describe financial skills as the cognitive and practical abilities required to understand financial products, manage personal finances, and engage with financial institutions. Rooij et al (2011) stated that financial skills encompass the ability to process financial information effectively, including understanding risk and return, which is crucial for making investment decisions. Miller (2020) defined financial skills as the essential competencies that enable individuals to plan for their financial future, including skills in budgeting, saving, investing, and understanding credit. This definition underscores the forward-looking nature of financial skills in achieving long-term financial objectives. Lusardi and Tufano (2015) argued that financial skills are not just about knowledge but also about applying that knowledge to real-life financial situations. They highlight the importance of behavioral finance, suggesting that emotional and psychological factors play a significant role in financial decision-making. Atkinson and Messy (2012) defined financial skills as the combination of knowledge and ability that allows individuals to manage their financial resources effectively, including the capacity to analyze financial products and make informed choices. Lusardi (2019) described financial skills as the competencies necessary for individuals to effectively understand and navigate financial markets, including skills related to budgeting, saving, investing, and understanding credit and debt. This definition highlights the breadth of financial skills needed for comprehensive financial management.

### **Financial Behaviour**

Lusardi and Mitchell (2024) defined financial behavior as "the actions individuals take regarding their financial resources, including saving, investing, and spending decisions." This definition highlights the proactive nature of financial behavior as it relates to managing personal finances effectively. Xiao and O'Neill (2023) described financial behavior as "the manifestation of individuals' financial knowledge, attitudes, and beliefs, which significantly influence their financial decisions and actions." This perspective underscores the psychological components that drive financial behavior, suggesting that knowledge and attitudes are critical determinants. Huston (2024) argued that financial behavior is "the observable actions taken by individuals in managing their financial affairs, which are often influenced by their level of financial literacy." This definition connects financial behavior directly to the concept of financial literacy, indicating that better-informed individuals are likely to exhibit more responsible financial behaviors.

Sharma and Kumar (2024) ascertained that financial behavior encompasses "the choices individuals make regarding their financial resources, which ultimately affect their economic well-being and financial stability." This definition emphasizes the broader implications of financial behavior on an individual's overall economic health. Davis and Hira (2024) defined financial behavior as "the actions and decisions that reflect an individual's financial capability, including budgeting, saving, and investing. Baker and Cummings (2024) defined financial behavior as "the actions and decisions that individuals take regarding their finances, which are influenced by their attitudes, beliefs, and experiences." This definition emphasizes how personal attitudes play a crucial role in shaping financial actions. Kumar and Ranjan (2024) described financial behavior as "the choices individuals make concerning saving, investing, and spending, which reflect their risk tolerance and financial goals. Hira and Loibl (2023) argued that financial behavior is "the ongoing process of managing one's financial resources, informed by past experiences and financial education. Sharma and Kumar (2024) ascertained that financial behavior encompasses "the financial decisions individuals make within their economic environment, reflecting their ability to respond to financial challenges and opportunities.

### **Financial Skill and Growth of Micro Enterprises**

Nkosi and Moyo (2022) investigated the impact of financial skills on the growth of micro enterprises in the retail sector. The authors emphasized that financial literacy is crucial for entrepreneurs to make informed decisions regarding budgeting, cash flow management, and investment strategies. The research involved a sample size of 300 micro retail businesses in Johannesburg, utilizing structured questionnaires for data collection. Data analysis was conducted using descriptive statistics and multiple regression

analysis to evaluate the relationship between financial skills and growth indicators such as revenue and customer base expansion. The findings revealed a significant positive correlation between financial skills and business growth, indicating that entrepreneurs with higher financial competencies were more likely to achieve substantial growth. The authors recommended the implementation of targeted financial training programs for retail entrepreneurs to enhance their financial management capabilities. However, a critique of the study noted that the reliance on self-reported data could introduce bias, potentially affecting the reliability of the findings.

