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Role of Digital Innovation in Enhancing Financial Inclusion among Petty Traders in Anambra State

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Abstract **Case Studies**

Many petty traders face financial barriers that limit their growth and innovation. Some constraints hinder their ability to innovate and expand their businesses. Digital financial services can alleviate these barriers by providing alternative financing options for small-scale entrepreneurs. However, high-tech technologies may have uneven access to adoption compared to low-tech ones, such as petty traders who lack access to advanced tools. This study examines the role of digital innovation in enhancing financial inclusion among petty traders in Anambra State. The theory for this study was the diffusion of Innovation theory. The research design was a descriptive cross-sectional survey design. Cochran's formula was used to determine the sample size of 195. The instrument for data collection was a structured questionnaire. A pilot study was conducted to determine the validity of the instrument, while Cronbach's alpha was used to assess the internal consistency of the questions. Data was analysed using descriptive statistics and frequencies. The statistical analysis used was SPSS. The study found that petty traders in Anambra state have adopted digital financial tools such as mobile money app transfers, but do not have access to credit. Therefore, digital innovation has not played its role in giving petty traders access to financial services, which helps in capital formation. The key strategic digital tool used is the Mobile Money App, which is used daily. Also, Petty traders in Anambra face challenges in the use of Digital financial tools, such as poor network connections, high transaction costs, lack of trust in digital platforms, fear of fraud and cybercrimes. The study recommended, amongst others, that to encourage access to credit for petty traders in semi-urban areas in Anambra state; the government can back up microcredit programs such as Tradermoni to target petty traders and also ensure that such programs have low interest rate and low documentation so that petty traders can be able to repay. Again, mobile banking can be encouraged through digital loan products which are tailored for low-income users instead of formal credit.

Keywords: Digital innovation, financial inclusion, access to credit, petty traders.

1. Introduction

Financial inclusion is widely recognised as a powerful driver of inclusive growth, enabling individuals, groups, and businesses to seamlessly access financial services and systems. This accessibility lays the groundwork for broader policy inclusiveness, fostering economic empowerment and development (Rasheed,

Siddiqui, Mahmood & Khan, 2019). By removing barriers to financial services, financial inclusion enhances economic growth, promotes welfare, and facilitates monetary transactions such as money transfers and currency exchange, thereby strengthening both domestic trade and international market expansion (Rasheed et al., 2019). Moreover, financial inclusion plays a crucial role in business capital formation, offering avenues for loans, credits, investments, and funding. It supports seamless regional transactions, ensuring efficient fund transfers and currency exchange. Economic development is deeply interconnected with financial progress, which is significantly propelled by financial inclusion. By fostering business expansion and mitigating risks, financial inclusion enables companies to navigate challenges, reinforcing national economies and granting them a competitive advantage in global markets (Duong et al., 2022; Younas et al., 2022). However, despite its evident benefits, the path to achieving financial inclusion remains a topic of ongoing debate.

Digital innovation has emerged as a transformative force in advancing financial inclusion, particularly among petty traders. By leveraging technology such as mobile banking, digital payment platforms, and financial literacy apps, petty traders gain seamless access to financial services, enabling capital flow, fostering economic empowerment, and reducing barriers. This integration accelerates inclusive growth within underserved communities. Digital innovation plays a crucial role in enhancing financial inclusion, particularly among petty traders and small enterprises. By integrating digital finance with inclusive financial services, these innovations aim to improve access to financial resources and promote economic development. Digital innovation in financial services has the potential to significantly enhance financial inclusion, particularly for petty traders who often face barriers in accessing traditional financial services. The integration of digital finance with inclusive finance models aims to improve the accessibility and affordability of financial services for small-scale entrepreneurs, thereby promoting their economic development. Petty traders often lack access to formal financial services due to stringent requirements and high transaction costs associated with traditional banking systems.

