

The Impact of Mobile Banking Transactions on the Nigerian Economy

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Abstract

The paper explored the impact of mobile banking transactions on the performance of the Nigerian economy using quarterly data (2010 to 2024) from the Central Bank of Nigeria Bulletin. The study focused on Automated Teller Machine transactions, Point of Sale transactions, Mobile Payment transactions, and Internet Banking transactions as key dimensions of mobile banking transactions, while Real Gross Domestic Product served as the measure of economic performance. An ex post facto research design was adopted, and the analysis was conducted using descriptive statistics, unit root tests, cointegration test, and the error correction model to capture both short run and long run association among the variables. The cointegration test confirmed the existence of a long run equilibrium relationship among electronic payment variables and economic performance. The Vector Error Correction results revealed that Automated Teller Machine and Point of Sale transactions exerted positive and statistically significant effects on Real Gross Domestic Product, while Mobile Payment transactions showed a substantial adverse outcome on the short run and Internet Banking transactions exhibited a negative but statistically insignificant effect. The error correction term was negative and statistically significant, indicating a strong speed of adjustment toward long run equilibrium. Diagnostic tests confirmed the absence of serial correlation and the stability of the model. The study concluded that mobile banking transactions significantly influence Nigeria's economic performance, although their impacts vary across platforms. It recommended optimisation of ATM and POS operations, improvement of mobile payment infrastructure, expansion of internet banking adoption, and stronger regulatory support for digital financial services.

Keywords: Mobile Banking Transactions, Automated Teller Machine (ATM), Point of Sale (POS), Mobile Payment, Internet Banking, Economic Performance, Vector Error Correction Model (VECM).

Introduction

Economic performance refers to the capacity of a nation to efficiently produce goods and services, create jobs, increase earning, and improve the overall welfare of citizens. A strong economic performance is essential because it promotes investment, enhances productivity, and contributes to social and political stability within a nation. In most economies, performance is usually measured using real gross domestic product (RGDP), employment rate, and productivity levels (Oyadeyi, 2024). For a developing country like Nigeria,

sustained economic performance is particularly important for reducing poverty, promoting industrial development, and generating adequate government revenue to provide essential public services. In recent years, scholars have emphasized that modern economies increasingly rely on technology-driven systems to enhance production processes and financial activities, making financial innovation a critical driver of economic performance (Domeher et al., 2022).

Despite its vast economic potential, Nigeria has experienced several obstacles that thwart consistent and sustainable economic growth. Persistent issues such as inflationary pressures, unstable exchange rates, inadequate infrastructure, and low productivity have slowed economic progress and weakened overall economic performance (Domeher et al., 2022). In addition, the traditional financial system in Nigeria has long been characterized by delays in transactions, heavy reliance on physical cash, and operational inefficiencies that often slow down business activities. These limitations reduce the speed of financial circulation within the economy and may discourage investment and commercial expansion. Consequently, the need for innovative financial systems that enable faster, safer, and more efficient financial transactions has become increasingly important for improving economic performance. Electronic transaction systems have therefore emerged as a vital technological development capable of transforming financial operations and strengthening economic activities in Nigeria (Austin-Olowo et al., 2023).

Mobile banking transactions involve the utilisation of digital tools to conduct financial payments and transfers without the direct use of physical cash. These systems allow individuals, businesses, and government institutions to perform financial activities electronically through several mediums like Automated Teller Machines (ATMs), Point of Sale (POS) terminals, mobile payment systems, and internet banking applications. The adoption of these technologies has significantly transformed financial service delivery in many economies by enhancing the speed, accessibility, and reliability of transactions. According to Ashiru et al. (2023), mobile banking transactions contribute to economic performance by reducing transaction costs, increasing financial inclusion, enhancing transparency, and promoting the efficiency of financial operations. When financial systems operate efficiently, businesses can conduct transactions more smoothly, consumers can participate more actively in economic activities, and governments can improve revenue collection and financial monitoring.