Dube and Khumalo (2023) explored how financial skills influence the sustainability of micro enterprises in the agricultural sector. The authors argued that sound financial management practices are essential for ensuring long-term viability and competitiveness in agriculture. This research involved a sample size of 250 micro agricultural firms in KwaZulu-Natal, employing a mixed-methods approach that included quantitative surveys and qualitative interviews. Data analysis utilized inferential statistics for quantitative data and thematic analysis for qualitative insights. The results indicated that positive financial skills, such as effective budgeting and financial forecasting, significantly enhanced the sustainability and resilience of micro enterprises. The authors recommended that agricultural entrepreneurs engage in continuous financial education to better navigate economic challenges. A critique of this study suggested that the focus on a single province may limit the generalizability of the findings across different regions in South Africa.

van der Merwe and Botha (2024) focused on the relationship between financial skills and innovation capabilities of micro enterprises in the technology sector. The authors posited that strong financial competencies are essential for fostering innovation and strategic investments in new technologies. This research involved a sample size of 400 micro technology firms in Cape Town, using structured questionnaires for data collection. Data analysis was performed using structural equation modeling (SEM) to assess the relationships between financial skills and innovation outcomes. The findings indicated a significant positive relationship, suggesting that entrepreneurs with strong financial skills were more likely to invest in innovative practices, thereby enhancing their competitive advantage. The authors recommended integrating financial management training into technology entrepreneurship programs. However, a critique of this research emphasized the necessity for longitudinal studies to explore the long-term impacts of financial skills on innovation capacity.

Khoza and Mhlongo (2023) investigated the impact of financial skills on the operational efficiency of micro enterprises in the manufacturing sector. The authors noted that foundational financial literacy is vital for entrepreneurs to optimize resource allocation and streamline operations. The research involved a sample size of 350 micro manufacturing businesses in Gauteng, employing structured questionnaires for data collection. Data analysis was performed using descriptive statistics and factor analysis to identify key financial skills that correlate with operational efficiency indicators, such as production costs and waste management. The findings indicated a significant positive relationship between financial skills and operational efficiency, suggesting that entrepreneurs with stronger financial competencies are better equipped to manage costs and enhance productivity. The authors recommended the development of tailored financial training programs to improve the operational capabilities of manufacturing entrepreneurs. However, a critique of this study pointed out that the cross-sectional design limits the ability to establish causality between financial skills and operational efficiency.

### **Financial Behavior and Growth of Micro Enterprises**

Adebayo and Ibe (2023) investigated the relationship between financial behavior and the growth of micro enterprises in the agricultural sector. The authors emphasized that effective financial management is crucial for the sustainability and expansion of MEs. The research involved a sample size of 300 micro agricultural firms in Ogun State, utilizing structured questionnaires for data collection. Data analysis was conducted using descriptive statistics and multiple regression analysis to assess the impact of financial behaviors on growth metrics such as revenue and market share. The findings revealed a significant positive correlation between proactive financial behaviors—such as budgeting, saving, and investment

decisions—and the growth of micro enterprises. The authors recommended that financial literacy programs be implemented to enhance the financial management skills of entrepreneurs. However, a critique of the study pointed out that the reliance on self-reported data could introduce bias, potentially affecting the validity of the results.

Nwafor and Eze (2024) explored the influence of financial behavior on the operational efficiency of micro enterprises in the retail sector. The authors argued that sound financial practices are essential for optimizing operations and improving service delivery. This research involved a sample size of 400 micro retail businesses in Lagos State, employing a mixed-methods approach that included quantitative surveys and qualitative interviews. Data analysis utilized inferential statistics for quantitative data and thematic analysis for qualitative insights. The results indicated that positive financial behaviors, such as effective cash flow management and strategic pricing, significantly enhanced operational efficiency and customer satisfaction. The authors recommended that retail entrepreneurs engage in continuous financial education to adapt to changing market conditions. A critique of this study highlighted the need for a more diverse sample to improve the generalizability of the findings across different regions and sectors. Ogunyemi and Chukwu (2024) examined the impact of financial behavior on the innovation capabilities of micro enterprises in the technology sector. The authors posited that a proactive financial attitude is vital for fostering innovation and investment in new technologies. This research involved a sample size of 350 micro technology firms in Abuja, utilizing structured questionnaires for data collection. Data analysis was performed using structural equation modeling (SEM) to evaluate the relationships between financial behaviors and innovation outcomes. The findings revealed a significant positive relationship, indicating that entrepreneurs with favorable financial behaviors were more likely to invest in research and development, leading to enhanced innovation. The authors recommended integrating financial management training into technology entrepreneurship programs to support innovative practices. However, a critique of this research emphasized the necessity for longitudinal studies to assess the long-term impacts of financial behaviors on innovation.

