



POLAC INTERNATIONAL JOURNAL OF ECONS & MGT SCIENCE (PIJEMS)
DEPARTMENT OF ECONOMICS & MANAGEMENT SCIENCE
NIGERIA POLICE ACADEMY, WUDIL-KANO



**MODERATING ROLE OF FINANCIAL LITERACY IN THE RELATIONSHIPS BETWEEN MICRO
FINANCE SERVICES AND THE PERFORMANCE OF SMALL FARMERS IN KADUNA STATE**

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Abstract

The objective of this study is to evaluate the factors that predict and the impact of financial literacy in influencing the performance of smallholder farmers in Kaduna state, Nigeria. Based on the theoretical framework of the Resource-Based View (RBV), this study aims to assess the importance of microcredit, micro savings, and input supply in forecasting farmer performance. Additionally, it seeks to investigate the influence of financial literacy as both a predictor and a moderator in this relationship. In order to ensure representation from each strata, a stratified sampling technique was utilized to disseminate a total of 520 questionnaires among 23 local government regions. Data analysis was conducted using Partial Least Square Structural Equation Modeling (PLS-SEM). The results indicate substantial and favorable correlations among microcredit, micro savings, input supply, financial literacy, and farmer performance. Furthermore, it was shown that financial literacy has a key role in moderating the associations between microcredit, micro savings, input supply, and farmer performance. To promote sustainable agricultural development in Kaduna state, the study recommends prioritization of initiatives aimed at improving financial literacy among smallholder farmers. Additionally, integrating financial education into agricultural extension services can enhance the effectiveness of microfinance interventions in improving farmer performance.

Keywords: Microfinance Services, Micro Credit, Micro Savings, Input Supply, Smallholder Farmers, Firm Performance, Farmer Performance.

1. Introduction

The agricultural industry holds a crucial position within the Nigerian economy, making a substantial contribution to the Gross Domestic Product (GDP) and providing employment opportunities for a significant portion of the populace. As per the report by the National Bureau of Statistics (NBS) in 2021, the agricultural sector contributes to approximately 22% of Nigeria's Gross Domestic Product (GDP) and provides employment to nearly 70% of the country's populace. Notwithstanding, smallholder farmers, who represent the majority of the agricultural sector in Nigeria, encounter various obstacles that curtail their efficiency and financial gains. Small-scale farmers in Nigeria

encounter various obstacles that hinder their efficiency and financial gains. Insufficient access to credit facilities poses a significant obstacle. Small-scale farmers frequently encounter difficulties in obtaining loans from conventional financial institutions due to their insufficient collateral and credit history. This constrains their capacity to invest in their agricultural lands, procure resources, and enhance their commercial operations. Akudugu et al. (2020) found that a considerable number of smallholder farmers face challenges in achieving maximum crop yields and earning adequate income to sustain their households. Smallholder farmers in Nigeria encounter various challenges, including insufficient credit access,

deficient infrastructure, restricted market information accessibility, and unpredictable weather patterns. The aforementioned issues have had a detrimental impact on the agricultural industry in Nigeria, resulting in a reduction in agricultural output from 3.6% in 2019 to 1.6% in 2020, as reported by the National Bureau of Statistics in 2021.

The utilization of microfinance services, including microcredit, micro savings, and input supply, has been recognized as a potential remedy to the predicaments encountered by small-scale farmers in Kaduna state and the northern region of Nigeria. According to Ogunniyi et al. (2020) and Adepoju and Atanda (2017), Microfinance institutions (MFIs) offer credit facilities, savings options, and inputs to enhance productivity and income levels of smallholder farmers. Microcredit pertains to modest financial loans that are granted to small-scale agricultural producers by Microfinance Institutions (MFIs). Typically, these loans are customized to cater to the particular requirements of small-scale agricultural producers and can be utilized for procuring inputs such as fertilizers, seeds, and pesticides. According to Adepoju and Atanda (2017), the provision of credit facilities to smallholder farmers can enable them to make investments in their farms, thereby enhancing their productivity and ultimately resulting in increased levels of income. In contrast, micro savings encompasses a variety of savings options that are provided by microfinance institutions (MFIs).