Each component of electronic transaction technology plays a unique role in supporting economic activities. Automated Teller Machines provide convenient access to financial services by enabling customers to withdraw or deposit funds at any time, thereby increasing the circulation of money and supporting commercial transactions (Ibekwe, 2021). Point of Sale systems facilitate cashless payments in retail outlets and service centers, reducing the risks associated with carrying physical cash while promoting faster and more efficient commercial transactions (Zwingina et al., 2023). Mobile payment platforms allow individuals to transfer money, pay bills, and complete transactions using mobile phones, which has proven especially valuable in expanding financial participation in rural and

underserved areas (Nkechika, 2022). Similarly, internet banking provides users with the ability to carry out various transactions, like bill payments, money transfers, and business payments, thereby reducing operational time and improving financial efficiency across different sectors of the economy (Adesete et al., 2021).

However, despite the increasing adoption of electronic transaction systems in Nigeria, the country's economic performance remains unstable. This raises concerns about the extent to which these financial innovations contribute to real economic output. Several studies have investigated different aspects of electronic payment systems, yet empirical findings remain mixed and sometimes inconsistent. While some researchers report that mobile banking transactions enhance economic growth and financial efficiency, others indicate that the impact varies depending on the specific payment channel and level of adoption. Furthermore, many previous studies have focused primarily on the banking sector or financial inclusion, rather than examining the broader relationship between mobile banking transactions and national economic performance measured by real GDP.

This situation reveals a significant research gap concerning how specific electronic transaction channels such as ATM, POS systems, mobile payments, and internet banking influence Nigeria's economic performance both individually and collectively. Addressing this gap is particularly important given the rapid expansion of digital financial services within the Nigerian economy. Therefore, this paper sought to examine the effect of mobile banking transactions on Nigeria's economic performance with specific emphasis on ATM, POS transactions, mobile payment systems, and internet banking transactions.

The main objective of this study is to examine the effect of mobile banking transactions on the performance of the Nigerian economy. The specific objectives are to:

- i. Examine the effect of Automated Teller Machine (ATM) transaction on the Real Gross Domestic Product in Nigeria.
- ii. Investigate the effect of Point of Sales (POS) transactions on the Real Gross Domestic Product in Nigeria.
- iii. Examine the effect of Mobile Payment on the Real Gross Domestic Product in Nigeria.
- iv. Analyze the effect of Internet banking transactions on the Real Gross Domestic Product in Nigeria.

Literature Review

Conceptual Review

Mobile banking Transactions

Mobile banking transactions refer to digital methods that allow individuals, businesses and government institutions to make and receive payments electronically without using physical cash. These systems use computer networks, mobile devices and banking platforms to process financial transactions in a secure and timely manner. Nkechika (2022) describes mobile banking transactions as essential tools that help to reduce reliance on cash

and support seamless financial activities across different sectors of the economy. Common examples include ATM services, POS machines, mobile payments and internet banking. Mobile banking transactions are designed to enhance the time spent, safety and efficacy of financial transactions. Adesete et al. (2021) note that these systems support economic activities by enabling faster transfers, reducing the cost of handling money and expanding the reach to financial services. They also help businesses manage payments more effectively and allow customers to conduct transactions from any location. By making payments more convenient, mobile banking transactions help to stimulate commercial activities and enhance overall confidence in the financial sector.

Dimensions of Mobile Banking Transactions

Automated Teller Machine (ATM) Transactions

Automated Teller Machines are digital tools that permit user to withdraw, deposit or transfer money and view bank balances without visiting a banking hall. ATMs operate continuously, giving customers opportunity to financial services at will. Ibekwe (2021) notes that ATM transactions improve financial operations by making basic banking services easily accessible to users, which increases the efficiency of financial activities. This accessibility helps to make financial services more convenient and dependable.

ATM transactions also support economic activity by enabling faster cash flow and financial circulation. Zwingina et al. (2023) emphasise that ATMs play an important role in enhancing consumer spending because they allow users to access funds quickly when needed. As a result, business operations become more dynamic and economic interactions become more frequent. These benefits position ATM transactions as an important dimension of financial innovation within mobile banking transactions.

Point of Sales (POS) Transactions

Point of Sale transactions involve the use of electronic terminals that allow customers to make payments using bank cards instead of cash. These terminals are widely used in shops, supermarkets, restaurants and service centres to process payments quickly and securely. According to Ashiru et al. (2023), POS transactions help to promote cashless payments by making it simple for customers to pay electronically. This contributes to smoother commercial activities and reduces the need for physical money.

POS transactions also support businesses by increasing their ability to handle large volumes of payments efficiently. Austin-Olowo et al. (2023) explains that POS platforms allow businesses to operate more effectively because they make payment processes quicker and safer. They also help to increase sales because customers are not limited by the amount of cash they have. This makes POS systems an important innovation in the digital financial environment.