Adetola and Ojo (2023) investigated the impact of financial behavior on the growth of micro enterprises in the manufacturing sector. The authors highlighted that effective financial management is crucial for the sustainability and competitiveness of MEs. The research involved a sample size of 350 micro manufacturing firms in Lagos State, utilizing structured questionnaires for data collection. Data analysis was conducted using descriptive statistics and multiple regression analysis to assess the relationship between various financial behaviors—such as budgeting, financial planning, and investment strategies and growth indicators like sales and employment levels. The findings revealed a significant positive correlation between proactive financial behaviors and the growth of micro enterprises. The authors recommended the establishment of financial training programs tailored to the needs of manufacturing entrepreneurs. However, a critique of the study noted the potential for response bias due to self-reported data, which may affect the reliability of the findings.

### **Theory of Planned Behavior (TPB)**

The Theory of Planned Behavior (TPB), formulated by Icek Ajzen in 1991, is a psychological framework that seeks to predict and understand human behavior in specific contexts. Building upon the earlier Theory of Reasoned Action developed by Ajzen and Fishbein in the 1980s, the TPB incorporates a third critical component perceived behavioral control into the model, in addition to attitude toward the behavior and subjective norms. Ajzen (1991) introduced perceived behavioral control to account for situations where individuals do not have complete volitional control over their actions, thereby enhancing the predictive validity of the original theory. According to this model, the intention to perform a given behavior is the most immediate determinant of that behavior. Intention itself is influenced by three factors: the individual's attitude toward the behavior, the perceived social pressures (subjective norms), and the perceived ease or difficulty of performing the behavior (perceived behavioral control). The TPB has gained wide acceptance in various fields, including health sciences, environmental studies, and economic behavior, due to its explanatory power and adaptability. Within the area of financial behavior, the TPB provides a compelling framework for understanding how financial literacy

components such as attitudes, behavior, awareness, and perceived control translate into actual financial decision-making. Specifically, Ajzen (1991) asserts that positive financial attitudes (e.g., seeing saving and budgeting as beneficial), the perceived support or expectations of peers and family regarding financial responsibility, and individuals' perceived control over their financial environment collectively shape intentions that lead to responsible financial behavior. This makes the TPB a particularly useful theoretical tool for study, which seeks to examine the effect of financial literacy on the growth of micro enterprises. Entrepreneurs who hold positive attitudes toward financial management, feel empowered in their financial capabilities, and operate in supportive socio-cultural environments are more likely to adopt prudent financial behaviors, which, in turn, facilitate business growth.

The robustness of TPB has been supported by numerous empirical studies. For instance, Xiao and Dew (2011) employed the TPB framework to examine the financial behaviors of young adults in the United States and found that financial attitudes and perceived behavioral control were significant predictors of savings and budgeting behaviors. Likewise, Irohibe and Agwu (2019) applied the TPB to assess the financial management behavior of smallholder farmers and confirmed that behavioral intention, shaped by attitudes and perceived control, significantly predicted actual financial practices. These findings underscore the theory's relevance in linking psychological constructs to tangible economic behaviors among small-scale entrepreneurs and business owners.

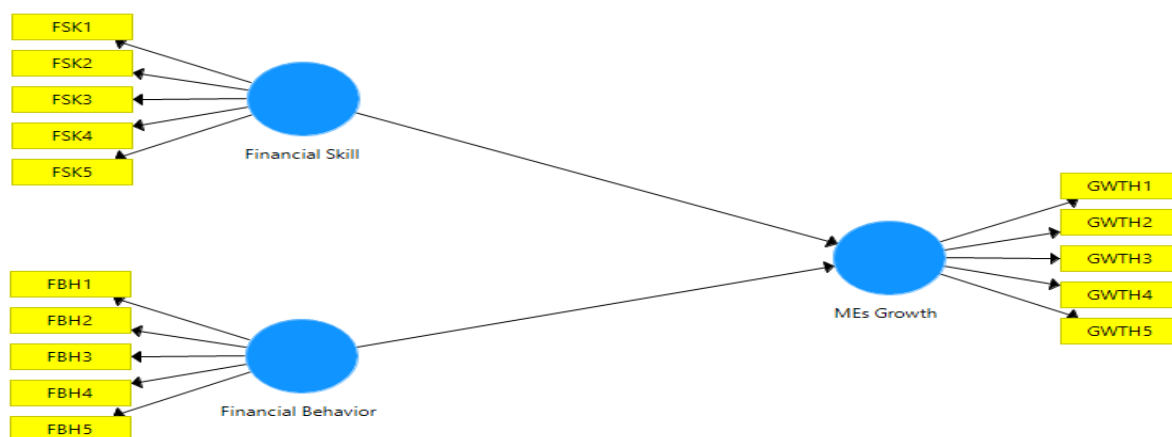
Nevertheless, the TPB has also attracted criticism. Sniehotta et al., (2014) argued that the theory's heavy emphasis on intention fails to capture the influence of habits and unconscious behaviors, which are often critical in financial decision-making. Moreover, some researchers have highlighted that the TPB underestimates the role of environmental and structural constraints that may prevent individuals from translating intention into action, especially in low-income or resource-constrained settings. This is particularly relevant for micro-entrepreneurs in developing economies who may possess the intention and knowledge to act financially responsibly but lack access to formal financial services or face systemic barriers.