Digital financial inclusion seeks to address these barriers by leveraging technology to provide more accessible and affordable financial solutions (Sun & Zhang, 2024). Many petty traders face significant financing constraints that hinder their ability to innovate and expand their businesses. Digital financial services can alleviate these constraints by offering alternative financing options that are more tailored to the needs of small-scale entrepreneurs. While digital finance offers numerous benefits, the adoption of these technologies can be uneven, with high-tech enterprises receiving more support compared to low-tech ones. This disparity can limit the potential impact of digital financial inclusion on petty traders who may not have the resources to invest in advanced technologies

In Nigeria, petty traders represent a significant portion of the informal economy, yet they remain largely excluded from formal financial systems. Despite the potential of digital innovation to enhance financial inclusion, many petty traders face barriers such as low financial literacy, limited access to digital infrastructure, and socio-economic constraints. Digital banking and mobile financial services have shown promise in increasing financial inclusion by providing accessible and affordable financial services. However, the uptake of these services among petty traders is hindered by factors such as the cost of financial services, lack of required documentation, and insufficient awareness of digital financial tools. In addition, the uneven distribution of digital technology and infrastructure further exacerbates the exclusion of petty traders from the financial system. Therefore, there is a critical need to explore how digital innovation can be effectively leveraged to overcome these barriers and enhance financial inclusion among petty traders in Nigeria, thereby contributing to their economic empowerment and the broader economic growth of the country. This study seeks to assess the role of digital innovation on financial inclusion among petty traders in Anambra State. Specifically, it aims to: (1) evaluate the extent to which petty traders in Anambra State have adopted digital financial

tools; (2) identify key digital innovation strategies that contribute to enhanced financial inclusion within this group; and (3) examine the challenges impeding the adoption of digital financial tools among petty traders. The remainder of the paper is organized as follows: Section One presents the Introduction. Section Two provides a comprehensive Literature Review. Section Three details the Methodology. Section Four discusses the Results and Discussion. Finally, Section Five offers the Conclusion and Recommendations.

2. Literature Review

2.1 Empirical Literature

An emphasis on inclusive development through financial inclusion and digital innovation is evident globally. Contemporary business innovations are driven by digitalisation. Some empirical studies have looked into how digital innovation affects financial inclusion. For Instance, Sun and Zhang (2024) using the Peking University Digital Financial Inclusion Index of China with the innovation data of micro-small-, and medium-sized enterprises (MSMEs) from the National Bureau of Statistics examined the facilitating effect of the development of digital financial inclusion on the technological innovation of MSMEs, and explained the mechanism of the influence of digital finance on the innovation of MSMEs from the perspective of alleviating financing constraints and promoting consumption. The study found that digitally inclusive finance has a promoting effect on the technological innovation of enterprises of different technological levels, but the support for high-tech enterprises is still insufficient.

Zhu and Li (2021), using the Tobit Model, explored the impact of digital financial inclusion on the technological innovation efficiency of agricultural enterprises in China. The empirical results showed that digital financial inclusion has a significant promoting effect on the technological innovation efficiency of agricultural enterprises, and promotes technological innovation through the mechanism of enterprise digitization, Rasheed, Siddiqui, Mahmood and Khan (2019) using secondary data examined the role of digital micro financial services in enhancing SMEs' access to finance. The study discusses that digital financial services have greatly helped owner-managers of SMEs in the smooth management of their transactions and finances. The study concludes that to strengthen the SME sector for economic growth, it is important to further reduce the cost of using digital financial services and increase the financial product portfolio on digital platforms.

Risal (2018) using an exploratory research technique examined the impact of digital currency operations on the development of Nepal's economy. His result reveals that Nepal's economy is backwards in digital financial inclusion. People in Nepal were either unaware of the existence of digital financial products in Nepal, or their existence was legally hampered by the government regulating agencies, making digital penetration a mirage in the Nepalese economy. He concluded that such an effort is dampening the developing economies' financial inclusion drive, including Nepal.