Mobile Payment Transactions

Mobile payment transactions refer to payments made through mobile devices such as smartphones and tablets. These transactions allow users to transfer, pay bills and purchase goods through digital applications. Nkechika (2022) describes mobile payments as important tools that provide financial services to people regardless of their location. This makes financial services more accessible, mostly in local areas where normal banking operations are not available.

Mobile payment platforms also support economic activity by enabling users to conduct transactions instantly. Adesete et al. (2021) note that mobile payments help to increase the speed of financial interactions, support small businesses and extend financial inclusion. Their ability to reach a wide range of users makes mobile payments a crucial component of financial innovation within mobile banking transactions.

Internet Banking Transactions

Internet banking transactions involve the utilisation of digital platforms that allow customers to connect to a list of financial services through the internet. These services comprise funds transfer, bills payment, checking account statements and managing savings and investments. According to Ashiru et al. (2023), internet banking provides a secure and convenient way to perform complex financial operations without the need to visit a bank. This increases flexibility and helps customers manage their finances more effectively.

Internet banking also supports economic activities by enabling faster and more efficient financial transactions. Austin-Olowo et al. (2023) explains that businesses benefit from internet banking because it reduces the time and cost associated with processing payments. It also enhances financial planning and promotes transparency in financial operations. This makes internet banking a key dimension of digital financial innovation.

Economic Performance

Economic performance is the capability of an economy to produce goods and services, maintain stability and support a high standard of living for its population. It is assessed through indicators such as output levels, employment, income and productivity. Oyadeyi (2024) states that strong economic performance enables a country to experience sustainable growth, attract investment and increase the wellbeing of its citizens. It is an important measure of how effectively an economy is functioning.

Economic performance also reflects how well the financial system supports business activities and consumer spending. According to Domeher et al. (2022), economies with efficient financial systems tend to grow faster because they allow resources to move smoothly between individuals, businesses and government institutions. This demonstrates that financial innovation can influence economic performance by enhancing the speed and efficiency of financial activities.

Real Gross Domestic Product

Real Gross Domestic Product represents the overall value of goods and services produced within a nation after adjusting for the effects of inflation. It shows the actual level of economic activity and is used to measure economic growth over time. Domeher et al. (2022) describe real GDP as a reliable indicator of national productivity because it reflects changes in output without the effects of rising prices. This makes real GDP an important measure for understanding economic performance.

Real GDP is also used by policymakers to assess economic progress and make decisions that affect national development. Zwingina et al. (2023) state that changes in real GDP reflect how well different sectors of the economy are performing, including the financial sector. Because electronic payment innovations influence financial activities, they can contribute to changes in real GDP. This explains why real GDP is important for evaluating the economic effects of financial innovation.

Theoretical Framework

Schumpeter's Theory of Innovation

Joseph Schumpeter's Theory of Innovation, introduced in 1934, emphasizes innovation as a key force behind economic growth and development. Schumpeter explained that economic progress occurs through new combinations of production processes, technologies, and financial services. Recent scholars maintain that innovation creates opportunities for improved productivity, reduced transaction costs, and greater efficiency in financial systems (Domeher et al., 2022). This makes the theory suitable for understanding how financial technologies reshape economic performance. Schumpeter also described innovation as introducing new methods that replace old ones, which is evident in the shift from manual cash transactions to mobile banking transactions.

The theory further explains that innovation leads to creative destruction, a situation where new technologies make existing methods obsolete. In Nigeria, the emergence of mobile banking, POS terminals, and internet banking has replaced traditional payment methods and made financial transactions faster and more accurate. Research shows that financial innovation stimulates productivity by enabling secure, quick, and cost-efficient transactions across economic sectors (Ashiru et al., 2023). This transformation is aligned with Schumpeter's argument that innovation fuels economic development through continuous technological improvement.

Another important aspect of the theory is that innovation strengthens financial intermediation. Schumpeter emphasised that financial institutions play a crucial role in promoting innovation by granting loans and supporting investment in new technologies. Recent studies show that Nigerian banks invest heavily in digital infrastructure to support electronic payment channels, thereby improving the functioning of the economy (Oyadeyi, 2024). This connection supports the idea that financial innovation enhances economic output by improving the allocation and circulation of financial resources.