Despite these criticisms, the TPB remains a valuable theoretical lens for analyzing how financial literacy influences the growth of micro enterprises. The theory explains the mechanisms by which financial knowledge and skills (inputs to perceived behavioral control), financial attitude (personal evaluation of money-related practices), and awareness (influence on subjective norms and perception) converge to shape entrepreneurial financial behavior. This behavior manifested in saving, reinvestment, recordkeeping, and budgeting ultimately contributes to business sustainability and growth. The TPB thereby offers a structured model for understanding the psychological processes that mediate the relationship between financial literacy and enterprise development outcomes.

## **METHODOLOGY**

This study adopted the descriptive survey research design, the population of the study according to (SMEDAN 2021) comprise of 62,663 registered micro enterprises (MEs) operating in North Central Nigeria.. The sample size for this study was determined using Taro Yamane formula. The computed sample size for this study is 397 MEs operating in North Central Nigeria. However, additional 10% (40) will be added as recommended by Singh and Masuku (2014) to allow for attrition bringing it to a total of 437. Primary source of data will be explored in getting important and useful information for the study. The data will be gathered from the respondents through a closed ended questionnaire, structured on a five-point Likert scale ranging from strongly agree to strongly disagree. The questionnaire will be designed in simple language to avoid ambiguity, misunderstanding, and misinterpretation of the statements. The questionnaire will be administered through physical distribution and it will contain information about the demographic characteristics of the respondents and also the information of each construct of financial literacy will be used in the study. The data gathered for this study will be analysed using partial least squares of structural equation modelling (PLS-SEM).





**Fig.1: Theoretical Model on Effect of Financial Literacy on the Growth of Micro Enterprises in North Central Nigeria**

## RESULTS AND DISCUSSION

Out of the four hundred and thirty-seven (437) distributed questionnaires, 409 were properly filled and returned giving a response rate of 95%. Subsequently, all further analyses were done using 409 responses data.

**Table 1: Descriptive Statistics**

Variable	Mean	Median	Min	Max	SDV	Kurtosis	Skewness
FSK	4.7	5.00	1.00	5.00	0.96	-1.59	-0.09
FBH	4.07	4.44	1.00	5.00	0.97	0.90	-0.98
GRWTH	4.50	5.00	1.00	5.00	0.89	0.20	-0.68

**Source: SMART, PLS Output, 2025.**

The descriptive statistics for the variables under investigation Financial Skills (FSK), Financial Behavior (FBH), and Growth (GRWTH) are presented in Table 1. The results reveal valuable insights into the distribution, central tendency, and dispersion of the data. The mean value of Financial Skills (FSK) is 4.70, with a median of 5.00, indicating that most respondents rated their financial skills highly. The minimum and maximum values are 1.00 and 5.00 respectively, with a standard deviation (SDV) of 0.96, suggesting moderate variability in responses. The negative kurtosis value of -1.59 indicates a **platykurtic distribution**, meaning the data is flatter than a normal distribution. The skewness value of -0.09 is approximately symmetrical, indicating that the data is fairly evenly distributed around the mean.

