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**POINT-OF-SERVICE (POS) TRANSACTIONS AS DRIVERS OF
ECONOMIC GROWTH AND FINANCIAL INCLUSION IN RURAL
ECONOMIES: EVIDENCE FROM CROSS RIVER STATE, NIGERIA**

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ABSTRACT

The expansion of financial technology in developing economies has transformed the dynamics of rural financial systems. This study investigates the role of Point-of-Service (POS) transactions in enhancing economic growth and financial inclusion within rural communities of Cross River State, Nigeria. Using a mixed-method approach, primary data were obtained through structured questionnaires administered to POS operators, rural households, and small-scale business owners, complemented by secondary data from financial institutions and regulatory bodies. Descriptive statistics, correlation, and regression analyses were employed to examine the relationship between POS usage, financial inclusion, and local economic activities. The findings reveal that POS transactions significantly contribute to rural economic growth by facilitating access to financial services, promoting cashless transactions, supporting microenterprises, and bridging the gap between formal financial institutions and underserved populations. However, challenges such as network failures, security risks, and high transaction charges limit the full potential of POS-driven inclusion. The study underscores the importance of strengthening regulatory frameworks, improving digital infrastructure, and providing financial literacy programs to optimize POS services for rural development. These insights contribute to policy discussions on leveraging financial technology for inclusive growth in emerging economies.

Keywords: *Point-of-Service (POS) transactions, financial inclusion, Economic growth, Rural development, Digital finance, Cross River State.*

JEL Classification: *E42; G21; G23; O16; O18; R11; O55.*

AJETD-P1

1. INTRODUCTION

Financial inclusion has become an important component of inclusive economic development because access to appropriate and affordable financial services enables households and businesses to participate more effectively in economic activities. Financial services facilitate savings, payments, investment, risk management and access to financial resources, thereby creating opportunities for improved welfare and economic participation. In developing economies such as Nigeria, however, geographical distance, inadequate banking infrastructure, high transaction costs and limited financial literacy continue to constrain access to formal financial services, particularly among rural populations. Nkechika (2022) argues that digital financial services have increasingly become an important mechanism for extending financial services to underserved populations in Nigeria by using technology to overcome some of the limitations associated with conventional banking.

The emergence and expansion of Point-of-Service (POS) terminals have significantly transformed the delivery of financial services in Nigeria. POS agents provide services including cash withdrawals, deposits, fund transfers, bill payments, and other payment-related transactions, thereby bringing financial services closer to households and businesses outside conventional bank branches. Quadri et al. (2024) provide empirical evidence that POS and mobile money operations have a positive impact on financial inclusion in Nigeria, suggesting that agent-based financial services can contribute to extending financial services to populations that may otherwise remain underserved. Similarly, Agbor et al. (2023), using evidence from rural communities in Cross River State, found that POS services were useful for money transfers and cash deposits and that perceived usefulness and ease of use significantly influenced the application of POS devices in rural agent banking.

The relevance of POS transactions extends beyond access to financial services to their potential contribution to economic activity. Digital payment systems can reduce the cost and time associated with financial transactions, improve the efficiency of commercial exchanges, and facilitate the movement of money between households and businesses. Appah et al. (2023), using Nigerian time-series data, examined the relationship between digital financial services and economic growth and found that POS services had a positive and statistically significant effect on real gross domestic product. More recently, Oyadeyi (2025) found that financial inclusion and electronic payment systems had significant short- and long-run effects on economic growth in Nigeria, with POS payments recording the strongest effect among the electronic payment channels examined. These findings provide an empirical basis for examining whether the expansion of POS transactions can stimulate economic activities beyond their immediate role as payment mechanisms.

The growth-enhancing potential of digital financial services can be particularly important in rural economies where conventional banking infrastructure is limited. Digital financial services can reduce the geographical barriers associated with accessing formal financial institutions and enable households and enterprises to conduct transactions within their communities. Wezel and Ree (2023) similarly observe that digital financial services can extend financial services to rural and underserved populations through lower-cost delivery mechanisms and can support economic activity by facilitating new business models, digital infrastructure and electronic commerce. For rural micro, small and medium enterprises (MSMEs), POS facilities may improve the speed and convenience of receiving customer payments, making transfers to

suppliers and managing daily business transactions. Consequently, increased POS usage may contribute to business performance and local economic activity through improved transaction efficiency.

The importance of POS services is particularly relevant to Cross River State, where a substantial proportion of economic activities are undertaken within rural and semi-urban communities. For rural households, farmers, traders and small businesses, the availability of POS agents can reduce the need to travel long distances to conventional bank branches. Agbor et al. (2023) specifically identified the role of POS services in bringing financial services closer to rural unbanked populations in Cross River State. However, their findings also showed that POS use had not significantly increased the number of rural dwellers opening new bank accounts, although POS services were useful for money transfers and cash deposits. This finding is particularly important because it suggests that the expansion of POS services may improve financial access and usage without necessarily producing equivalent improvements in formal account ownership.

Despite the potential benefits of POS technology, its effectiveness in promoting financial inclusion and rural economic development may be constrained by infrastructural and operational challenges. Poor telecommunications networks, electricity shortages, transaction failures, fraud, security concerns, limited digital literacy and the operating costs faced by agents can affect both the reliability and affordability of POS services. The experience of rural communities therefore may differ considerably from aggregate national trends. Indeed, recent Nigerian research continues to identify infrastructure and financial literacy as important factors determining whether digital financial services translate into meaningful economic outcomes. Akinjare and Obabueki (2025), for example, found that although digital financial inclusion has become increasingly established in Nigeria, its short-run effect on real GDP was not statistically significant, highlighting the possibility that the economic benefits of digital financial inclusion may take time to materialise.

Furthermore, the existing literature presents mixed evidence concerning the relationship between POS services, financial inclusion and economic development. While Quadri et al. (2024) reported a positive effect of POS operations on financial inclusion, Agbor et al. (2023) found that POS usage in rural Cross River State did not significantly increase new bank-account ownership. Similarly, while Appah et al. (2023) and Oyadeyi (2025) reported positive relationships between POS/e-payment systems and economic growth at the national level, Akinjare and Obabueki (2025) found no significant short-run effect of digital financial inclusion on real GDP.

Research Objectives

The general objective of this study is to examine the role of Point-of-Service (POS) transactions as drivers of economic growth and financial inclusion in rural economies, using Cross River State, Nigeria, as a case study.

The specific objectives are to:

- a) Examine the effect of Point-of-Service (POS) transactions on economic growth in rural communities of Cross River State.
- b) Assess the influence of POS transactions on financial inclusion among rural households in Cross River State.
- c) Determine the effect of POS transaction accessibility on the growth and performance of rural micro, small and medium enterprises (MSMEs) in Cross River State.

- d) Examine the relationship between POS transaction usage and cashless payment adoption in rural communities of Cross River State.
- e) Identify the challenges limiting the effective utilization of POS services in rural areas of Cross River State.
- f) Proffer policy recommendations for improving POS service delivery to enhance economic growth and financial inclusion in rural economies.

Research Questions

The study seeks to answer the following research questions:

- a) What effect do Point-of-Service (POS) transactions have on economic growth in rural communities of Cross River State?
- b) To what extent do POS transactions promote financial inclusion among rural households in Cross River State?
- c) How does accessibility to POS services influence the growth and performance of rural micro, small and medium enterprises (MSMEs) in Cross River State?
- d) What relationship exists between POS transaction usage and the adoption of cashless payment systems in rural communities of Cross River State?
- e) What are the major challenges affecting the effective utilization of POS services in rural areas of Cross River State?
- F) What policy measures can improve POS service delivery to enhance financial inclusion and economic growth in rural communities?

2. LITERATURE REVIEW

2.1 Conceptual Literature

Point-of-Service (POS), Economic Growth, Financial Inclusion and Rural Communities

Point-of-Service (POS) refers to electronic payment terminals and related digital platforms used to facilitate financial transactions between customers, merchants, businesses, and banking agents. POS terminals enable a range of financial services, including cash withdrawals, deposits, fund transfers, bill payments, airtime purchases, and merchant payments. Their importance has increased considerably in developing economies where conventional banking infrastructure is unevenly distributed. In Nigeria, POS services have become particularly relevant under the cashless policy and financial inclusion agenda because they provide an alternative channel through which individuals and businesses can access financial services without necessarily visiting conventional bank branches. Adeoti (2013) notes that POS technology supports the implementation of Nigeria's cashless policy by facilitating electronic transactions and extending financial services to underserved populations. Similarly, the Central Bank of Nigeria (CBN, 2019) recognises POS and agent banking as important channels for expanding access to financial services, particularly among populations located far from conventional banking outlets.

The relevance of POS technology extends beyond its function as a payment instrument. POS agents can serve as intermediaries between formal financial institutions and financially underserved households, farmers, traders, and small-scale enterprises. By bringing financial services closer to rural residents, POS facilities can reduce the monetary and non-monetary costs associated with travelling to bank branches. They can also improve the speed and convenience of transactions, facilitate the circulation of money within local economies, and encourage individuals who previously relied exclusively on cash transactions to participate in formal or semi-formal financial activities. Agbor et al. (2023), in their study of rural unbanked populations in Cross River State, found that POS services were particularly useful for money transfers and cash deposits. This suggests that POS technology can potentially strengthen financial access and usage even where conventional banking infrastructure remains inadequate.

Economic growth refers to a sustained increase in the production of goods and services within an economy over time and is commonly measured using indicators such as real Gross Domestic Product (GDP), real GDP per capita, productivity, income, and employment. Todaro and Smith (2015) describe economic growth in terms of an increase in an economy's productive capacity, which enables greater production and consumption of goods and services. In the context of rural economies, however, economic growth may also be reflected through increased agricultural production, expansion of rural enterprises, higher household income, improved business turnover, employment generation, and increased commercial activities. Consequently, the relationship between POS transactions and economic growth may operate through improvements in the efficiency of economic transactions and the performance of small businesses.