The literature has extensively discussed the correlation between microfinance services and the performance of smallholder farmers, with varying and inconclusive results with a report of varying outcomes; while some studies have observed a favorable association, others have found no noteworthy correlation or even adverse effects. A study conducted by Adepoju and Atanda (2017) in Nigeria revealed that the performance of smallholder farmers was significantly enhanced by their access to microcredit. In a similar vein, the study conducted by Ogunniyi et al. (2020) revealed that the provision of microfinance services, encompassing microcredit and input supply, had a noteworthy positive impact on the productivity and income levels

of smallholder farmers in Nigeria. Nevertheless, alternative research has presented inconclusive findings as certain research has indicated adverse impacts of microfinance interventions on the performance of smallholder farmers. The incongruous outcomes indicate that the correlation between microfinance provisions and the performance of smallholder farmers could be impacted by the degree of financial literacy possessed by the smallholder farmers.

Problem Statement/Justification

As earlier mentioned, this assessed the moderating role of financial literacy in the relationship between micro credit and business performance, as the literature is inconsistent. Some authors (e.g., Khanam, Mohiuddin, Hoque & Weber, 2018; Chole, 2017; Zhiri, 2017; Jackson, 2016; Kalui&Omwansa, 2015; Rotich, Lagat and Kogei, 2015; Njagi, 2013) found positive and significant relationship between micro credit, micro savings and business performance. While some other researchers (e.g., Omondi & Jagongo, 2018; Kihara, 2016) found positive and insignificant relationship between micro credit and business performance. This clearly shows that the relationship is inconsistent as there are discrepancies in findings.

On the contrary, Omondi and Jagongo (2018) and Kihara (2016) found that micro savings and business performance are not significantly related, explicitly showing that the literature is far from conclusive. This knowledge is still scarce in the literature, hence, meaning a great addition to the body of knowledge. This is same with Input supply, where some authors (e.g., Hadrawi, 2019; Bagher, 2018) found input supply to be positively and significantly related to business performance. Contrarily, Taiwo & Olufunke (2018) found out that input supply and business performance are not significantly related.

Thus, to close the identified gaps in the literature, this study examined the moderating role of financial literacy in the relationships between micro credit, micro savings, input supply and the performance of smallholder farmers in Kaduna state. This knowledge was somewhat unknown in the literature, as most of

the previous related studies examined the direct relationship between micro credit, micro savings, input supply and business performance.

Objectives of the Study:

The general objective of this study is to assess the role of financial literacy in moderating the relationships between micro finance services and the performance of small farmers in Kaduna state. Some specific objectives of the study are:

- i. Assess whether micro credit significantly predicts the performance of smallholder farmers in Kaduna state.
- ii. Assess whether micro savings significantly predicts the performance of smallholder farmers in Kaduna state.
- iii. Assess whether input supply significantly predicts the performance of smallholder farmers in Kaduna state.
- iv. Determine if financial literacy moderates the relationship between input supply and performance of smallholder farmers in Kaduna state.

2 Literature Review:

2.1 Conceptual Issues:

Concept of Performance: Organizational performance has always been a priority in private as well as in public sectors, since it is directly associated with the value creation of the entity. Organizations are constantly striving for better results, influence and competitive advantage. Business performance in the literature has been given various definitions and explanations by different researchers, scholars and authors.

Microfinance Services: Over the years, the concept of micro-finance spread to Latin America, then to Asia and later to Africa. The today use of the expression micro-financing has its roots in the 1970s when organizations, such as Grameen Bank of Bangladesh with the micro-finance pioneer Mohammad Yunus, were starting and shaping the modern industry of micro-financing (Mbithe, 2019). Microfinance is the proper tool to reduce income inequality, allowing citizens from lower socio-economical classes to participate in the economy. Most microfinance

programs make use of some form of group-lending schemes, such as peer selection and monitoring, regular public repayments and joint liability. Microfinance institutions deal with the poor, ill remunerated individuals and more so, women and the physically challenged, who have in the past been considered as credit risks, and therefore have been ignored and left out by the formal financial sector (Chole, 2017).