For Financial Behavior (FBH), the mean is 4.07 and the median is 4.44, also suggesting a generally positive perception of financial behavior among respondents. The range of responses spans from 1.00 to 5.00, with a standard deviation of 0.97. The kurtosis value of 0.90 indicates a leptokurtic distribution, implying a more peaked distribution than normal. The skewness value of -0.98 suggests a moderate negative skew, indicating that more respondents reported higher values of financial behavior. Regarding Growth (GRWTH), the mean value is 4.50 while the median is 5.00, again reflecting generally positive growth outcomes among the sample. The responses range from 1.00 to 5.00, with a standard deviation of 0.89. The kurtosis value of 0.20 implies a distribution slightly more peaked than normal, while the skewness of -0.68 suggests a mild negative skew, indicating a tendency for more responses at the higher end of the scale.

## Assessment of Measurement Model

In assessing the measurement model, the researcher began by assessing the item outer loadings. As a rule, loadings above 0.708 are recommended, as they indicate that the construct explains more than 50 percent of the indicator's variance, thus providing acceptable item reliability (Hair, et al., 2019). However, Hair, et al., (2019) posited that low but significant indicator loading of 0.50 can be included hence

justifying why indicators with loadings less than 0.708 and above 0.50 were not deleted from the model as seen in figure 2 below.

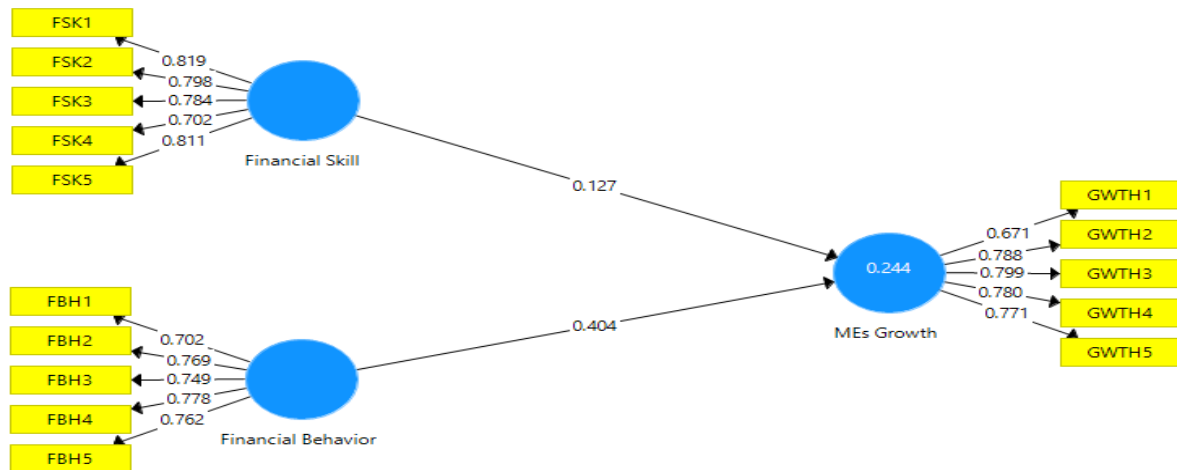


Fig 2: Indicator Loadings.

Table 2: Reliability of study scale

S/N	Variables	Factor Loadings	Cronbach Alpha	Composite Reliability	Average Variance Extracted (AVE)	No of Items
1	Financial Skill (FSK)	FSK 1 0.817 FSK 2 0.778 FSK 3 0.784 FSK 4 0.702 FSK 5 0.811	0.843	0.888	0.615	5
2	Financial Behavior (FBH)	FBH1 0.702 FBH2 0.769 FBH3 0.749 FBH4 0.778 FBH5 0.762	0.809	0.867	0.686	5
3	MEs Growth (GWTH)	GWTH1 0.671 GWTH2 0.788 GWTH3 0.799 GWTH4 0.780 GWTH5 0.771	0.819	0.874	0.682	5

Source: SmartPLS Output, 2025

Composite reliability of Jöreskog's (1971) was applied to test for internal consistency of the study. All the values fall within the Hair et al. (2019) rating of good consistency. The Cronbach alpha value were above 0.60 which is the minimum threshold as recommended by Sekaran (2010). To test for the convergent validity, the average variance extracted (AVE) was used. All the latent variables showed values greater than 0.50 which indicates that the constructs explain at least 50 percent of the variance of its items. According to Henseler, et al., (2015) the Fornell-Larcker criterion does not perform well when explaining discriminant validity, particularly when the indicator loadings on a construct differ only slightly. As a replacement, they proposed the Heterotrait-Monotrait (HTMT) ratio of the correlations which is the mean value of the item correlations across constructs relative to the (geometric) mean of the average correlations for the items measuring the same construct (Voorhees et al., 2016). Discriminant validity problems are present when HTMT values are high than 0.90 for structural models (Henseler, et al., 2015).