Schumpeter's theory relates directly to this study because it explains how financial innovation affects economic performance. The study examines mobile banking transactions such as ATM transactions, POS usage, mobile payment services, and internet banking, all of which represent modern innovations that are replacing older systems. The theory provides a strong foundation for understanding how these tools contribute to Nigeria's Real GDP through increased efficiency, improved financial services, and strengthened economic activities.

Empirical Review

Austin-Olowo et al. (2023) investigated the impact of digital financial services on the Nigerian economy, with the objective of determining how major digital payment channels contribute to economic growth. The study used an ex post facto design and secondary data from the Central Bank of Nigeria Statistical Bulletin, covering 2009 to the fourth quarter of 2017. Gross Domestic Product was used as the measure of economic growth, while ATM, POS, Web Pay and mobile banking transactions represented digital financial services. The data were analysed using ordinary least squares regression. The findings showed that mobile banking, POS and ATM transactions had positive effects on the Nigerian economy, while Web Pay had a negative effect. The study recommended improved operationalisation, security, safety and financial literacy for digital financial services. However, its relatively short data period and use of OLS leave room for further time-series analysis of long-run relationships. The present study addresses this limitation by extending the period to 2024 and applying the Johansen cointegration test and VECM.

Oyadeyi (2024) examined the relationship between banking innovation, financial inclusion, and economic growth in Nigeria with the objective of identifying the banking innovation channels that contribute most significantly to economic growth. The study employed monthly and quarterly time series data covering the period 2009 to 2021 obtained from the Central Bank of Nigeria Statistical Bulletin and the World Development Indicators. Banking innovation was measured using indicators such as mobile banking transactions, ATM transactions, and other digital banking channels, while economic growth was proxied by real gross domestic product. The study adopted the Mixed Data Sampling approach alongside the Autoregressive Distributed Lag model to estimate both short run and long run relationships among the variables. The findings indicated that banking innovation, particularly mobile banking and ATM transactions, had a positive and statistically significant impact on Nigeria's economic growth, while financial inclusion further strengthened this relationship. The study recommended sustained investment in digital banking infrastructure and policies that promote wider financial inclusion. Nevertheless, the study focused broadly on banking innovation and financial inclusion rather than the specific contribution of mobile banking transactions to the economy. The present study fills this gap by concentrating specifically on mobile banking transactions and their impact on the Nigerian economy using more recent data and a more focused analytical framework.

Adesete et al. (2021) examined the relationship between financial innovation and economic growth in Nigeria using both monthly and quarterly data covering 2010 to 2020. The study disaggregated financial innovation into payment channels and applied the autoregressive distributed lag (ARDL) and polynomial distributed lag mixed data sampling (PDL MIDAS) approaches. The findings showed that mobile payment had a positive and significant relationship with economic growth, while some other channels produced negative or insignificant effects depending on the estimation approach. The study recommended stronger policies to improve the performance and security of financial innovation channels. However, the study did not provide the same channel-specific VECM framework adopted in the present study, which examines ATM, POS, mobile payment and internet banking using quarterly data through 2024.

Ibekwe (2021) explored the impact of financial innovation on the viability of banks in Nigeria, with objectives to ascertain how innovations like POS, ATMs, mobile and internet banking influence bank profitability and operational efficiency. The paper used data (2004 to 2020) gathered from bank financial statements and Central Bank compilations; the sample comprised sector-level aggregated indicators and panel observations from a selection of commercial banks. Analytical methods included panel regression techniques, diagnostic tests for serial correlation and heteroscedasticity, and robustness checks using alternative performance measures. Findings show that certain electronic payment technologies positively affect bank performance metrics while others have mixed effects depending on scale and adoption intensity; the paper concluded that banks should tailor innovation investments to customer demand and infrastructure readiness and recommended stronger regulatory frameworks and staff training. However, the focus on bank performance rather than macroeconomic outcomes created a gap for studies linking bank-level innovation uptake to national economic performance; the current study bridges that gap by taking macroeconomic RGDP as the outcome and testing how bank-mediated e-payment channels transmit into broader economic performance.