Lu et al. (2021) examined how the use of digital currency will affect small- and medium-scale businesses in their quest for financial inclusion in China from 2010 to 2017. The study showed that digital finances can affect the development of small and medium-scale enterprises. In a related development, Agyekum et al. (2016) investigated the effect of digital currency usage and financial inclusion in lower-income countries with Ghana as a case study in Africa for the period 2011–2014. The sample data for their study included both bank-based customers and non-bank-based customers. Combining both ordinary least squares regression and logistic regression analysis on both the macro and the micro datasets, respectively, between the difference in difference positions, they showed that significant positive effects exist for digital currency usage and financial inclusion for non-bank-based digital finance users and a negative correlative effect exist for bank-based digital currency users in financial inclusion. They argued that the Ghanaian government should synchronise technological deepening to stimulate an inclusive financial system in the country.

Abioye and Mustapha (2023) explored the effects of financial inclusion and digital business innovations on Nigeria's economic growth. It

tracks the evolution of financial inclusion from banking sector recapitalisation, through the Maya Declaration's implementation and the regulation of M-payments, to the licensing of Mobile Network Operators (MNOs). The effectiveness of Digital Banking Inclusion (DBI) in Nigeria faces challenges including the presence of individuals without traditional bank accounts, the uneven distribution of digital technology and higher incomes in cities, barriers that hinder fair competition, the use of a single regulatory approach that may not fit all situations, a shortage of affordable, high-quality digital connections, and conflicts of interest between DBI service providers and DBI users. The study suggests speeding up the development of financial infrastructure, the application of digital technologies, and modifying the regulatory framework to fit various contexts.

While numerous studies have examined digital innovation and financial inclusion among small and medium enterprises (SMEs) in Nigeria, there remains a critical gap in understanding how these advancements impact petty traders, particularly in Anambra State. Petty traders, who constitute a significant segment of the informal economy, often face unique financial constraints and barriers to accessing digital financial tools. This study seeks to bridge that gap by assessing the extent to which petty traders in Anambra State have integrated digital financial innovations into their businesses, identifying key strategies that facilitate financial inclusion, and analysing the challenges hindering adoption. By focusing on this underserved group, the research provides valuable insights into the effectiveness of digital finance initiatives and informs policies aimed at enhancing financial accessibility for petty traders.

2.1 Theoretical Literature

The Diffusion of Innovation Theory, introduced by Everett Rogers in 1962, provides a comprehensive framework for understanding how new ideas, technologies, or practices gain acceptance and propagate within a social system. This theory explains the mechanisms through which innovation spreads, highlighting the interplay of communication channels, time, and social influences in adoption processes. It delineates the rate at which different groups embrace innovation, emphasising the roles of early adopters, opinion leaders, and institutional support in accelerating widespread acceptance. According to Rogers, innovations follow a predictable pattern, progressing through distinct adoption categories: innovators, early adopters, early majority, late majority, and laggards, each exhibiting varying levels of openness to change, risk tolerance, and adaptability.

In the context of digital financial inclusion, the theory becomes particularly relevant, as financial technologies such as mobile banking, digital payment systems, and financial literacy applications undergo a staged adoption process. Innovators, typically tech-savvy individuals and early business adopters, embrace these tools first, often driving experimentation and feedback that refine the technology. Early adopters, influenced by positive outcomes, integrate these solutions into their financial activities, setting a precedent for broader adoption among the early and late majority. However, challenges such as digital illiteracy, cybersecurity concerns, and infrastructure limitations often hinder uptake among the late majority and laggards. Governments, financial institutions, and policymakers must recognise these adoption patterns to design interventions that accelerate financial inclusion, ensuring that even the most hesitant groups benefit from digital financial advancements.

3. Research Methods

3.1 Research Design

This study adopts a descriptive cross-sectional survey design, which is suitable for examining current adoption levels, experiences, and challenges related to digital financial tools among petty traders in Anambra State. The design allows the researcher to collect data at a single point in time to analyse trends and patterns in financial behaviour linked to digital innovations.