Concept of Micro Credit: The practice of micro-credit dates back to as early as 1700 and can be traced to Irish Loan Fund System which provided small loans to rural poor with no collateral (Mbithe, 2019). According to Hughes (2018), microcredit refers to micro loan, and is the most common of the microfinance services. This means that microcredit is a component of microfinance and mostly comprises providing credit to the poor. A microcredit is only appropriate when there already is an on-going economic activity, and a client needs to take responsibility for the terms of the loan and the institutions given the credit need to have a sustainable program. Microfinance credit can play a pivotal role in increasing employee performance, boost economic growth and development, and also reduce unemployment and reduce poverty. This is why Amsi, Ngare, Imo and Gachie (2017) argued that microfinance credit can be considered to be one of the financial sources of SMEs. It plays a crucial role on poverty alleviation due to its contribution in the development of SMEs.

Concept of Micro Savings: The importance of savings in positive transformation of family lives for time immemorial cannot be over emphasized as significant positive relationship exists between savings and empowerment in Nigeria (Nkpoyen, Bassey, & Eteng, 2012). Savings pre-dates loans as even before the advent of the modern day medium of exchange people made provision for the 'rainy days' which today, helps in no quantifiable measure to address the problem of financial exclusion faced by economically active poor especially in underdeveloped and developing nations such as Nigeria. Thus, it is a paradigm shift from micro lending to microfinance aimed at reducing global poverty came as a result of the realization of the positive effects of savings mobilization in enhancing

the well-being of the teaming poor. In fact, the poor needs reliable savings services as much or more as they need loans.

Concept of Financial Literacy: Financial literacy encompasses the cognitive, practical, and affective competencies necessary to comprehend and proficiently handle financial affairs. Financial literacy encompasses the aptitude to make knowledgeable judgements pertaining to fiscal planning, frugality, capitalising, and lending, among other related areas. Recent research has emphasised the significance of possessing financial literacy skills in enhancing financial wellness and advancing economic results. Lusardi and Mitchell (2014) conducted a study which revealed a positive correlation between financial literacy and retirement planning, wealth accumulation, and debt management. Akudugu et al. (2020) conducted a study in Ghana which revealed that financial literacy plays a crucial role in predicting the adoption of microfinance services by smallholder farmers.

2.2 Empirical Review

This section of the study was used to review related empirical studies on variable to variable basis. This essence of this is to clearly show the inconsistencies in the literature, therefore, justifying the need to introduce a moderating variable into the relationships in this study.

Micro Credit and Performance: Kisaka and Mwema (2014) examined the effect of micro credit on the performance of small and medium enterprises in Machakos County in Kenya. Structured questionnaire was used to collect data from 100 businesses. Multiple regression analysis was used to determine the relationship between micro-credit, and performance of SMEs. The result of the empirical analysis shows that micro credit significantly predicts the performance of small and medium enterprises. Similarly, Alhassan, Hoedoafia and Braimah (2016) assessed the effect of micro credit on the profitability of women-owned SMEs in Northern Ghana. The SMEs were randomly selected from five Microfinance Institutions and categorized using stratified sampling. 199 copies of questionnaires were used for final analysis. The study

concluded that micro credit have helped increased profitability levels of women-owned SMEs in Northern Ghana.

Morobe (2015) looked empirically at the relationship between micro finance loans and the financial performance of small and medium enterprises in Nairobi County. Stratified random sampling technique was used in the study to categorise SMEs, while, random sampling was employed to pick SMEs for the sample. Similarly, Fauster (2014) examined empirically the effect of micro loans on the performance of SMEs in Wa Municipality, Ghana. A quasi-longitudinal approach was employed for the study, and data were gathered from questionnaire administration. It was concluded in the study that micro loans significantly influence the performance of SMEs.