POS transactions may contribute to economic growth by reducing transaction costs and facilitating faster movement of funds between consumers, producers, traders, farmers, and service providers. For rural MSMEs, the availability of POS facilities can make it easier to receive payments from customers and transfer funds to suppliers without requiring physical visits to banks. This can improve business efficiency, liquidity management, and market participation. Appah et al. (2023) found evidence of a positive relationship between digital financial services and economic growth in Nigeria, while Oyadeyi (2025) reported that electronic payment systems, including POS payments, have significant implications for economic growth. These findings provide a basis for considering POS transactions not merely as payment mechanisms but also as potential facilitators of broader economic activity.

Financial inclusion refers to the availability, accessibility, affordability, and effective use of appropriate financial products and services by individuals and businesses, particularly those who are traditionally excluded or underserved by the formal financial system. Financial inclusion encompasses access to payment services, savings, credit, insurance, pensions, and other financial products. According to Demirgüç-Kunt et al. (2022), access to financial services enables individuals to make payments, save, borrow, manage risks, and participate more effectively in economic activities. In Nigeria, financial inclusion has become an important component of development policy because significant disparities remain in access to formal financial services between urban and rural populations.

POS services can contribute to financial inclusion through both access and usage dimensions. A rural resident may not have a bank branch within a reasonable travelling distance but may be able to withdraw money, transfer funds, make payments, or deposit cash through a nearby POS agent. This reduces geographical barriers and can increase the frequency with which individuals interact with financial services. However, POS access should not automatically be equated with comprehensive financial inclusion. As Agbor et al. (2023) observed in Cross River State, POS services were useful for financial transactions, but their use did not necessarily translate into increased ownership of conventional bank accounts. This

distinction is important because financial inclusion involves not only physical access to a financial service but also sustained, affordable, appropriate, and beneficial use of financial products.

Rural communities refer to settlements and populations located outside major urban centres and are generally characterised by relatively low population density, greater dependence on agriculture and informal economic activities, and comparatively limited access to infrastructure and social services. Rural economies frequently depend on farming, petty trading, agro-processing, transportation, and micro and small-scale enterprises. Although rural communities make significant contributions to food production, employment, and local economic activity, they often experience infrastructural deficiencies involving transportation, electricity, telecommunications, financial institutions, and digital connectivity. These characteristics make rural communities particularly important for examining the developmental implications of alternative financial-service delivery mechanisms such as POS technology.

The interaction among POS transactions, economic growth, financial inclusion, and rural communities provides the conceptual foundation for this study. In rural economies, limited access to conventional banks can constrain households and businesses from participating fully in formal financial and commercial activities. The expansion of POS services may reduce these constraints by bringing payment and basic financial services closer to users. Increased POS usage may therefore improve financial inclusion by expanding access to transactions while simultaneously supporting rural economic activity through lower transaction costs, faster payments, improved business operations, and greater market participation. However, the extent of these benefits may depend on the reliability of telecommunications networks, electricity supply, digital literacy, transaction charges, security, trust, and the availability of active POS agents.

Accordingly, in this study, POS transactions represent the key digital financial-service mechanism, while financial inclusion and rural economic activity constitute important developmental outcomes. The conceptual argument is that increased availability and utilisation of POS services can enhance access to and usage of financial services, which may in turn facilitate business transactions, household economic participation, MSME performance, and broader rural economic development. Nevertheless, these relationships are not necessarily automatic or uniform. Infrastructure constraints, transaction failures, security concerns, affordability, and users' digital capabilities may weaken the effectiveness of POS services. Examining these relationships empirically in rural communities of Cross River State is therefore important for determining whether the increasing penetration of POS services is translating into meaningful improvements in financial inclusion and economic development.

2.2 THEORETICAL LITERATURE REVIEW

Transaction Cost Theory

Transaction Cost Theory, associated with Coase (1937) and Williamson (1981), explains how economic actors seek to minimise the costs of conducting transactions. In financial services, these costs include transportation, time, information, and transaction charges. Such costs are particularly significant in rural areas where conventional bank branches are limited. POS technology can reduce these barriers by bringing financial services closer to households, farmers, traders, and MSMEs and enabling withdrawals, deposits, transfers, and payments without travelling long distances.

The theory suggests that lower transaction costs can increase access to and use of financial services while improving the efficiency of economic exchanges. For rural businesses, POS services can facilitate faster payments, improve cash-flow management, reduce transaction delays, and support market participation. Evidence from Cross River State by Agbor et al. (2023) shows that POS services facilitate money transfers and cash deposits among rural populations, although increased POS usage does not necessarily translate into greater conventional bank-account ownership.

Thus, Transaction Cost Theory provides the first theoretical basis for this study by explaining how POS services can reduce the cost and inconvenience of financial transactions and consequently promote financial inclusion and rural economic activity. However, network failures, high charges, security concerns, and inadequate electricity may limit these benefits.

Endogenous Growth Theory

Endogenous Growth Theory, associated with Lucas (1988) and Romer (1990), explains long-run economic growth through factors generated within the economy, particularly technological innovation, human capital, knowledge, and investment. The theory is relevant because POS technology represents a financial innovation that can improve transaction efficiency, expand financial access, and create opportunities for households and businesses to participate more actively in economic activities.

POS technology can enhance productivity by reducing transaction delays, improving business operations, facilitating payments, and supporting the activities of rural MSMEs. Increased financial inclusion may further encourage savings, investment, entrepreneurship, and more efficient allocation of financial resources. Human and digital literacy are also important because the benefits of POS technology depend on users' ability and willingness to effectively utilise the technology.

Empirical evidence provides mixed but relevant support. Appah et al. (2023) reported a positive relationship between digital financial services and economic growth in Nigeria, while Oyadeyi (2025) found significant relationships between financial inclusion, electronic payments, and economic growth. Conversely, Akinjare and Obabueki (2025) found no significant short-run effect of digital financial inclusion on real GDP, suggesting that complementary infrastructure and effective technology utilisation may determine the strength of the growth effect.

Theoretical Linkage

The two theories complement each other. Transaction Cost Theory explains the immediate channel through which POS services can reduce the cost, time, and inconvenience of financial transactions, thereby improving financial access and usage. Endogenous Growth Theory explains the broader developmental channel through which technological innovation can enhance productivity, entrepreneurship, financial inclusion, and economic growth. Together, they provide a strong theoretical foundation for examining whether POS transactions contribute to financial inclusion and economic development in rural Cross River State.

2.3 Empirical Literature

Ejere (2022) examined the challenges affecting POS businesses in Nigeria. The study found that fraud, customer misconceptions, transaction failures, and poor network connectivity constitute major obstacles to the effective operation and utilization of POS services. Omotayo (2015) investigated the factors influencing

the adoption of POS terminals by organizations in Lagos and Ibadan using survey data. The findings revealed that perceived ease of use and subjective norms significantly influenced POS adoption, while organizational characteristics and perceived usefulness had no significant effect. The study also noted the rapid growth of POS transactions despite operational challenges.

Nwakoby, Okoye, Ezejiofor, Anukwu, and Ihediwa (2020) examined the effect of electronic banking channels on the profitability of Nigerian deposit money banks using an ex-post facto research design and regression analysis. The study found that POS transactions had a positive but statistically insignificant effect on bank profitability, whereas mobile banking had a significant positive impact. Okon and Amaegberi (2018) assessed the effect of mobile banking channels on bank profitability in Nigeria using panel data estimation techniques. Their findings showed that POS transactions, Automated Teller Machines (ATMs), and mobile banking contributed positively and significantly to the financial performance of commercial banks. Jumba and Wepukhulu (2019) investigated the influence of cashless payment systems on the financial performance of supermarkets in Nairobi County, Kenya using descriptive and regression analyses. The study concluded that financial accessibility, innovation, transaction costs, and cashless payment systems significantly improved business performance. Gambo, Ussaini, and Peter (2020) examined the impact of Nigeria's cashless policy on economic growth using time-series data from 2011 to 2018. The findings indicated that POS transactions harmed Gross Domestic Product (GDP), which the authors attributed to infrastructural deficiencies and operational challenges.

Adesete, Mohammed, and Risikat (2021) employed ARDL and PDL-MIDAS models to evaluate the effect of electronic payment channels on economic growth in Nigeria. The study reported that while mobile payments positively influenced GDP, POS transactions exhibited only a marginal negative effect due to network failures and transaction-related challenges. Zaccheaus (2021) investigated the relationship between electronic payment systems and economic growth using Vector Error Correction Model (VECM) and Dynamic Ordinary Least Squares (DOLS) techniques. The study established that POS transactions contributed significantly to economic growth through increased transaction volumes and consumer spending. Ihegboro (2019) examined the long-run effect of electronic banking on Nigeria's economic growth using data spanning 2009–2019. The findings revealed that POS transactions positively influenced economic growth by improving financial inclusion and expanding access to banking services. Okoh, Olopade, and Eseyin (2022) investigated the short- and long-run effects of digital payment systems on economic growth using the Autoregressive Distributed Lag (ARDL) model. The study found that POS transactions significantly promoted economic growth in the short run, although the long-run effect weakened because of operational inefficiencies.

3. METHODOLOGY

Data Analysis Technique

Data will be analyzed using both qualitative and quantitative techniques. Qualitative responses will be presented descriptively, while quantitative data will be summarized using frequencies, percentages, tables, and charts. The study will employ the chi-square (χ^2) statistical technique to test the hypotheses.