3.2 Study Area

The study was conducted in Anambra State, Nigeria, covering urban, semi-urban, and rural areas where petty trading is prevalent. Key

markets such as Onitsha Main Market, Eke Awka, Ochanja, and others served as primary data collection points.

3.3 Population of the Study, Sample Size and Sampling Technique

The target population comprises petty traders operating across different parts of Anambra State. These include traders dealing in foodstuffs, clothing, electronics, household items, and related small-scale enterprises. The sample size was determined using Cochran's formula based on the estimated population of petty traders. Cochran's formula is a statistical method used to determine the ideal sample size for a survey or experiment. It is particularly useful when estimating a population proportion with a specified level of confidence and margin of error. The formula is expressed:

Sample size (n) = $\frac{Z^2.\mathrm{P}.1(1-\mathrm{P})}{E^2}$

Where:

n = required sample size; Z = Z-score (corresponding to the desired confidence level, e.g., 1.96 for 95% confidence); p = estimated proportion of the population and E = margin of error.

The study adopts a multistage sampling technique. Stage 1: Purposive selection of major trading hubs across urban, semi-urban, and rural areas. Stage 2: Stratified sampling based on type of petty trade. Stage 3: Simple random sampling of individual petty traders within each stratum.

3.4 Instrument for Data Collection

The primary instrument for data collection is a structured questionnaire, which has been divided into five sections: Section A: Socio-demographic information; Section B: Financial access and banking habits. Section C: Digital financial literacy and usage. Section D: Adoption and challenges of digital financial tools. Section E: Perceived impact of digital innovation on business performance and financial inclusion.

3.5 Validity and Reliability of Instrument

The validity and reliability of the research instrument were established through: first, via an expert review by professionals in digital finance, financial inclusion, and social research. Second, a pilot test with 20 petty traders from a non-sampled market was conducted to refine the questionnaire for clarity, language appropriateness, and relevance. Third, the reliability was assessed using Cronbach's alpha, ensuring the internal consistency of scale-based questions and the overall robustness of the instrument.

3.6 Method of Data Collection and Data Analysis

Trained research assistants administered the questionnaire using a face-to-face approach, especially in markets with limited digital literacy. Respondents' consent was obtained, and confidentiality was assured. Quantitative data from the questionnaires was analyzed using descriptive statistics (frequencies, percentages, and means) and inferential statistics: For Objective 1 (adoption level), frequencies and cross-tabulations by demographic variables were used. For objective 2 (strategies contributing to inclusion), factor analysis and chi-square tests were used. Finally, for Objective 3 (challenges to adoption), descriptive statistics and frequencies were used. The statistical analysis was conducted using SPSS.

3.7 Ethical Considerations

All respondents provided informed consent before participating in the study, ensuring voluntary involvement. Strict measures were implemented to maintain anonymity and confidentiality, safeguarding respondent privacy.

4. Results and Discussion

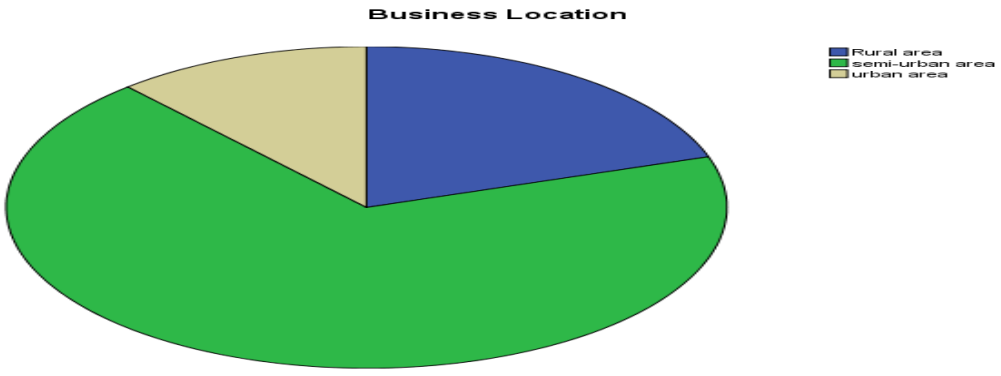
Table 4.1: Age of respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25years	92	48.2	48.2	48.2
	26-35years	64	33.5	33.5	81.7
	36-45years	21	11.0	11.0	92.7
	46-55years	14	7.3	7.3	100.0
	Total	**191**	**100.0**	**100.0**	