Micro Savings and Performance: Kisaka and Mwema (2014) examined the relationship between micro savings and the growth of small and medium enterprises in Kenya. Structured questionnaire was used to collect data from 100 businesses. Multiple regression analysis was used to examine the relationship between micro savings and the growth of SMEs. The results show that micro savings and SMEs growth are significantly and positively related. Similarly, Rotich et al., (2015) assessed the effect of microfinance services on the performance of small and medium enterprises in Kenya. Micro savings was studied as one of the independent variables in the study. 270 enterprises were sampled by the study, and multiple regression analysis was done to analyse data. The study found out that micro savings positively and significantly predicts the performance of small and medium enterprises.

Kalui and Omwansa (2015) empirically examined the effect of microfinance institutions' products on financial performance of small and medium enterprises in Machakos Town, Kenya. Micro savings was studied as one of the independent variables of the study. Primary data was collected through questionnaires issued to the owners and managers of SME, and the study utilized multiple regression analysis.

Input Supply and Performance: Hadrawi (2019) and Osei and Kagnicioglu (2018) empirically looked into the relationship between firm supply and competitive

performance of businesses. Their studies concluded that firm supply has effect on competitive performance. On the other hand, the study of Taiwo & Olufunke 2018 found otherwise. The authors examined the relationship between supply input and the performance of firms in Kaduna state, Nigeria. 201 small and medium enterprises were sampled and data was analysed using partial least square structural equation modelling. The study found out that supply input has negative and insignificant effect on the performance of small and medium enterprises.

Financial Literacy and Performance: Anthony, Harry and Kyra (2015) examined the relationship between financial literacy and small and medium enterprises performance. The study concluded that financial literacy and SMEs performance are significantly related. Similarly, James and Sabana (2018) assessed the relationship between financial literacy and the performance of micro enterprises in Nairobi, Kenya. The study was anchored on the resource based theory. The study established that financial literacy had influence on financial performance of micro-enterprises.

2.3 Theoretical Framework

The relationship between the independent variables and the dependent variable in this study will be explained by the resource based view of the firm. The resource-based view (RBV) argues that firms possess resources, a subset of which enables them to achieve competitive advantage, and a subset of those that lead to superior long-term performance. Resources that are valuable and rare can lead to the creation of competitive advantage. That advantage can be sustained over longer time periods to the extent that the firm is able to protect against resource imitation, transfer, or substitution. In general, empirical studies using the theory have strongly supported the resource-based view.

The central proposition of the resource-based research is that firms are heterogeneous in terms of the strategic resources they own and control. It is generally suggested that this heterogeneity is an outcome of resource-market imperfections, resource immobility, and firms' inability to alter their accumulated stock of

resources over time. In this vein, each firm can be conceptualized as a unique bundle of tangible and intangible resources and capabilities (Wernerfelt, 1984).

H₁: Micro credit significantly predicts the performance of smallholder farmers in Kaduna state.

H₂: Micro savings significantly predicts the performance of smallholder farmers in Kaduna state.

H₃: Input supply significantly predicts the performance of smallholder farmers in Kaduna state.

H₄: Financial literacy significantly moderates the relationship between input supply and performance of smallholder farmers in Kaduna state.

3. Methodology

3.1 Research Design

A cross-sectional research design was used for this study, as this is viewed as the most appropriate for this study as the researcher could not carry out a longitudinal study because of time constraint. This is because longitudinal surveys need a longer time to be carried out when compared with cross sectional surveys (Kothari & Garg, 2014).

3.2 Population of the Study

The population of this study comprises all smallholder farmers in Kaduna State. Since this study is concerned with smallholder farmers in Kaduna state, the population of the study will be considered as infinite, as there is no official record of the total number of smallholder farmers in the state, since most of the farmers in the state are not even registered. Consequently, since there is no official figure of the number of smallholder farmers in the state, and thus this study considers the population of the study to be infinite.