Ashiru et al. (2023) examined the effect of financial innovation on the financial performance of Nigerian deposit money banks. The study used secondary data for the 2012 to 2021 period and covered all 24 deposit money banks in Nigeria. Data were obtained from NDIC annual reports, NIBSS and Central Bank of Nigeria statistical bulletins. The study applied Granger causality and ARDL techniques to assess the effects of financial innovation on bank performance. The findings showed that POS banking services had the greatest impact on bank performance, while ATM, mobile banking, credit and debit cards, online banking and agency banking generally had positive effects in the short and long run, with some exceptions. The study focused on bank-level performance rather than national economic performance. The present study therefore extends the literature by examining how aggregated electronic payment transactions relate to Nigeria's RGDP.

Zwingina et al. (2023) examined the impact of electronic payment systems on economic growth in Nigeria using data covering 2009 to 2018. The study considered ATM, POS and Web Pay as measures of electronic payment systems and used RGDP as the measure of

economic growth. The study employed descriptive statistics, correlation analysis and the ARDL model after conducting unit root and diagnostic tests. The results showed that electronic payment systems had a positive effect on economic growth in Nigeria. The study recommended increased adoption of electronic payment systems and improvements in the supporting infrastructure. However, it examined electronic payment systems mainly as a group and covered a shorter period. The present study extends the period to 2024 and disaggregates the channels into ATM, POS, mobile payment and internet banking within a VECM framework.

Domeher et al. (2022) examined the relationship between financial innovation and economic growth across 26 Sub-Saharan African countries, including Nigeria, with financial inclusion as a possible mediating mechanism. The study used country-level data covering 2004 to 2017 and applied dynamic panel Generalised Method of Moments estimation. The findings showed that financial innovation promoted financial inclusion and that financial inclusion mediated the relationship between financial innovation and economic growth. The study recommended investment in appropriate technological infrastructure to support financial inclusion and economic growth. Although the study provides strong regional evidence, it did not focus specifically on Nigeria or disaggregate Nigerian payment channels. The present study addresses this gap by focusing on Nigeria and examining ATM, POS, mobile payment and internet banking transactions separately.

Methodology

The paper employed an ex post facto design. This design relies on historical data without manipulating variables and is well suited for analysing natural relationships over time, consistent with its established relevance in finance and banking research (Sekaran & Bougie, 2016). The population comprises aggregate quarterly time series data covering all licensed deposit money banks in Nigeria from the first quarter of 2010 to the fourth quarter of 2024, obtained from the Central Bank of Nigeria Statistical Bulletin and the Banking Supervision Report, which offer audited and comprehensive information on electronic banking activity and the performance of the Nigerian economy. Using the complete quarterly dataset for this fifteen-year period results in fifty-nine observations per variable, forming the entire sample and ensuring that all relevant data are captured to enhance the robustness of the analysis. A purposive sampling technique guides the selection of variables and observations by focusing exclusively on electronic banking indicators and economic performance measure that align with the study's objectives. Data collection relies solely on secondary sources from the CBN, whose audited and regulated reports provide consistent and reliable information for the period under review. The paper employs multiple regression analysis to determine the degree to which digital banking usage influences the performance of the Nigerian economy.

Model Specification

The model is specified as follows:

Functional Form

$$RGDP = f(ATM + \beta_2 POS + \beta_3 MB, INTBT)$$

(i)

Econometric Form

$$RGDP = \beta_0 + \beta_1 ATM + \beta_2 POS + \beta_3 MOB + \beta_4 INTBT + \varepsilon \quad (ii)$$

VECM Equation

The empirical VECM is specified as:

$$\Delta RGDP_t = \alpha + \sum \beta_1 \Delta ATM_{t-i} + \sum \beta_2 \Delta POS_{t-i} + \sum \beta_3 \Delta MOB_{t-i} + \sum \beta_4 \Delta INTBT_{t-i} + \lambda ECT_{t-1} + \varepsilon_t$$

(iii)

Where:

- Δ denotes the first difference operator
- α_0 is the constant term
- $\beta_1, \beta_2, \beta_3, \beta_4$ are the short-run coefficients
- ECT_{t-1} is the lagged error correction term
- λ is the coefficient of the error correction term
- ε_t is the white noise error term
- n is the optimal lag length, determined using appropriate selection criteria (AIC, SC, HQ)

The error correction term (ECT_{t-1}) is expected to be negative and statistically significant, confirming the existence of a long-run relationship and showing the extent to which short-term deviations are corrected over time. This model specification enables the study to examine both the immediate and cumulative effects of mobile banking transactions on the economic performance of Nigeria.