Source: Field Survey (2025)

According to Table 4.2, the age distribution of respondents indicates that 48.2% fall within the 18–25 age bracket, 33.5% are between 26–35 years, 11% fall within the 36–45 age group, and 7.3% are aged 46–55 years. This analysis reveals that the majority of petty traders are young adults, with a combined 81.7% of respondents aged between 18 and 35 years, highlighting the youthful nature of participants engaged in petty trading.

Figure 4.1: Location of Business



Source: Field Survey (2025)

Figure 4.1 reveals that the majority of respondents reside in semi-urban areas, with urban areas representing the next largest group.

Table 4.2: gender of Respondent * Type of Business Cross tabulation

		Type of Business				
		Food stuff	**Clothing**	**Electronics**	**Others**	**Total**
Gender	**Male**	1.6%	21.9%	54.7%	21.9%	100.0%
		1.4%	40.0%	100.0%	28.6%	33.5%
	Female	55.9%	16.5%		27.6%	100.0%
		98.6%	60.0%		71.4%	66.5%
Total		**37.7%**	**18.3%**	**18.3%**	**25.7%**	**100.0%**
		100.0%	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: Field Survey (2025)

The cross-tabulation data reveals significant gender-based patterns in business engagement among respondents. Male respondents predominantly operate in electronics (54.7%), while female respondents concentrate on food-related businesses (55.9%) and, to a lesser extent, in "Other" business types (27.6%). Notably, all respondents in electronics are male, highlighting a pronounced gender exclusivity in that sector. Conversely, women overwhelmingly dominate the food sector, representing 98.6% of its operators. Clothing appears to be the most gender-diverse category, with 60% female and 40% male participation. Overall, females constitute the majority (66.5%) of respondents, reflecting stronger female representation in the business sample, particularly in sectors related to food and miscellaneous services. These findings suggest potential gendered preferences or access disparities in specific business sectors.

Table 4.3: Marital Status of Respondent * Educational Level of Respondent Crosstabulation

		Educational Level of Respondent				
		No formal education	**Primary**	**Secondary**	**Tertiary**	**Total**
Marital Status	Single			14.0%	86.0%	100.0%
				22.2%	80.4%	52.4%
	Married	8.3%	16.7%	58.3%	16.7%	100.0%
		100.0%	100.0%	77.8%	13.1%	44.0%
	Divorced				100.0%	100.0%
					6.5%	3.7%
Total		3.7%	7.3%	33.0%	56.0%	100.0%
		100.0%	100.0%	100.0%	100.0%	100.0%

Source: Field Survey (2025)

Table 4.3 shows the cross-tabulation between marital status and educational level of respondents. The result highlights notable trends. Single respondents overwhelmingly possess tertiary education (86.0%), with 80.4% of all respondents holding tertiary qualifications being single, demonstrating a strong association between higher education and single status. In contrast, married individuals are more evenly spread across educational levels, but the majority hold secondary education (58.3%), accounting for 77.8% of all respondents with secondary education. Divorced individuals exclusively report tertiary education, comprising 6.5% of that group. Overall, tertiary education is the most common among all respondents (56.0%), suggesting high educational attainment in the sample. These patterns may reflect social and economic dynamics, where educational attainment correlates with marital choices and timing.