3.3 Sample Size of the Study

Since the population of the study is regarded to be infinite, the study will use the formula for infinite population as developed by Rose, Spinks, and Canhoto (2015). According to Rose *et al.*, the formula for determining the sample size of an infinite population is:

$$n_r = \frac{4pq}{d^2}$$

Where: n_r = required sample size, p = proportion of the population having the characteristic, $q = 1 - p$ and d = degree of precision (i.e. margin of error acceptable). p was set at 0.5 as advised by Rose *et al.*, (2015), $q = 1 - p = 1 - 0.5 = 0.5$, $d = 0.05$, (d was set at 5%, as the acceptable margin of error for this study). The minimum sample size of this study is 400, however to cater for non-response bias, and not to fall short of the minimum sample size of 400 when questionnaires are retrieved from respondents, Israel (2013) advised that 30% should be added to the minimum sample size, making it 520.

3.4 Sampling Technique

This study employed stratified sampling technique in distributing questionnaires to respondents. Stratification is based on the number of local governments in the state which is 23. The study equally distributed copies of questionnaires to all of the local government areas in the state; that is 23 each. Also, respondents randomly selected were based on contingency and availability of the farmers on the field when collecting data from respondents.

3.5 Source and Method of Data Collection:

This study used primary data with the aid of questionnaire to collect data from respondents. The

questionnaires were distributed personally by the researcher with the help of some research assistants, with the questionnaire structured as sections A and B (demographic and statements respectively).

3.6 Measurement of Variables for the Study:

Variables in this study were measured using measures developed by scholars in the literature. All items measuring each variable was on a five point Likert scale. The use of Likert scale has been often necessary because it is an interval scale that enables a researcher to analyse questionnaire responses and give room to respondents to choose among multiple options. The respondents of this study are smallholder farmers in Kaduna state.

3.7 Technique of Data Analysis

The data collected for the study was processed using Partial Least Square Structural Equation Modelling (PLS-SEM) on SmartPls3. Structural equation modelling was used by this study as it is a tool that works better with small samples and it allows for rigorous tests

4. Results and Discussions

Table 1: Construct Reliability and Validity

Construct	Items	Loadings	AVE	CR
Micro Credit	MC1	0.796	0.694	0.885
	MC2	0.879		
	MC3	0.809		
	MC4	0.847		
Micro Savings	MS1	0.833	0.785	0.913
	MS2	0.915		
	MS3	0.902		
	MS4	0.892		
Input Supply	IPS1	0.778	0.665	0.880
	IPS2	0.829		
	IPS3	0.858		
	IPS4	0.819		
	IPS5	0.792		
Financial Literacy	FL1	0.780	0.647	0.875
	FL2	0.776		
	FL3	0.771		
	FL4	0.831		
	FL5	0.860		

NOTE: No items were deleted from the data set, as they all met the minimum requirements. AVE stands for Average Variance Extracted while CR represents Composite Reliability.

Source: Researchers Analysis, 2024.

The importance of loadings beyond the threshold of 0.7 was underscored by Hair et al. (2019). All items in Table 1 have loadings that surpass the established criterion, suggesting a robust and consistent association with their respective constructs, providing additional

evidence that each construct demonstrates a composite reliability coefficient surpassing 0.7, hence satisfying the specified minimal threshold for composite reliability.

Table 2 :Discriminant Validity using Heterotrait-monotrait Ratio

	1	2	3	4	5
1. Financial Literacy					
2. Firm Performance	0.740				
3. Input Supply	0.692	0.613			
4. Micro Credit	0.666	0.691	0.618		
5. Micro Savings	0.821	0.750	0.632	0.693	

Source: Researchers Analysis, 2024.