The chi-square formula is expressed as:

$$\chi^2 \sum \frac{(O_f - E_f)^2}{E_f}$$

Where:

χ^2 = Chi-square statistic

Σ = Summation sign

O_f = Observed frequency

E_f = Expected frequency

The degree of freedom is computed as:

$$df = (R - 1)(C - 1)$$

Where:

df = Degree of freedom

R = Number of rows

C = Number of columns

Decision Rule

The null hypothesis (H_0) will be rejected, and the alternative hypothesis (H_1) accepted if the calculated chi-square (χ^2) value is greater than the critical table value at the 5% level of significance. Otherwise, the null hypothesis will be accepted.

Research Design and Area of Study

The study adopts a survey research design, using structured questionnaires to examine the impact of Point-of-Service (POS) transactions on economic growth and financial inclusion in rural communities of Cross River State.

Population and Sources of Data

State, Nigeria, with emphasis on selected rural communities where POS services are widely utilized. The state is located in the South-South geopolitical zone of Nigeria and is characterized by significant commercial and agricultural activities, making it suitable for investigating the contribution of POS transactions to economic growth and financial inclusion. The study population comprises approximately 400 respondents, including POS operators, business owners, customers, and other residents in selected rural communities of Cross River State. Primary data will be collected through field surveys using structured questionnaires and observation. These methods are considered appropriate for obtaining reliable and relevant information for the study.

Research Instrument, Validity and Reliability

Data will be collected using a structured questionnaire designed on a 5-point Likert scale ranging from Strongly Agree (SA) to Strongly Disagree (SD). The instrument will consist of two sections: Section A will capture respondents' socio-demographic characteristics, while Section B will contain questions relating to POS transactions, economic growth, and financial inclusion.

4. RESULTS AND DISCUSSION OF FINDINGS

4.1 Presentation of Results

The study was made up of different collections of people who were beneficiaries, and the demographic data of beneficiaries that were surveyed from the field are presented in the tables and figures below as follows:

Table 1: Gender of beneficiaries

Response		Frequency	Percent
Valid	Female	290	72.5
	Male	110	27.5
	Total	400	100.0

Source: Author's field Survey, 2026

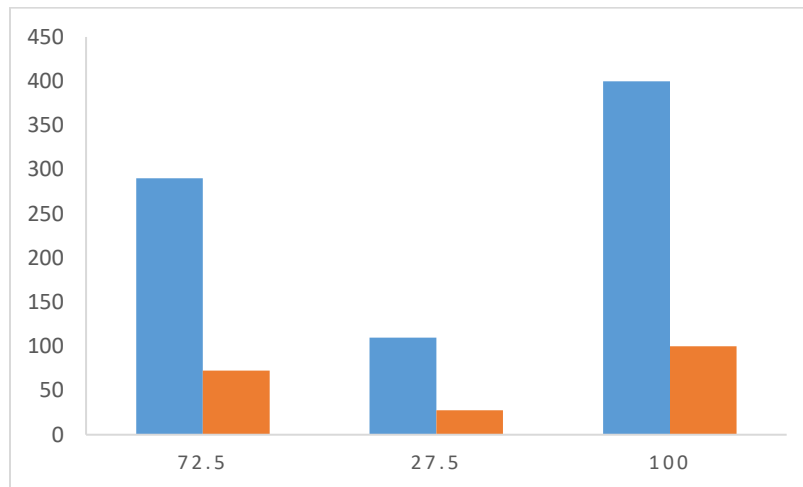


Fig. 1: Information on beneficiaries based on gender.

The results in Table 1 and Fig. 1 provide information on beneficiaries based on gender. The results showed that 290 beneficiaries representing 72.5 percent are female respondents, while 110 beneficiaries representing 27.5 percent are male and live in Cross River State.

Table 2: Ages of beneficiaries

Response		Frequency	Percent
Valid	5-10years	80	20
	11-20years	78	19.5
	21-50years	92	23
	50 and above	110	27.5
	Total	400	100

Source: Author's field survey, 2026.

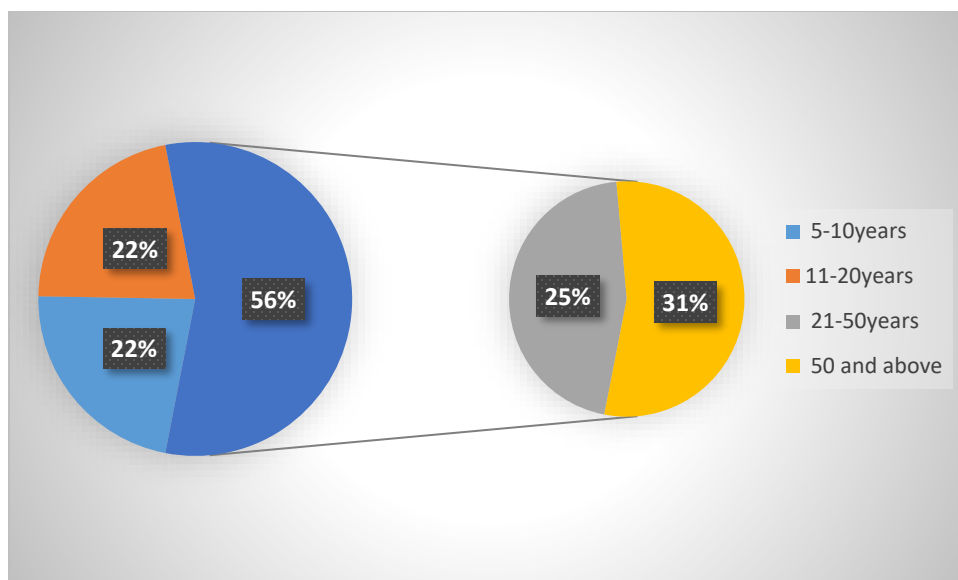


Fig 2: Pie chart of Beneficiaries Responses based on ages

The results in Table 2 and Figure 2 above give information on beneficiaries based on their ages. The result as given reveals that 80 beneficiaries representing 20 percent are 5-10years, 78 beneficiaries representing 19.5 percent are 11-20 years, 92 beneficiaries representing 23 percent are 21-50 years, while 110 beneficiaries representing 27.5 percent are 50 years and above.

Table 3: Beneficiaries based on occupation

Responses		Frequency	Percent
	Student	110	27.5
	Public servant	90	22.5
	Farmer	100	25
	Business Person	100	25
	Total	400	100

Source: Author's field survey, 2026

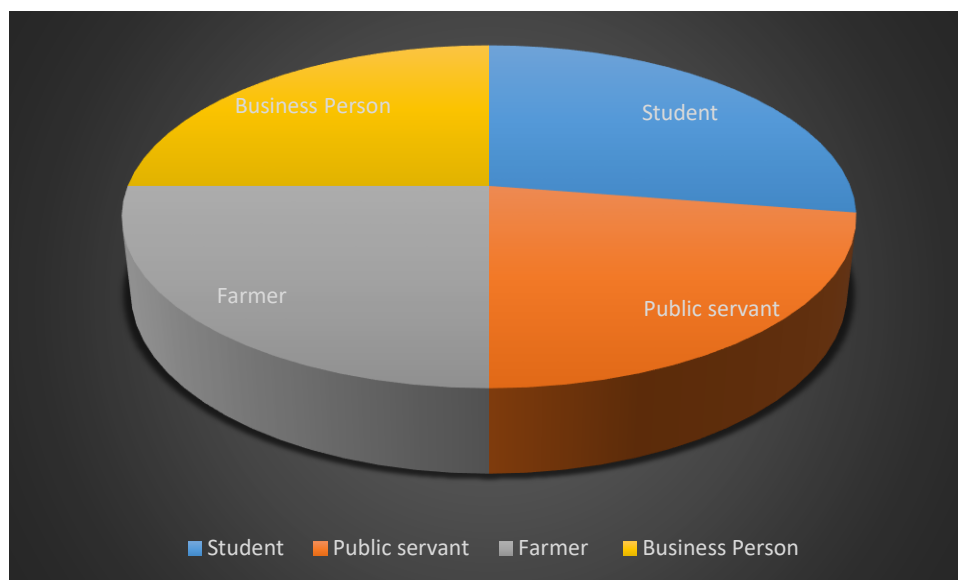


Fig 3: Pie chart of Beneficiaries Responses Based on their Occupation

The result in Table 3 and Figure 3 above is the information on beneficiaries based on their occupation. The result as presented showed that 110 beneficiaries representing 27.5 percent are students, 90 beneficiaries representing 22.5 percent are public servants, 100 beneficiaries representing 25 percent are farmers, and 100 beneficiaries representing 25 percent are business persons in Cross River State.

Table 4: Beneficiaries based on their educational level

Response		Frequency	Percent
Valid	Primary	111	27.5
	Secondary	125	31.25
	University	164	41.25
	Total	400	100

Source: Author's field Survey, 2026

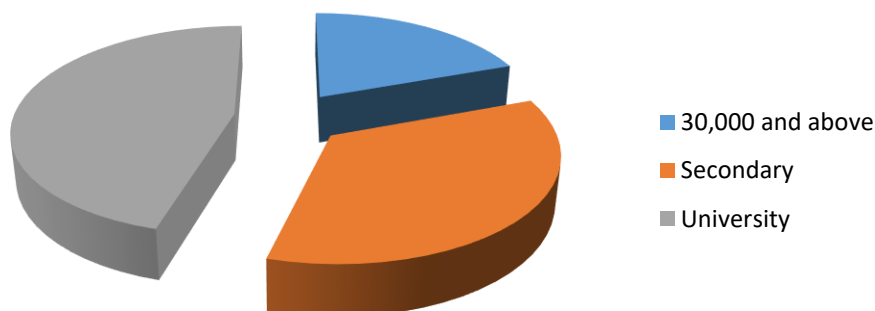


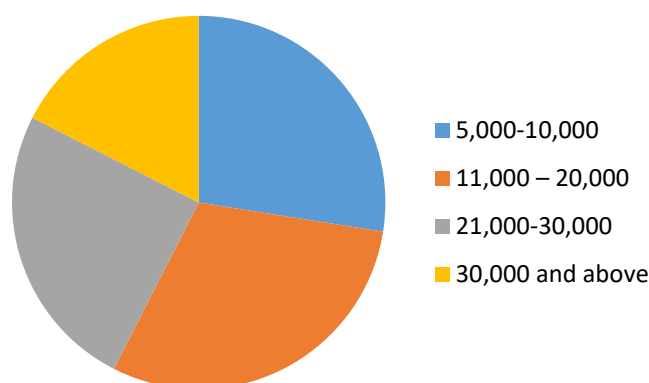
Fig 4: Pie chart of Beneficiaries Responses Based on their educational level.