#### Heterotrait-Monotrait Ratio (HTMT)

	Financial Behavior	Financial Skill	MEs Growth
Financial Behavior			
Financial Skill	0.781		

<b>MEs Growth</b>	<b>0.587</b>	<b>0.455</b>	
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Source: SmartPLS Output, 2025

The Variance Inflation Factor (VIF) was used to evaluate collinearity of the formative indicators. All the VIF values were less than 5 indicate the absence of critical collinearity issues among the indicators of formatively measured constructs (Hair, et al., 2019).

### Model Goodness of Fit (GoF)

Sequel to the need to validate the PLS model, there is a need to assess the goodness of fit of the model as Hair, et al. (2017) suggested. This study used the standardised root mean square residual's (SRMR). The choice of this index was based on the fact that the SRMR provides the absolute fit measure where a value of zero indicates a perfect fit. The study adopted Hu & Bentler (1998) suggestion that a value of less than 0.08 represents a good fit while applying SRMR for model goodness of fit. The study result indicates an SRMR value of 0.030. This indicates the model is fit.

### Assessing the Structural Model

Having satisfied the measurement model assessment, the next step in evaluating PLS-SEM results is to assess the structural model. Standard assessment criteria, which was considered include the path coefficient, t-values, p-values and coefficient of determination ( $R^2$ ). The bootstrapping procedure was conducted using a resample of 5000.

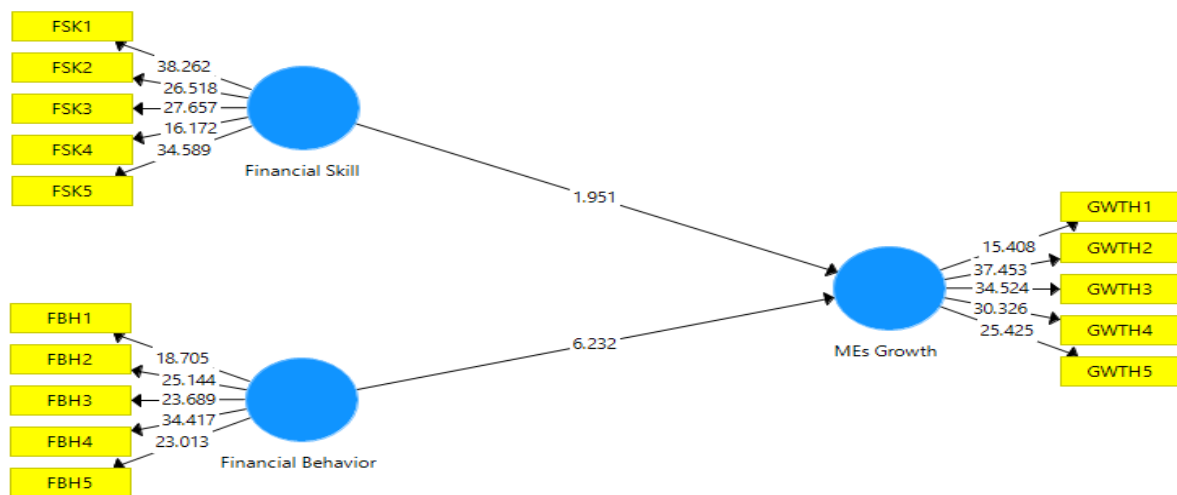


Fig. 3: Path Coefficients of the Regression Model.