Table 4. 4: Type of Business * Years in Business Cross tabulation

		Years in Business				
		Less than one Year	**1-3 Years**	**4-6years**	**More than 6 Years**	**Total**
Type of Business	**Food stuff**	19.4%	40.3%	20.8%	19.4%	100.0%
		40.0%	29.3%	51.7%	50.0%	37.7%
	Clothing	20.0%	60.0%		20.0%	100.0%
		20.0%	21.2%		25.0%	18.3%
	Electronics	20.0%	40.0%	20.0%	20.0%	100.0%
		20.0%	14.1%	24.1%	25.0%	18.3%
	Others	14.3%	71.4%	14.3%		100.0%
		20.0%	35.4%	24.1%		25.7%
Total		**18.3%**	**51.8%**	**15.2%**	**14.7%**	**100.0%**
		100.0%	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: Field Survey (2025)

In Table 4.3, we present the cross-tabulation of the type of business against years in business. The result reveals insightful patterns regarding business maturity across sectors. Most respondents have operated their businesses for between 1–3 years (51.8%), with this range being especially prevalent in the "Others" (71.4%) and Clothing (60.0%) categories, suggesting recent growth or younger ventures in these areas. Foodstuff businesses show a more balanced distribution, though a notable 40.3% have also been in operation for 1–3 years, and nearly 20% each fall in other duration brackets, indicating both new and established players in this sector. Electronics enterprises are similarly balanced, with 20% representation in each time category, suggesting steady entry and longevity rates. The data suggests that while many businesses are relatively young (1–3 years), sectors like foodstuff and electronics also host more seasoned entrepreneurs with over six years of experience, reflecting sector-specific stability and variability in business longevity.

Table 4.5: Digital service used * How often digital service is used

		How often you use financial app		
		Daily	**Never**	**Total**
Digital Service	Mobile Money Transfer	107	7	114
		65.6%	33.3%	62.0%
	USSD Banking Services	7	0	7
		4.3%	.0%	3.8%
	Online Banking	28	7	35
		17.2%	33.3%	19.0%
	POS Transaction	21	3	24
		12.9%	.0%	11.4%
	Others	0	7	7
		.0%	33.3%	3.8%
Total		163	21	184
		100.0%	100.0%	100.0 %

Source: Field Survey (2025)

The data in Table 4.5 reveals that mobile money transfer is the most frequently used digital financial service, with 65.6% of daily financial app users and 62.0% of all respondents relying on it, including a notable 33.3% of those who never use financial apps, suggesting its widespread accessibility and utility. Online banking is used by 17.2% of daily users and also by 33.3% of non-users, indicating occasional or shared access. POS transactions and USSD banking are used exclusively by daily users, at 12.9% and 4.3% respectively, reflecting their reliance on more consistent digital engagement. Interestingly, the "Others" category is only reported by non-users (33.3%), possibly capturing informal or alternative financial tools. Overall, the findings underscore mobile money's dominance and the varied digital service preferences among different user groups.

Table 4.6. Respondents' View on Fraud Experience

		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	Yes	77	40.3	40.3	40.3
	No	114	59.7	59.7	100
	Total	191	100.0	100.0	

Source: Field Survey (2025)

The data presented in Table 4.6 reveals that out of 191 respondents, 77 individuals (40.3%) reported having experienced fraud, while a larger proportion of 114 respondents (59.7%) indicated they had not encountered any fraudulent activity. This suggests that although a significant minority of the population has been affected by fraud, the majority have not had such experiences. The cumulative percentages confirm that all responses were accounted for, with no missing data, providing a complete and reliable overview of the respondents' exposure to fraud. This insight is crucial for understanding the prevalence of fraud within the surveyed group and may inform targeted interventions or awareness campaigns.

Table 4.7: What Kind of Fraud Did You Experience?