The result in Table 4 and Figure 4 above is the information on beneficiaries based on their marital status. The result as presented showed that 111 beneficiaries representing 27.5 percent are in primary school, 125 beneficiaries representing 31.25 percent are in secondary school, and 164 beneficiaries representing 41.25 percent live in Cross River State.

Table 5: Beneficiaries based on the monthly income of beneficiaries

Response		Frequency	Percent
Valid	5,000-10,000	110	10
	11,000 – 20,000	120	7.5
	21,000-30,000	100	12.5
	30,000 and above	70	37.5
	Total	400	100

Source: Author's field survey, 2026

**Fig 5: A pie chart showing Beneficiaries Responses based on the monthly income of beneficiaries**

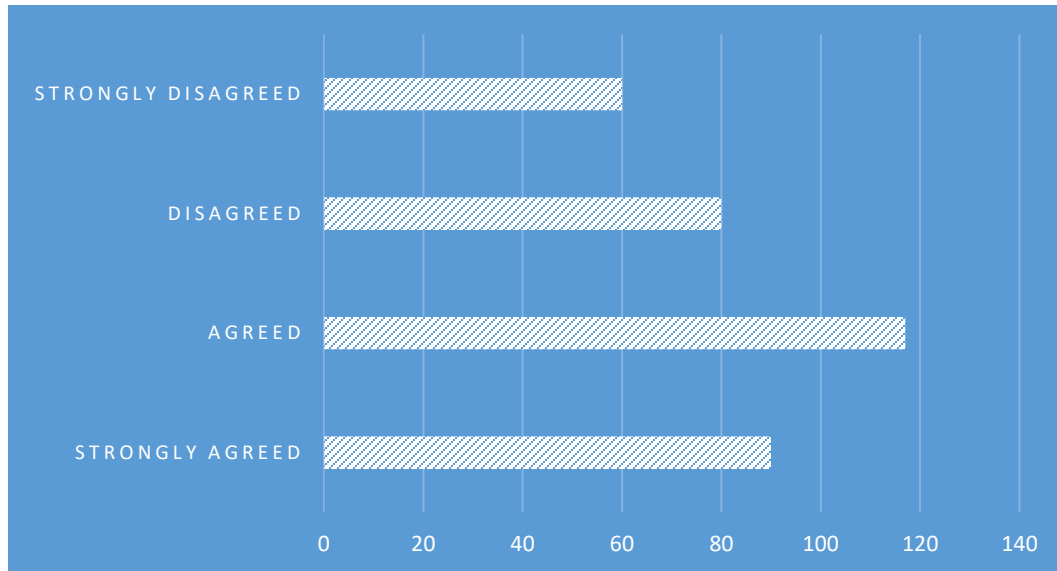
The result in Table 4.5 and Figure 5 above is the information on beneficiaries based on the monthly income of beneficiaries. The result as presented showed that 110 beneficiaries representing 10 percent earns Less than ₦5000- 10,000, 120 beneficiaries representing 7.5 percent earns ₦11,000- ₦20,000, 100 beneficiaries representing 12.5 percent earns ₦21,000 - ₦30,000 and 70 beneficiaries representing 37.5 percent earns ₦30,0000 and above in Cross River State.

SECTION B

Table 6: Proliferation of POS terminals has significantly enhanced financial inclusion in my community

Responses		Frequency	Percent
Valid	Strongly agreed	90	25
	Agreed	117	33.7
	Disagreed	80	23.0
	Strongly disagreed	60	17.2
	Total	347	100

Source: Author's field survey, 2026



Figure

6: A bar graph showing how the proliferation of POS terminals has significantly enhanced financial inclusion in my community

Table 6 and Figure 6 showed that out of 400 questionnaires that were distributed, only 176 were returned. From the questionnaires, 55 beneficiaries representing 31.25 percent strongly agreed that the proliferation of POS terminals has significantly enhanced financial inclusion in my community, 56 beneficiaries representing 31.8 percent agreed that the proliferation of POS terminals has significantly enhanced financial inclusion in my community, 30 beneficiaries representing 17 percent disagreed that the proliferation of POS terminals has significantly enhanced financial inclusion in my community and 35 beneficiaries representing 19.88 percent strongly agreed that the proliferation of POS terminals has significantly enhanced financial inclusion in my community.

Table 7: Indicating that POS services have contributed to increased local entrepreneurship and the growth of micro-businesses

Response		Frequency	Percent
Valid	Strongly agreed	112	31.5
	Agreed	101	28.4
	Disagreed	91	25.6
	Strongly disagreed	51	14.3
	Total	355	100

Source: Author's field survey 2026

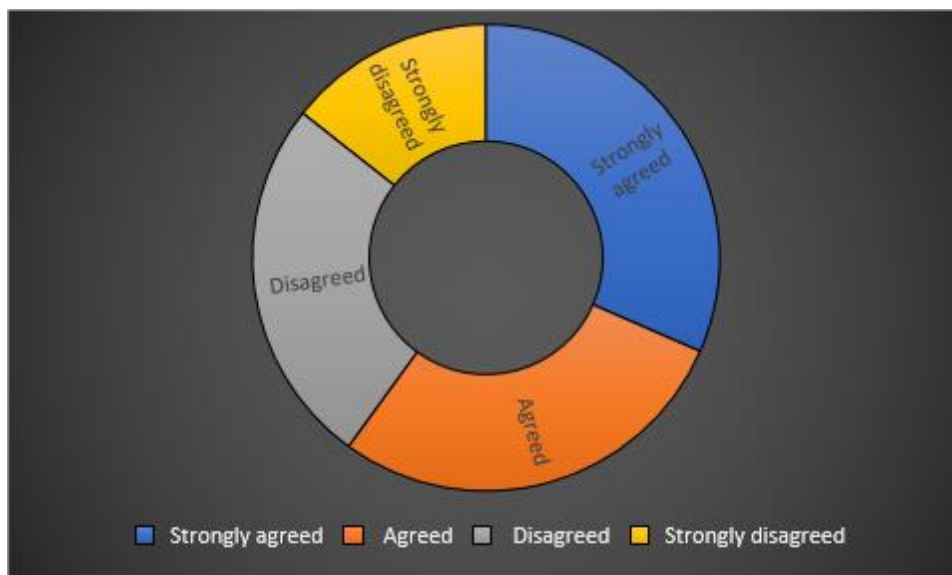


Figure 7: A pie chart showing how POS services have contributed to increased local entrepreneurship and the growth of micro-businesses

Table 7 and Figure 7 showed that out of 400 beneficiaries, 355 turned in their questionnaires. From the questionnaires, 112 beneficiaries representing 31.5 percent strongly agreed that POS services have contributed to increased local entrepreneurship and the growth of micro-businesses, 101 beneficiaries representing 28.4 percent agreed that POS services have contributed to increased local entrepreneurship and the growth of micro-businesses, 91 beneficiaries representing 25.6 percent disagreed that POS services have contributed to increased local entrepreneurship and the growth of micro-businesses and 51 beneficiaries representing 14.3 percent strongly disagreed that POS services have contributed to increased local entrepreneurship and the growth of micro-businesses.

Table 8: Indicating how the convenience of POS transactions has improved household economic activity and reduced cash handling risks.

Response		Frequency	Percent
Valid	Strongly agreed	95	26.5
	Agreed	100	27.9
	Disagreed	113	31.5
	Strongly disagreed	50	13.9
	Total	358	100

Source: Author's field Survey, 2025

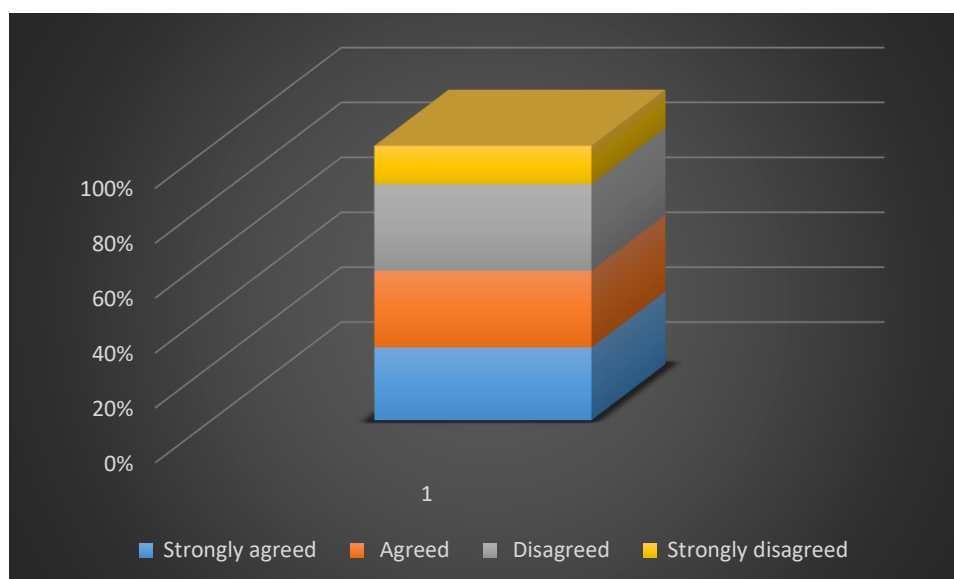


Fig 8: Showing how the convenience of POS transactions has improved household economic activity and reduced cash handling risks.