R Square Table

	<b>R Square</b>	<b>R Square Adjusted</b>
<b>MEs Growth</b>	0.244	0.241

Source: SmartPLS Output, 2025

The R-square value stood at 24.4% indicating that interpersonal relationship and recognition are responsible for 24.4% variation in employees' performance. The remaining 75.6% variation could be explained by other factors not included in the study. Based on Hair, et al., (2019), the r-square is considered weak but does not jeopardize the result. The result of the path analysis is presented in the table below:

Table 4: Path Coefficients

	<b>Beta</b>	<b>T Statistics</b>	<b>P Values</b>	<b>Decision</b>
<b>Financial Behavior -&gt; MEs Growth</b>	0.404	6.232	<b>0.000</b>	<b>Accepted</b>
<b>Financial Skill -&gt; MEs Growth</b>	0.127	1.951	<b>0.051</b>	<b>Rejected</b>

Source: SmartPLS Output, 2025

The result from the analysis indicates that financial behavior has positive and significant effect on the growth of micro enterprise in North Central Nigeria. The decision was reached based on the t-value of

6.232 which is greater than 1.964 and a beta value of 0,404 with a p-value of 0.000. This implies that improvements in the financial behavior of micro enterprise owners such as budgeting, saving, prudent spending, and timely financial decision-making are associated with enhanced business growth outcomes. This finding is in agreement with that of Nwafor and Eze (2024) who found financial behavior has positively influenced growth.

The result from the analysis indicates that financial skill has positive and insignificant effect on the growth of micro enterprise in North Central Nigeria. The decision was reached based on the t-value of 1.951 which is greater than 1.925 and a beta value of 0.127 with a p-value of 0.054. This suggests that although there is a positive relationship between financial skill and micro enterprise growth, the influence is **statistically insignificant**, meaning that financial skill alone does not have a meaningful or measurable impact on the growth of micro enterprises within the study area. This finding agrees with that of Khoza and Mhlongo (2023) who made similar findings about financial skill and performance.

## CONCLUSION AND RECOMMENDATIONS

Based on the findings, it is concluded that financial behavior plays a crucial role in enhancing the growth of micro enterprises in North Central Nigeria. The analysis revealed that financial behavior has a positive and statistically significant effect on growth, indicating that micro enterprise owners who engage in prudent financial practices such as regular saving, budgeting, responsible borrowing, and disciplined spending are more likely to experience business expansion, increased profitability, and sustainability. Also, the study concluded that the ability to have knowledge and applying to their business activities such as budgeting, financial reporting, and cash flow management which will help enterprise owners to make informed decision, manage risk and achieved financial stability.

In light of the above conclusion, the study recommends that entrepreneurship development programs and financial literacy initiatives in North Central Nigeria should place greater emphasis on shaping positive financial behavior among micro enterprise owners. Government agencies, non-governmental organizations, and microfinance institutions should collaborate to organize behavior-focused financial training and mentorship programs that emphasize the practical application of good financial habits. The study recommends that entrepreneurial support programs should go beyond building financial skill sets and focus more on ensuring the practical application of such skills in daily business operations. National policy and Micro Small and Medium enterprise should design business-specific financial mentoring and coaching programs that guide micro enterprise owners on how to translate their financial knowledge into actionable growth strategies.

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### Research Questionnaire

Please read each statement carefully and indicate your level of agreement on a scale of 1 - Strongly Disagree, 2 – Disagree, 3 – Neutral, 4 - Agree , 5 - Strongly Agree

**Key:** *SA = Strongly Agree, A = Agree, U = Undecided, D = Disagree, SD = Strongly Disagree*

S/N	Financial Skill	SA	A	U	D	SD
1	I can create a detailed personal budget and stick to it consistently					
2	I am proficient in using spreadsheet software (e.g., Excel) for tracking my finances					
3	I can effectively compare and assess different financial products (e.g., loans, credit cards) to choose the best option					
4	I know how to calculate the effects of interest rates on loans and investments					
5	I can set and achieve specific financial goals (e.g., saving for a car, retirement)					
	<b>Financial Behavior</b>					
1	I regularly create a budget to manage my monthly expenses					
2	I make it a priority to save a portion of my income each month.					
3	I frequently compare prices before making a purchase to ensure I get the best deal.					
3	I pay my bills on time to avoid late fees.					
5	I regularly review my financial statements (e.g., bank statements, credit card bills) to track my spending.					
	<b>Growth of MEs</b>					
1	My business revenue has increased over the years					
2	I have successfully expanded my customer base in the last year					
3	I have introduced new products or services to my business offerings in the last year					
4	My business has improved its market presence and brand recognition over the past year					
5	I have effectively increased my operational capacity and resources (e.g., hiring more staff, investing in equipment)					