		Frequency	Percent	Valid Percent	Cumulative Percent
	Unauthorized withdrawals	14	7.3	21.9	21.9
	Double Deduction	22	11.5	34.4	56.2
	Fake financial platform	21	11.0	32.8	89.1
	Others	7	3.7	10.9	100.0
	Total	**64**	**33.5**	**100.0**	
Missing	System	127	66.5		
Total		**191**	**100.0**		

Source: Researchers' Field Survey 2025

From Table 4.7, the incidence of financial fraud among respondents reveals that 11.5% have experienced double deductions, 11.0% encountered fake financial platforms, 7.3% reported unauthorised withdrawals, and 7.0% were affected by other forms of fraud. Although the overall percentage of those affected is relatively low, the data indicates that fraud manifests in various ways, with double deductions being the most commonly reported. This pattern suggests a need for enhanced consumer awareness and stronger safeguards in digital financial transactions to prevent and mitigate these diverse forms of financial exploitation.

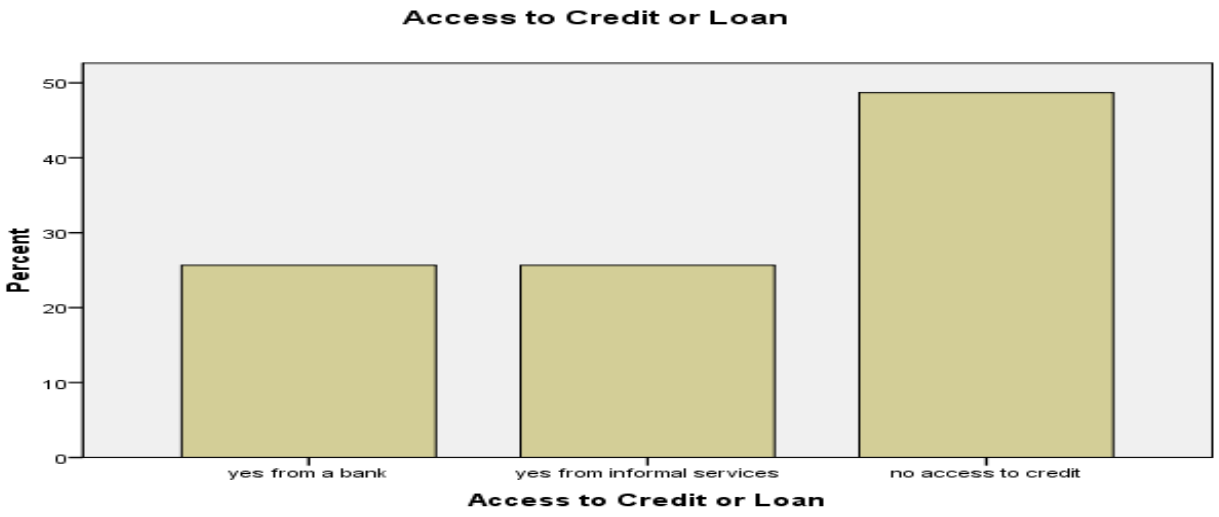
Table. 4.8: Challenges faced in Using Digital Financial services

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Poor network connectivity	133	69.6	69.6	69.6
	High transaction charges	23	12.0	12.0	81.7
	Lack of trust in the digital platform	14	7.3	7.3	89.0
	Inadequate knowledge of digital finance	7	3.7	3.7	92.7
	Fear of fraud and cybercrime	14	7.3	7.3	100.0
	Total	**191**	**100.0**	**100.0**	

Source: Field Survey (2025)

The analysis presented in Table 4.8 highlights key barriers affecting digital finance adoption among respondents. A significant majority (69.6%) identified poor network connectivity as the most prevalent challenge, underscoring persistent infrastructural issues. High transaction charges were the second most cited concern (12.0%), followed by distrust in digital platforms (7.3%) and fears related to cybercrime (7.3%). Additionally, a smaller proportion (3.7%) indicated inadequate knowledge of digital financial tools as a limiting factor. These findings reveal that technical limitations and financial costs, coupled with security concerns and limited user awareness, continue to hinder the effective use and trust in digital financial systems.