Table 8 and Figure 8 showed that out of 400 respondents, 358 questionnaires were turned in and the result showed that 95 respondents representing 26.5 percent strongly agreed that the convenience of POS transactions has improved household economic activity and reduced cash handling risks, 100 beneficiaries representing 27.9 percent agreed that the convenience of POS transactions has improved household economic activity and reduced cash handling risks while 113 beneficiaries representing 31.5 percent disagreed that the convenience of POS transactions has improved household economic activity and reduced cash handling risks and 50 beneficiaries representing 13.9 percent strongly disagreed that the convenience of POS transactions has improved household economic activity and reduced cash handling risks.

Table 9: Indicating how limited access to electricity is a major reason for post-harvest losses and reduced income for farmers

Responses		Frequency	Percent
Valid	Strongly agreed	140	37.3
	Agreed	115	30.6
	Disagreed	70	18.6
	Strongly disagreed	50	13.3
	Total	375	100

Source: Author's field survey, 2026

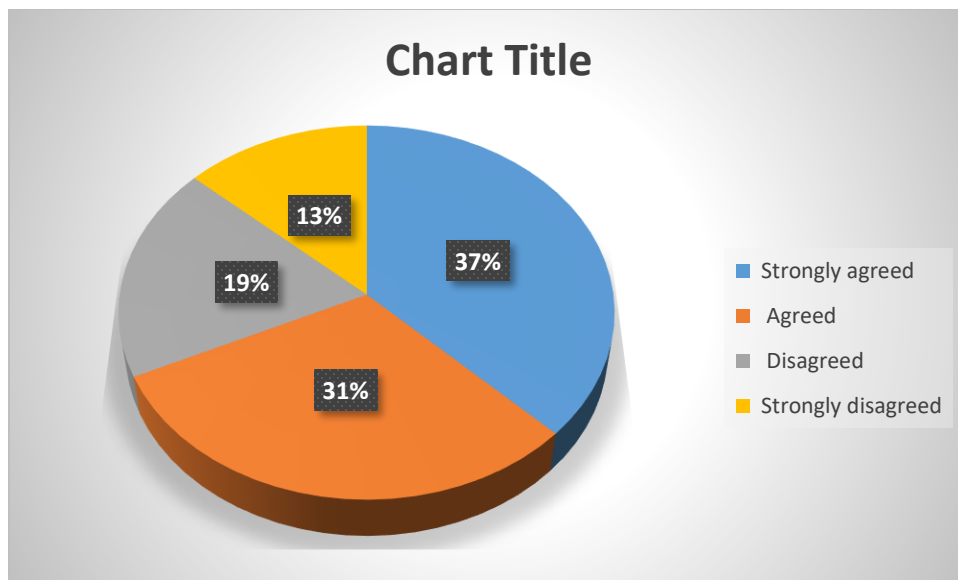


Table 9: Showing how the presence of POS agents has reduced dependence on urban banking infrastructure for financial needs.

Table 9 and Figure 9 showed that out of 400 respondents, 375 questionnaires were turned in and the result revealed that 140 beneficiaries representing 37.3 strongly agreed that POS agents has reduced dependence on urban banking infrastructure for financial needs, 115 beneficiaries representing 30.6 percent agreed that POS agents has reduced dependence on urban banking infrastructure for financial needs, while 70 beneficiaries representing 18.6 percent disagreed that POS agents has reduced dependence on urban banking infrastructure for financial needs and 50 beneficiaries representing 13.3 strongly disagreed that POS agents has reduced dependence on urban banking infrastructure for financial needs.

Table 10: A bar graph explaining how the adoption of POS technology has had a measurable impact on income generation and economic stability in rural areas.

Response		Frequency	Percent
Valid	Strongly agreed	112	31.1
	Agreed	100	27.8
	Disagreed	80	22.2
	Strongly disagreed	67	18.6
	Total	359	100

Source: Author's field survey, 2026

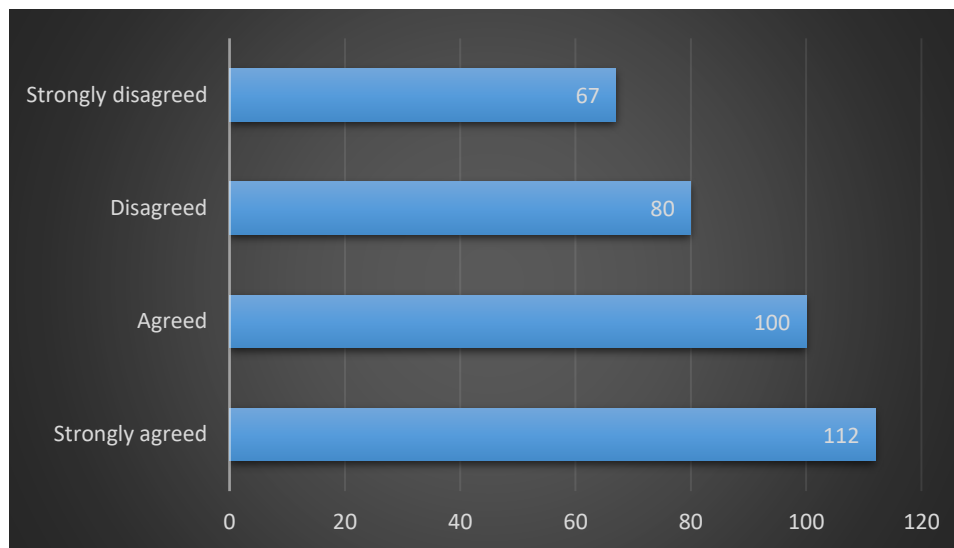


Figure 10: Bar Graph of Beneficiary Responses on how the adoption of POS technology has had a measurable impact on income generation and economic stability in rural areas.

Table 10 and Figure 10 above showed that out of 400 beneficiaries 359 questionnaires were turned in, and the result showed that 112 beneficiaries' representing 31.1 percent strongly agreed that the adoption of POS technology has had a measurable impact on income generation and economic stability in rural areas, 100 beneficiaries representing 27.8 percent agreed that the adoption of POS technology has had a measurable impact on income generation and economic stability in rural areas, while 80 beneficiaries representing 22.2 percent disagreed that the adoption of POS technology has had a measurable impact on income generation and economic stability in rural areas, while 67 beneficiaries representing 18.6 percent strongly disagreed that the adoption of POS technology has had a measurable impact on income generation and economic stability in rural areas.

SECTION C

Table 11: Showing how POS services have made it easier for rural dwellers to access basic financial services.

Response		Frequency	Percent
Valid	Strongly agreed	120	31.8
	Agreed	101	30.8
	Disagreed	55	16.3
	Strongly disagreed	61	18.1
	Total	337	100

Source: Author's field survey, 2026.

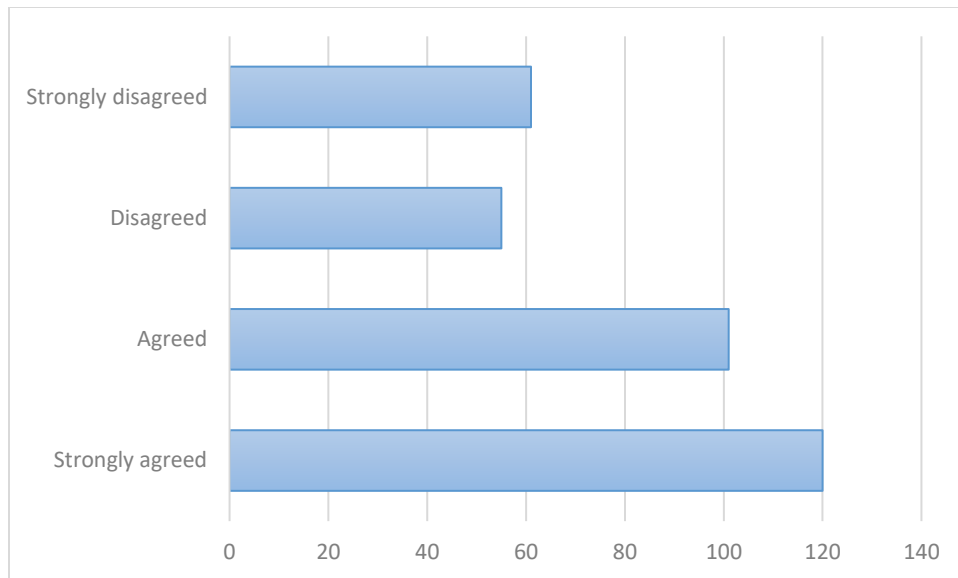


Figure 11: Bar Graph of Beneficiary Responses Showing how POS services have made it easier for rural dwellers to access basic financial services.

Table 11 and Figure 11 above showed that out of 400 beneficiaries 337 questionnaires were turned in, and the result showed that 120 beneficiaries' representing 31.8 percent strongly agreed that POS services have made it easier for rural dwellers to access basic financial services, 101 beneficiaries representing 30.8 percent agreed that POS services have made it easier for rural dwellers to access basic financial services, while 55 beneficiaries representing 16.3 percent disagreed that POS services have made it easier for rural dwellers to access basic financial services and 61 beneficiaries representing 18.1 percent strongly disagreed that POS services have made it easier for rural dwellers to access basic financial services.