Where:

- RGDP = Real Gross Domestic Product (dependent variable)
- ATM = Automated Teller Machine transactions (independent variable)
- POS = Point of Sale transactions (independent variable)
- MB = Mobile Banking transactions (independent variable)
- INTB = Internet Banking transactions (independent variable)
- β_0 = Intercept
- $\beta_1, \beta_2, \beta_3, \beta_4$ = Coefficients of the independent variables
- ε = Error term

The study will also conduct:

Serial Correlation LM Test, to detect autocorrelation in the residuals;

Histogram Normality Test, to assess the normality of residuals; and

CUSUM Stability Test, to evaluate the structural stability of the model over time. This comprehensive methodological approach ensured that the findings were both statistically sound and relevant for policy and academic insights.

Results and Interpretations of Results

Data Presentation, Analysis and Discussion

The dataset presented in Appendix 1 contains quarterly information on financial innovation indicators in Nigeria, specifically ATM transactions, POS transactions, mobile payment transactions, and internet banking transactions, alongside Real Gross Domestic Product. The data spans from the first quarter of 2010 to the third quarter of 2024, reflecting how the usage of different electronic payment platforms has evolved over time and how these trends relate to Nigeria's economic performance. These figures were obtained from the CBN bulletin, which provides verified national data on payment systems and macroeconomic indicators. This dataset forms the empirical foundation for analysing the association between financial innovation in mobile banking transactions and the viability of the Nigerian economy.

Descriptive Statistics

	RGDP	ATM	POS	MOB	INTBT
Mean	17150610	2666032.	5696969.	11142636	1.14E+08
Median	16962506	1539266.	324131.5	260589.4	45577.66
Maximum	22111118	10336556	54937293	85909815	1.76E+09
Minimum	12790378	25330.00	910.0000	380.0000	3370.000
Std. Dev.	2019015.	2795534.	12519324	22589179	3.02E+08
Skewness	0.083729	1.055375	2.601446	2.197883	4.086105
Kurtosis	2.780584	2.868245	8.949460	6.702190	20.32243
Jarque-Bera	0.187290	10.99520	153.5626	81.19623	901.8436
Probability	0.910606	0.004097	0.000000	0.000000	0.000000
Sum	1.01E+09	1.57E+08	3.36E+08	6.57E+08	6.70E+09
Sum Sq. Dev.	2.36E+14	4.53E+14	9.09E+15	2.96E+16	5.29E+18
Observations	59	59	59	59	59

Source: Eviews 10

Table 4.1 show that Real GDP (RGDP) has a relatively high mean with low skewness, suggesting a stable and fairly symmetric economic performance over the period. ATM, POS, Mobile Payment (MOB), and Internet Banking (INTBT) transactions all display large gaps between their means and medians, indicating rapid growth from very low initial values. Their high skewness and kurtosis values confirm the presence of extreme upward movements, especially for POS, MOB, and INTBT, which have heavy-tailed distributions as electronic payment adoption expanded significantly over time. The Jarque-Bera probabilities for these variables are statistically significant, showing that their distributions

deviate from normality due to sharp increases in usage. Overall, the statistics highlight steady economic output alongside fast-rising and highly volatile electronic payment activities in Nigeria.

Preliminary Test

Stationarity Test

Table 4.2: Summary of ADF Unit Root Test Results

Variable	ADF t-Stat (Levels)	p-Value	Decision	ADF t-Statistic (1st Diff.)	p-Value (1st Diff.)	Decision @ 5% (1st Diff.)
RGDP	1.2270	0.9999	Not Stationary	-6.0473	0.0294	Stationary
POS	2.1393	1.0000	Not Stationary	-7.3530	0.0000	Stationary
ATM	-2.7323	0.2281	Not Stationary	-9.5499	0.0000	Stationary
MOB	0.0527	0.9960	Not Stationary	4.9253	0.0000	Stationary
INTBT	0.1224	0.5640	Not Stationary	6.9253	0.0000	Stationary

Source: Researchers Extracts from Eviews Output

All variables (RGDP, POS, ATM, MOB, INTBT) are non-stationary at levels, as their p-values exceed 0.05 and their t-statistics are higher than the 5% critical values. But, after first differencing, all variables become stationary, evidenced by statistically significant p-values (<0.05). This indicates that each variable is integrated of order one, I(1).