Figure 4.2: Access to Credit



Source: Field Survey 2025

The data presented in Figure 4.2 reveals that only 27.6% of respondents have access to credit through formal banking institutions, and an equal proportion rely on informal financial services, while a significant 48.6% report having no access to credit at all. This indicates that despite the adoption of digital innovations by petty traders in Anambra State, such advancements have yet to translate into meaningful financial inclusion, particularly in facilitating access to credit. The persistence of high exclusion rates suggests that structural barriers, such as limited credit infrastructure, lack of tailored financial products, or trust deficits, continue to undermine the capacity of digital finance to bridge the credit accessibility gap for this segment of the population.

Table 4.9: Any additional Support that Will Help improve Digital Services

	Frequency	Percent	Valid Percent	Cumulative Percent
More training and awareness	49	25.7	25.7	25.7
Lower transaction cost	71	37.2	37.2	62.8
Stronger fraud protection measures	29	15.2	15.2	78.0
Improved network and service quality	42	22.0	22.0	100.0
Total	**191**	**100.0**	**100.0**	

Source: Field Survey (2025)

The result in Table 4.9 reveals that a significant majority (71%) of petty traders believe that reducing transaction costs is the most effective way to enhance the adoption of digital financial innovations. This is closely followed by the need for increased training and awareness, as well as improvements in network connectivity. These findings underscore the importance of affordability, digital literacy, and reliable infrastructure in fostering inclusive digital finance ecosystems. Addressing these factors can substantially improve trust, usability, and access, particularly among small-scale traders who are often underserved by conventional financial systems.

5. Conclusion and Recommendation

The analysis reveals that the majority of respondents are young adult females aged 18 - 25 with tertiary education, operating predominantly in semi-urban areas and engaging in foodstuff trading. There is a notable level of digital financial innovation adoption among these petty traders in Anambra State, with widespread daily use of platforms such as Opay and PalmPay, primarily driven by the convenience these tools offer. However, despite this positive uptake, respondents reported experiencing various forms of digital fraud, including double deductions, fake financial platforms, and unauthorised withdrawals. In addition, they face persistent challenges such as poor network connectivity, high transaction costs, limited trust in digital platforms, and heightened fears of cybercrime. These issues highlight the dual reality of digital finance adoption: while it enhances transactional ease, it also exposes users to systemic vulnerabilities that must be addressed through

improved infrastructure, consumer education, and regulatory safeguards. Even though petty traders in Anambra State have adopted digital tools in their businesses, most of them do not have access to credit. Therefore, it has not played any role in making them have access to financial services, which aids in capital formation.

The respondents highlighted that to enhance the adoption of digital financial innovations, key areas of improvement include reducing transaction costs, providing more training and awareness, and strengthening network connectivity. In light of these findings, several recommendations are proposed to support financial inclusion and access to credit among petty traders in semi-urban areas of Anambra State. The government is encouraged to reinforce microcredit initiatives such as Tradermoni, with a focus on designing them for easy accessibility, featuring low interest rates, minimal documentation, and flexible repayment terms tailored to the realities of small-scale traders. Furthermore, expanding mobile banking through the development of digital loan products specifically targeted at low-income users can serve as an effective alternative to conventional credit channels, bridging the existing gap in financial access.

To address persistent network challenges affecting digital financial adoption, the government can promote the use of USSD-based mobile platforms, which function on basic phones and do not rely heavily on internet connectivity, an important consideration given that most respondents utilise mobile transfers. Additionally, enhancing agent banking models by introducing volume-based incentives can help reduce transaction costs, making digital services more accessible for petty traders. To foster greater trust in digital platforms, coordinated mass sensitisation campaigns, particularly through market associations, should be implemented to build users' confidence in financial technologies. Furthermore, encouraging the integration of AI-powered fraud detection tools can bolster security and help mitigate suspicious transactions, thereby reinforcing the overall integrity of the digital financial ecosystem.

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