Table 12: Showing how the spread of POS agents has reduced the need to travel to urban banks for financial services

Response		Frequency	Percent
Valid	Strongly agreed	170	43
	Agreed	100	25.3
	Disagreed	70	17.7
	Strongly disagreed	55	13.9
	Total	395	100

Source: Author's field survey, 2026

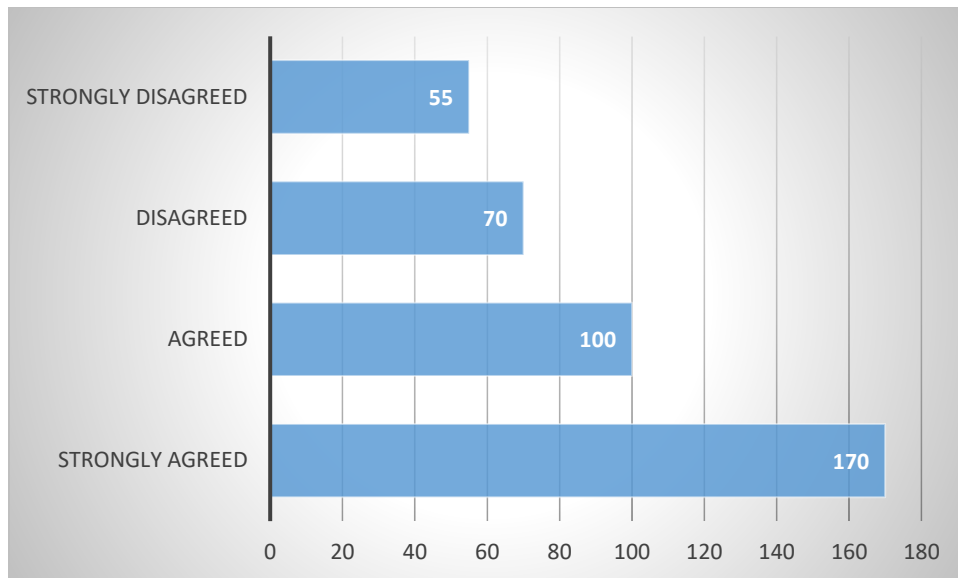


Figure 12: Bar Graph of Beneficiaries on how the spread of POS agents has reduced the need to travel to urban banks for financial services

Table 12 and Figure 12 above showed that out of 400 beneficiaries 395 questionnaires were turned in, and the result showed that 170 beneficiaries' representing 43 percent strongly agreed that the spread of POS agents has reduced the need to travel to urban banks for financial services, 100 beneficiaries representing 23.5 percent agreed that the spread of POS agents has reduced the need to travel to urban banks for financial services, while 70 beneficiaries representing 17.7 percent disagreed that the spread of POS agents has reduced the need to travel to urban banks for financial services and 55 beneficiaries representing 15.9 percent strongly disagreed that the spread of POS agents has reduced the need to travel to urban banks for financial services.

Table 13: Showing how through POS, more rural residents now have access to savings and deposit services.

Valid	Strongly agreed	110	34.4
	Agreed	112	35.1
	Disagreed	41	12.8
	Strongly disagreed	56	17.5
	Total	319	100

Source: Author's field survey, 2026

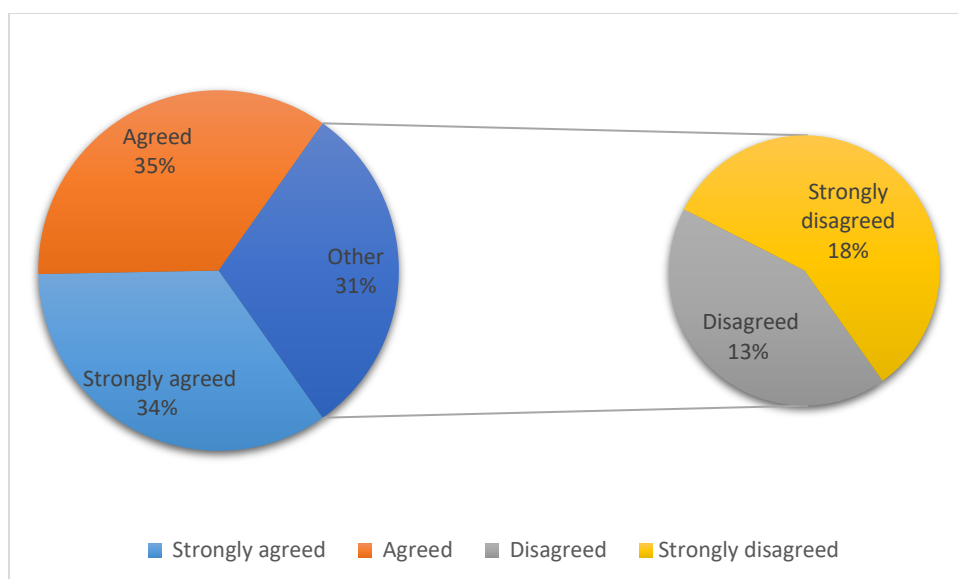


Figure 13: A bar graph showing how through POS, more rural residents now have access to savings and deposit services.

Table 13 and Figure 13 above showed that out of 400 beneficiaries 319 questionnaires were turned in, and the result showed that 110 beneficiaries' representing 31.4 percent strongly agreed that through POS, more rural residents now have access to savings and deposit services, 112 beneficiaries representing 35.1 percent agreed that through POS, more rural residents now have access to savings and deposit services, while 41 beneficiaries representing 12.8 percent disagreed that through POS, more rural residents now have access to savings and deposit services and 56 beneficiaries representing 17.5 percent strongly disagreed that through POS, more rural residents now have access to savings and deposit services.

Table 14: Showing how POS transactions have increased the number of financially included individuals in my community.

Response		Frequency	Percent
Valid	Strongly agreed	156	44.4
	Agreed	116	33
	Disagreed	45	12.8
	Strongly disagreed	34	9.68
	Total	351	100

Source: Author's field survey, 2026

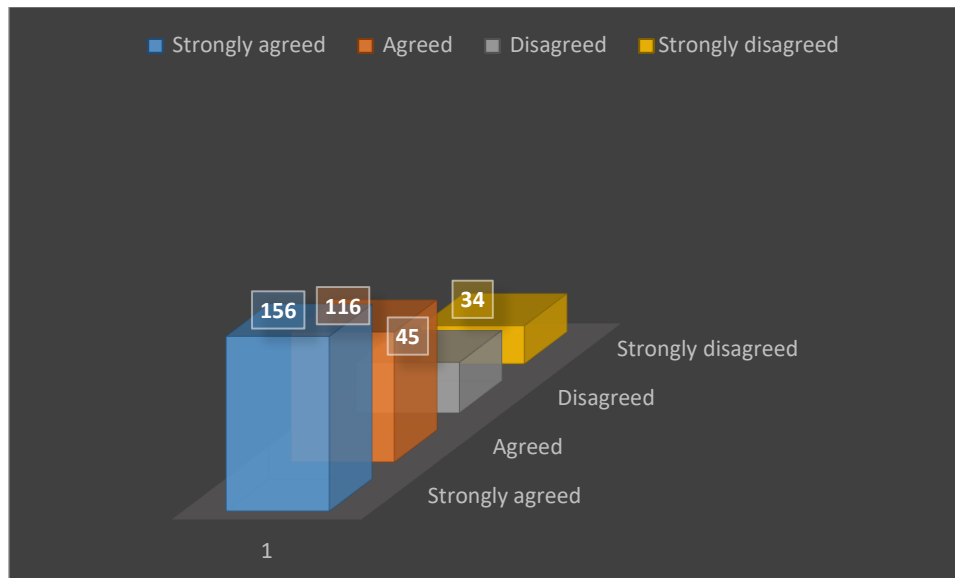


Figure 14: A bar graph showing how POS transactions have increased the number of financially included individuals in my community.

Table 14 and Figure 14 above showed that out of 400 beneficiaries 351 questionnaires were turned in, and the result showed that 156 beneficiaries' representing 44.4 percent strongly agreed that POS transactions have increased the number of financially included individuals in my community, 116 beneficiaries representing 33 percent agreed that POS transactions have increased the number of financially included individuals in my community, 116 beneficiaries representing 12.8 percent disagreed that POS transactions have increased the number of financially included individuals in my community and 34 beneficiaries representing 9.68 percent strongly disagreed that POS transactions have increased the number of financially included individuals in my community.

Table 15: Showing how the availability of POS agents has helped promote the use of digital financial services.

Response		Frequency	Percent
Valid	Strongly agreed	160	51.9
	Agreed	162	52.5
	Disagreed	41	13.3
	Strongly disagreed	45	14.6
	Total	308	100

Source: Author's field survey Survey, 2026

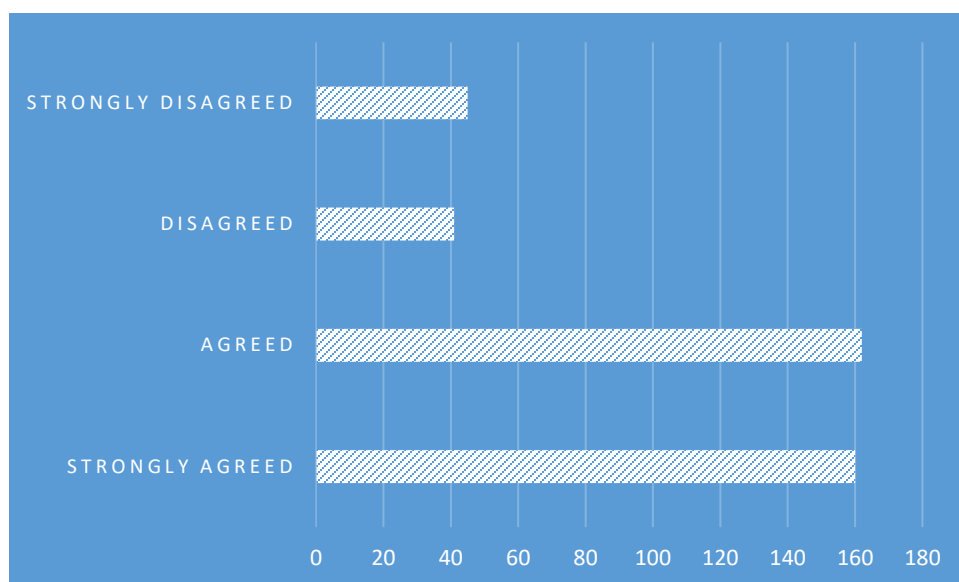


Figure 15: Bar Graph of Beneficiary Responses on how the availability of POS agents has helped promote the use of digital financial services.