The analysis of Heterotrait-Monotrait (HTMT) behaviour demonstrates a significant pattern: the strength of correlations between distinct constructs (off-diagonal components) is comparatively weaker than the strength of correlations within the same constructs (diagonal elements). According to the findings of Hair

et al. (2019), the HTMT values consistently exhibit values below the specified threshold of 0.85 for every pair of variables. The results of this study indicate that each concept exhibits greater relationships with its own indicators compared to indicators of other constructs, hence confirming the existence of discriminant validity.

Test of Hypotheses

Table 3:Path Coefficient

Hypotheses	Beta Value	Std. Error	T Stat	P Value	Decision
H ₁ : MC->SHP	0.252	0.106	2.370	0.02	Supported
H ₂ : MS->SHP	0.344	0.112	3.045	0.00	Supported
H ₃ : IPS->SHP	0.212	0.090	2.312	0.02	Supported
H ₄ :FL->SHP	0.312	0.122	2.532	0.01	Supported
H ₅ : MC*FL->SHP	0.356	0.134	2.555	0.01	Supported
H ₆ : MS*FL->SHP	0.395	0.107	3.674	0.00	Supported
H ₇ : IPS*FL->SHP	0.295	0.08	3.656	0.00	Supported

Source: Researchers Analysis, 2024.

It is seen on Table 3 that there exists a positive and significant relationship between Micro Credit (MC) and the performance of Small Holder Farmers (SHP) in Kaduna state. The data presented demonstrates a statistically significant relationship between the variables at less than 1% significant level ($\beta = 0.252$, T Stat = 2.370, $P < 0.05$). As a result, hypothesis 1 that states that micro credit significantly predicts the performance of smallholder farmers in Kaduna state is supported. Similarly, on Table 3, it is seen that Micro Savings (MS) does exert positive and significant influence on the performance of Small Holder Farmers

(SHP) in Kaduna state ($\beta = 0.344$, T Stat = 3.045, $P < 0.01$). This means that the study does support the second hypothesis of the study that states that micro savings significantly predicts the performance of smallholder farmers in Kaduna state. More so, based on the empirical analysis of the study, Input Supply (IPS) is a significant predictor of the performance of Small Holder Farmers (SHP) in the study area ($\beta = 0.212$, T Stat = 2.312, $p < 0.05$). Therefore, the hypothesis three of the study which states that input supply significantly predicts the performance of smallholder farmers in Kaduna state is supported. Additionally, that there exists a positive and significant relationship between

Financial Literacy (FL) and the performance of Small Holder Farmers (SHP) in the study area. The data presented demonstrates a statistically significant relationship between the variables at less than 1% significant level ($\beta = 0.312$, T Stat = 2.532, $P < 0.05$). As a result, hypothesis 4 of the study that states that financial literacy significantly predicts the performance of smallholder farmers in Kaduna state is supported.

For moderating relationships, the study found out that financial literacy significantly moderates the relationship between micro credit and the performance of Small Holder Farmers in the study area at less than 5% significant level ($\beta = 0.356$, T Stat = 2.555, $P < 0.05$). Hence, hypothesis 5 of the study that states that financial literacy significantly moderates the relationship between micro credit and performance of smallholder farmers in Kaduna state is empirically supported. More so, the study found out that financial

literacy significantly moderates the relationship between micro savings and the performance of Small Holder Farmers in the study area at less than 1% significant level ($\beta = 0.395$, T Stat = 3.674, $P < 0.01$). Thus, the study supports hypothesis 6 of the study that states that financial literacy significantly moderates the relationship between micro savings and performance of smallholder farmers in Kaduna state. Finally, based on the result on Table 3, the study found out that financial literacy significantly moderates the relationship between input supply and the performance of Small Holder Farmers in the study area at less than 1% significant level ($\beta = 0.295$, T Stat = 3.656, $P < 0.05$). Hence, hypothesis 7 of the study that states that financial literacy significantly moderates the relationship between micro credit and performance of smallholder farmers in Kaduna state is empirically supported.

Table 4: R Square

Construct	R Square
Smallholder Farmers' Performance	0.595

Source: Researchers Analysis, 2024.