Table 15 and Figure 15 above showed that out of 400 beneficiaries, 308 questionnaires were turned in, and the result showed that 160 beneficiaries, representing 51.9 percent, strongly agreed that the availability of POS agents has helped promote the use of digital financial services. 52.5 percent agreed that the availability of POS agents has helped promote the use of digital financial services, while 41 beneficiaries, representing 13.1 percent, disagreed that the availability of POS agents has helped promote the use of digital financial services. Electricity access has improved education, and 14.6 percent strongly disagreed that the availability of POS agents has helped promote the use of digital financial services.

Analysis of Research Question:

Research Question 1:

Table 16: What is the impact of POS transactions on the economic growth of rural communities in Cross River State?

Sample Size (n=400)

S/N	Statement	SA	A	D	SD	Mean	Remark
1	The proliferation of POS terminals has significantly enhanced financial inclusion in my community.	90 (25%)	117 (33.7%)	80 (23.0%)	60 (17.2%)	2.68	Agreed
2	POS services have contributed to increased local entrepreneurship and the growth of micro-businesses.	112 (31.5%)	101 (28.4%)	91 (25.6%)	51 (14.3%)	2.77	Strongly Agreed

3	The convenience of POS transactions has improved household economic activity and reduced cash handling risks.	95 (26.5%)	100 (27.9%)	113 (31.5%)	50 (13.9%)	2.67	Strongly Agreed
4	The presence of POS agents has reduced dependence on urban banking infrastructure for financial needs.	140 (37.3%)	115 (30.6%)	70 (18.6%)	50 (13.3%)	2.92	Strongly Agreed
5	The adoption of POS technology has had a measurable impact on income generation and economic stability in rural areas.	112 (31.1%)	100 (27.8%)	80 (22.2%)	67 (18.6%)	2.82	Strongly Agreed

Mean Score Decision Rule: SA=3.50-4.00; A=2.50-3.49; D=1.50-2.49; and SD=0.00-1.49.

Source: Author's field survey, 2026

From the table above, the mean score of 2.68 in statement one respondent agreed that the proliferation of POS terminals has significantly enhanced financial inclusion in my community. With the mean score of 2.77 in statement 2, respondents strongly agreed that POS services have contributed to increased local entrepreneurship and the growth of micro-businesses. With a mean score of 2.67, respondents strongly agreed that the convenience of POS transactions has improved household economic activity and reduced cash handling risks. Furthermore, in statement 4, with the mean score of 2.92, respondents strongly agreed that the presence of POS agents has reduced dependence on urban banking infrastructure for financial needs. Lastly, with the mean score of 2.82 in statement 5, respondents strongly agreed that the adoption of POS technology has had a measurable impact on income generation and economic stability in rural areas.

Test of Hypotheses

The hypotheses of the study are tested using the Chi-square test technique. The method was adopted because it is a non-parametric test suitable for statistical significance of survey (primary) data. The Chi-square calculated value (χ^2_c) is obtained using the formula:

$$\chi^2_c = \sum \left(\frac{(Fo - Fe)^2}{Fe} \right)$$

Where Fo = observed frequencies and Fe = expected frequencies. The responses from the questionnaires will represent Fo , while Fe for a “one-way sample Chi-square table” is determined using the following formula:

$$Fe = \frac{\text{Sum of entries}}{\text{Number of entries}}$$

The critical value (table value) for the Chi-square (χ^2_t) obtained from the Chi-square table is determined at the 5% (=0.05) level of significance, with degrees of freedom (df) using the following formula: $\chi^2_t = \chi^2_{0.05, df=12}$.

The decision rule for the acceptance or rejection of hypotheses is given as follows:

- (i) If the calculated Chi-square is greater than the critical value, we reject the null hypothesis.
- (ii) If the critical value is greater than the calculated Chi-square, we fail to reject the null hypothesis.

Table 17: Results of the observed and expected frequencies on the relationship between POS transactions and economic growth of rural communities in Cross River State.

S/N	SA	A	D	SD	Total
1	90	117	80	60	347
2	112	101	91	51	355
3	95	100	113	50	358
4	140	115	70	50	375
5	112	100	80	67	359
Total	549	533	434	278	1794

Table 18: To calculate the expected frequency for each cell is to multiply the row total by the column total. Total for the cell and divide the product by the total

$\frac{347 \times 549}{1794} = 106.1$	$\frac{355 \times 533}{1794} = 105.4$	$\frac{358 \times 434}{1794} = 86.6$	$\frac{375 \times 278}{1794} = 58.1$	$\frac{359 \times 1794}{1794} = 359$
$\frac{347 \times 549}{1794} = 106.1$	$\frac{355 \times 533}{1794} = 105.4$	$\frac{358 \times 434}{1794} = 86.6$	$\frac{375 \times 278}{1794} = 58.1$	$\frac{359 \times 1794}{1794} = 359$
$\frac{347 \times 549}{1794} = 106.1$	$\frac{355 \times 533}{1794} = 105.4$	$\frac{358 \times 434}{1794} = 86.6$	$\frac{375 \times 278}{1794} = 58.1$	$\frac{359 \times 1794}{1794} = 359$
$\frac{347 \times 549}{1794} = 106.1$	$\frac{355 \times 533}{1794} = 105.4$	$\frac{358 \times 434}{1794} = 86.6$	$\frac{375 \times 278}{1794} = 58.1$	$\frac{359 \times 1794}{1794} = 359$

Author's computation, 2026

Table 19: Contingency table

Row Column	Observed Frequency	Expected Frequency	Fo-Fe	(Fo-fe) ²	$\frac{(Fo-Fe)^2}{Fe}$
1,1	90	106.1	-16.1	259.21	2.443073
1,2	117	105.4	11.6	134.56	1.27666
1,3	80	86.6	-6.6	43.56	0.503002
1,4	60	58.1	1.9	3.61	0.062134

2,1	112	106.1	5.9	34.81	0.328087
2,2	101	105.4	-4.4	19.36	0.183681
2,3	91	86.6	4.4	19.36	0.223557
2,4	51	58.1	-7.1	50.41	0.867642
3,1	95	106.1	-11.1	123.21	1.161263
3,2	100	105.4	-5.4	29.16	0.27666
3,3	113	86.6	26.4	696.96	8.048037
3,4	50	58.1	-8.1	65.61	1.12926
4,1	140	106.1	33.9	1149.21	10.83139
4,2	115	105.4	9.6	92.16	0.874383
4,3	70	86.6	-16.6	275.56	3.181986
4,4	50	58.1	-8.1	65.61	1.12926
5,1	112	106.1	5.9	34.81	0.328087
5,2	100	105.4	-5.4	29.16	0.27666
5,3	80	86.6	-6.6	43.56	0.503002
5,4	67	58.1	8.9	79.21	1.363339
					34.99116

The calculated value is $X^2 = 34.99116$

DF= (R-1) (C-1)

(5-1) (4-1)

4 X 3 = 12

$X^2 = 34.99116 > 16.92$

Since the calculated Chi-square value of 34.99116 is greater than the Chi-square tabular value of 16.92 at the 5% level of significance, we therefore reject the null hypothesis (H_0) and accept the alternative hypothesis and reject the null and conclude that we therefore accept the alternative (H_0) and reject the null hypothesis and conclude that POS transactions have improved economic growth of rural communities in Cross River State.

Research Question 2: What is the effect of POS transactions on financial inclusion among rural dwellers in Cross River State

Sample Size (n=400)

S/N	Statement	SA	A	D	SD	Mean	Remark
1	<i>POS services have made it easier for rural dwellers to access basic financial services.</i>	120 (31.8%)	101 (30.8%)	55 (16.3%)	61 (18.1%)	2.83	Agreed
2	The spread of POS agents has reduced the need to	170 (43%)	100 (25.3%)	70 (17.7%)	55 (13.9%)	2.97	Strongly Agreed

	travel to urban banks for financial services.						
3	<i>Through POS, more rural residents now have access to savings and deposit services.</i>	110 (34.4%)	112 (35.1%)	41 (12.8%)	56 (17.5%)	2.86	Strongly Agreed
4	POS transactions have increased the number of financially included individuals in my community.	156 (44.4%)	116 (33%)	45 (12.8%)	34 (9.68%)	3.12	Strongly Agreed
5	The availability of POS agents has helped promote the use of digital financial services.	160 (51%)	55 (52%)	45 (13%)	31 (14%)	3.18	Strongly Agreed

(2) Mean Score Decision Rule: SA=3.50-4.00; A=2.50-3.49; D=1.50-2.49; and SD=0.00-1.49.

Source: Field Survey (January, 2025)

Table 19:

With the mean score of 2.83 in statement one, respondents agreed that POS services have made it easier for rural dwellers to access basic financial services. With the mean score of 2.97 in statement 2, respondents strongly agreed that the spread of POS agents has reduced the need to travel to urban banks for financial services. With the mean score of 2.86, respondents strongly agreed that through POS, more rural residents now have access to savings and deposit services. Furthermore, in statement 4, with the mean score of 3.12, respondents strongly agreed that POS transactions have increased the number of financially included individuals in my community. Lastly, with the mean score of 3.18 in statement 5, respondents strongly agreed that the availability of POS agents has helped promote the use of digital financial services.

Test of Hypotheses

The hypotheses of the study are tested using the Chi-square test technique. The method was adopted because it is a non-parametric test suitable for statistical significance of survey (primary) data. The Chi-square calculated value (χ^2_c) is obtained using the formula:

$$\chi^2_c = \sum \left(\frac{(Fo - Fe)^2}{Fe} \right)$$

Where Fo = observed frequencies and Fe = expected frequencies. The responses from the questionnaires will represent Fo , while Fe for a “one-way sample Chi-square table” is determined using the following formula:

$$Fe = \frac{\text{Sum of entries}}{\text{Number of entries}}$$

$\frac{337*716}{1810} = 133.3$	$\frac{395*519}{1810} = 113.2$	$\frac{319*252}{1810} = 44.4$	$\frac{351*251}{1810} = 48.6$	$\frac{408*1810}{1810} = 408$
$\frac{337*716}{1810} = 133.3$	$\frac{395*519}{1810} = 113.2$	$\frac{319*252}{1810} = 44.4$	$\frac{351*251}{1810} = 48.6$	$\frac{408*1810}{1810} = 408$
$\frac{337*716}{1810} = 133.3$	$\frac{395*519}{1810} = 113.2$	$\frac{319*252}{1810} = 44.4$	$\frac{351*251}{1810} = 48.6$	$\frac{408*1810}{1810} = 408$
$\frac{337*716}{1810} = 133.3$	$\frac{395*519}{1810} = 113.2$	$\frac{319*252}{1810} = 44.4$	$\frac{351*251}{1810} = 48.6$	$\frac{408*1810}{1810} = 408$

The critical value (table value) for the Chi-square (χ^2_t) obtained from the Chi-square table is determined at the 5% (=0.05) level of significance, with degrees of freedom (df) using the following formula: $\chi^2_t = \chi^2_{0.05}$, df= 12.

The decision rule for the acceptance or rejection of hypotheses is given as follows:

- (i) If the calculated Chi-square is greater than the critical value, we reject the null hypothesis.
- (ii) If the critical value is greater than the calculated Chi-square, we fail to reject the null hypothesis.

Table: 20

Results of the observed and expected frequencies on POS transactions of financial inclusion among rural dwellers in Cross River State

S/N	SA	A	D	SD	Total
1	120	101	55	61	337
2	170	100	70	55	395
3	110	112	41	56	319
4	156	116	45	34	351
5	160	162	41	45	408
Total	716	591	252	251	1810

To calculate the expected frequency for each cell is to multiply the row total by the column Total for the cell and divide the product by the grand total

Table 21: Contingency table

Row Column	Observed Frequency	Expected Frequency	Fo-Fe	(Fo-fe) ²	$\frac{(Fo-Fe)^2}{Fe}$
1,1	120	73.3	46.7	2180.89	29.75293
1,2	101	54.0	47	2209	40.90741
1,3	55	29.2	25.8	665.64	22.79589
1,4	61	33.1	27.9	778.41	23.51692
2,1	170	73.3	96.7	9350.89	127.5701
2,2	100	54.0	46	2116	39.18519
2,3	70	29.2	40.8	1664.64	57.00822
2,4	55	33.1	21.9	479.61	14.48973

3,1	110	73.3	36.7	1346.89	18.37503
3,2	112	54.0	58	3364	62.2963
3,3	41	29.2	11.8	139.24	4.768493
3,4	56	33.1	22.9	524.41	15.8432
4,1	156	73.3	82.7	6839.29	93.30546
4,2	116	54.0	62	3844	71.18519
4,3	45	29.2	15.8	249.64	8.549315
4,4	34	33.1	0.9	0.81	0.024471
5,1	160	73.3	86.7	7516.89	102.5497
5,2	162	54.0	108	11664	216
5,3	41	29.2	11.8	139.24	4.768493
5,4	45	33.1	11.9	141.61	4.278248
					957.1703

The calculated value is $X^2 = 957.1703$

DF= (R-1) (C-1)

(5-1) (4-1)

4 X 3 = 12

$X^2 = 957.1703 > 16.92$

Research Question two

Since the calculated Chi-square value of 957.1703 is greater than the Chi-square tabular value of 16.92 at the 5% level of significance, we therefore accept the alternative (H_0), reject the null hypothesis, and conclude that POS transactions have led to financial inclusion among rural dwellers in Cross River State.

4.2 Discussion of Findings

The findings of this study revealed that Point of Sale (POS) transactions have significantly contributed to the economic growth of rural communities in Cross River State. This conclusion is supported by the hypothesis test result, where the calculated Chi-square value (34.99116) was greater than the critical Chi-square value (16.92) at a 5% level of significance, leading to the rejection of the null hypothesis. The result suggests that POS services have improved access to financial transactions, enhanced business activities, facilitated trade, and reduced the dependence on cash transactions among rural residents. The finding aligns with the study of Zaccheaus (2021), who found that POS transactions significantly contributed to economic growth through increased consumer spending and transaction volume. Similarly, Ihegboro (2019) reported that POS transactions positively influenced economic growth by promoting financial inclusion and expanding access to financial services.

The study further revealed that POS transactions have significantly enhanced financial inclusion among rural dwellers in Cross River State. This was evidenced by the calculated Chi-square value of 957.1703, which exceeded the critical value of 16.92. Consequently, the null hypothesis was rejected, indicating that POS services have played a vital role in bringing financial services closer to previously unbanked and underserved populations. Through POS agents, rural residents can conveniently access banking services such as cash withdrawals, deposits, transfers, and bill payments without travelling long distances to

commercial bank branches. This finding supports the report of NIBSS (2015), which documented a substantial increase in POS transaction volumes, indicating widespread adoption and acceptance of the technology. The result is also consistent with Ihegboro (2019), who found that electronic banking channels, particularly POS transactions, promote financial inclusion and economic development.

The findings are further corroborated by the work of Nwako et al. (2020), who observed that POS payment systems positively influenced the profitability of deposit money banks in Nigeria. The positive effect of POS transactions on banking performance suggests that increased accessibility and utilization of electronic payment systems contribute to broader financial sector development, which ultimately supports economic growth. Likewise, Okon and Amaegberi (2018) found that POS transactions positively and significantly contributed to the performance of commercial banks in Nigeria, thereby reinforcing the importance of POS technology in deepening financial inclusion and stimulating economic activities.

However, despite the positive contributions of POS transactions, the findings should be interpreted alongside the challenges associated with their usage. Ejere (2022) identified fraud, customer misconceptions, disbursement errors, and poor network connectivity as major obstacles affecting POS operations in Nigeria. These challenges often result in failed transactions, delays in service delivery, and customer dissatisfaction. Similarly, NIBSS (2018) reported that approximately 23 percent of registered POS terminals remained inactive due to operational and systemic inadequacies. Such challenges may limit the full realization of the benefits associated with POS adoption in rural communities. The findings also contrast with some empirical studies. For instance, Gambo, Ussaini and Peter (2020) found that POS transactions had a negative effect on Nigeria's economic growth due to infrastructural deficiencies and fraud-related concerns. Similarly, Adesete, Mohammed and Risikat (2021) reported that POS transactions exerted a marginally negative impact on GDP because of transaction failures and network challenges. These contrasting results may be attributed to differences in geographical coverage, study periods, methodologies, and levels of technological infrastructure. While the national studies focused on macroeconomic indicators, the present study examined the direct impact of POS services on rural communities, where the availability of POS facilities may have generated more visible socio-economic benefits.

Overall, the findings indicate that POS transactions have become an important driver of economic growth and financial inclusion in rural communities of Cross River State. Although operational challenges persist, the increasing adoption and utilization of POS services have improved access to financial services, facilitated commercial activities, and contributed to rural economic development. Therefore, strengthening the supporting infrastructure and addressing operational inefficiencies will further enhance the effectiveness of POS transactions in promoting inclusive growth and financial empowerment in rural areas.

5. CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The study established that POS transactions have become an important driver of economic growth and financial inclusion in rural communities of Cross River State. By expanding access to financial services where conventional banking facilities are limited, POS operations have stimulated local commerce, supported small businesses, generated employment, and promoted greater participation in the formal financial system. Consequently, POS services have enhanced household welfare, strengthened rural economic activities, and reduced financial exclusion. The study therefore concludes that sustained

expansion and effective regulation of POS services are essential for accelerating inclusive rural economic development in Cross River State.

5.2 Recommendations

Based on the findings, the study recommends that:

- a) Government and financial institutions should implement sustained financial literacy programmes to improve awareness, confidence, and the safe use of POS and other digital financial services in rural communities.
- b) The Federal, State, and Local Governments should provide financial incentives, including grants and low-interest credit, to support the establishment and expansion of POS businesses, particularly among youths and women.
- c) Government should prioritize investment in rural electricity and telecommunications infrastructure to guarantee reliable and uninterrupted POS operations.
- d) The Central Bank of Nigeria (CBN) and other regulatory agencies should strengthen the regulation, monitoring, and licensing of POS operators to curb fraud, protect consumers, and ensure compliance with operational standards.
- e) Government should institutionalize strategic partnerships with banks, fintech firms, and telecommunications providers to expand POS coverage and improve access to affordable financial services in underserved rural communities.

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