The empirical analysis yielded an R square value of 0.595, indicating that approximately 59.5% of the variation in the performance of smallholder farmers in Kaduna state can be explained by the combination of the independent variables and the moderating variable. The independent variables—microcredit, micro savings, and input supply are significant predictors of the performance of smallholder farmers in the study area. However, the presence of the moderating variable, financial literacy, suggests that its influence on the relationship between the independent variables and the dependent variable enhances the explanatory power of the model. This finding suggests that while microcredit, micro savings, and input supply play crucial roles in explaining variations in the dependent variable, the level of financial literacy among the participants further influences the strength and direction of these relationships.

4.1 Discussion of Findings]

The data reported in Table 3 demonstrate a strong positive correlation between microcredit and the

performance of smallholder farmers in Kaduna state. The beta coefficient ($\beta = 0.252$) with a t-statistic of 2.370 and a p-value of less than 0.05 indicates the statistical significance of the relationship. This demonstrates that there is a positive association between increases in microcredit availability and improvements in smallholder farmer performance. This is supported by the statistical outcomes, which include a beta coefficient (β) of 0.356, a t-statistic of 2.555, and a p-value below the threshold of 0.05. This highlights the significance of financial literacy in enhancing the influence of microcredit on the performance of smallholder farmers. Also, impact of micro savings on the performance of smallholder farmers in Kaduna state is evidenced by the beta coefficient (β) of 0.344, a t-statistic of 3.045, and a p-value of less than 0.01. This finding provides support for the second premise of the research, highlighting the significance of micro savings in improving agricultural outcomes for small-scale farmers. Additionally, the research findings indicate that financial literacy has a notable moderating effect on the association between micro savings and

smallholder farmer performance. This is supported by a beta coefficient (β) of 0.395, a t-statistic of 3.674, and a p-value of less than 0.01.

The results displayed in Table 3 demonstrate a statistically significant and positive correlation between financial literacy and the performance of smallholder farmers in the designated research region. The beta coefficient (β) of 0.312, t-statistic of 2.532, and p-value of less than 0.05 provide compelling evidence to support hypothesis 4. Financial literacy plays a vital part in improving the agricultural results of smallholder farmers in Kaduna state. Furthermore, the findings of the study indicate that there is a substantial moderating effect of financial literacy on the association between input supply and smallholder farmer performance. This is supported by a beta coefficient (β) of 0.295, a t-statistic of 3.656, and a p-value of less than 0.05, which is consistent with hypothesis 7.

5. Conclusion and Recommendation

Ultimately, this study highlights the crucial contributions of microcredit, micro savings, and financial literacy in improving the success of smallholder farmers in Kaduna state. The research findings validate the favourable impacts of both microcredit and micro savings on farmer performance. Additionally, it is observed that financial literacy plays a significant role as a moderator, enhancing the connections between these financial interventions and

agricultural outcomes. Furthermore, it is worth noting that financial literacy plays a significant role in predicting the performance of smallholder farmers, underscoring its crucial role as a determinant of agricultural success.

Based on the finding of this study, it is recommended that policymakers and development practitioners give precedence to endeavours that are focused on enhancing the availability of microcredit and microsavings services for smallholder farmers by enhancing microfinance institutions or programmes. Furthermore, it is imperative to allocate resources towards the enhancement of financial literacy among smallholder farmers by implementing focused educational and training initiatives with primary objectives focused on enhancing financial management, budgeting, and investment decision-making abilities. Also, the need to incorporate financial education elements into current agricultural extension services and development initiatives and customise interventions to cater to the distinct requirements and circumstances of small-scale farmers in Kaduna state.

Acknowledgement: The Authors are very grateful to the Federal Polytechnic Daura and Tertiary Education Trust Fund (Tetfund) for providing support and grant (TEFT/ES/POLY/AL2023/VOL.1_2023R/FY726) respectively towards undertaking this project.

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