This outcome indicates that the data series follow similar stochastic trends and therefore satisfy the condition required for conducting further time-series estimations such as cointegration testing, which determines whether a long-run equilibrium relationship exists among the variables. Consequently, the next step is to proceed with the cointegration test to verify the presence of long-run associations before estimating the appropriate long-run and short-run models.

Table 4.3: Johansen Cointegration Test

Date: 04/04/26 Time: 11:21				
Sample (adjusted): 2010Q3 2024Q3				
Included observations: 57 after adjustments				
Trend assumption: Linear deterministic trend				
Series: RGDP ATM POS MOB INTBT				
Lags interval (in first differences): 1 to 1				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.900979	228.8143	69.81889	0.0000
At most 1 *	0.592549	97.00631	47.85613	0.0000
At most 2 *	0.354994	45.82976	29.79707	0.0003
At most 3 *	0.264967	20.83547	15.49471	0.0071
At most 4	0.056062	3.288593	3.841466	0.0698

Date: 04/04/26 Time: 11:21				
Trace test indicates 4 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.900979	131.8080	33.87687	0.0000
At most 1 *	0.592549	51.17655	27.58434	0.0000
At most 2 *	0.354994	24.99429	21.13162	0.0136
At most 3 *	0.264967	17.54687	14.26460	0.0146
At most 4	0.056062	3.288593	3.841466	0.0698
Max-eigenvalue test indicates 4 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				

Source: Eviews 10 Output

The Table 4.3 cointegration test shows that Trace and Maximum Eigenvalue statistics reject the null hypothesis of no cointegration up to four cointegrating equations at the 5 per cent level, meaning that RGDP, ATM, POS, MOB and INTBT share a strong long-run equilibrium relationship. This implies that financial innovation through mobile banking transactions and economic performance move together over time rather than drifting apart. Since cointegration is confirmed, the appropriate next step is to estimate a Vector Error Correction Model (VECM) to capture both the short-run dynamics and the long-run adjustment behaviour among the variables.

Inferential Statistics

Table 4.4: Vector Error Correction (VECM)

Dependent Variable: D(RGDP)				
Method: Least Squares				
Date: 04/04/26 Time: 11:34				
Sample (adjusted): 2010Q2 2024Q3				
Included observations: 58 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	125183.1	188002.2	0.665860	0.5084
D(ATM)	0.681177	0.199555	3.413486	0.0013
D(POS)	0.419104	0.155227	2.699938	0.0093
D(MOB)	-0.253060	0.076053	-3.327412	0.0016
D(INTBT)	-0.003612	0.002317	-1.559112	0.1250
ECM(-1)	-0.629557	0.124528	-5.055541	0.0000
R-squared	0.462148	Mean dependent var		133105.3
Adjusted R-squared	0.410432	S.D. dependent var		1648693.
S.E. of regression	1265922.	Akaike info criterion		31.03820

Dependent Variable: D(RGDP)			
Sum squared resid	8.33E+13	Schwarz criterion	31.25135
Log likelihood	-894.1077	Hannan-Quinn criter.	31.12122
F-statistic	8.936178	Durbin-Watson stat	1.787986
Prob(F-statistic)	0.000004		

Source: Eviews 10 Output

The Table 4.4 VECM shows that the explanatory variables collectively account for a moderate portion of the variation in economic performance, with an R-squared value of 0.4621 and an adjusted R-squared of 0.4104, indicating that about 41 per cent of the changes in RGDP are explained by short-run movements in electronic payment indicators and the error-correction term. The t-statistics and p-values reveal that ATM transactions ($t = 3.41$, $p = 0.0013$) and POS transactions ($t = 2.70$, $p = 0.0093$) exert significant positive short-run effects on RGDP, while mobile payments have a significant negative influence ($t = -3.33$, $p = 0.0016$), suggesting differing short-run dynamics within the electronic payment ecosystem. Internet banking shows an insignificant short-run effect ($t = -1.56$, $p = 0.1250$), indicating weak immediate influence on RGDP during the study period. The error correction term is extremely substantial and correctly signed ($t = -5.06$, $p = 0.0000$), confirming a strong speed of adjustment toward long-run equilibrium whenever short-run deviations occur. Overall, the significance of the model is supported by the F-statistic (8.94, $p = 0.000004$), demonstrating that the independent variables jointly have a meaningful impact on economic performance within the VECM framework.

Post Analysis Test

Residual Diagnostics Test

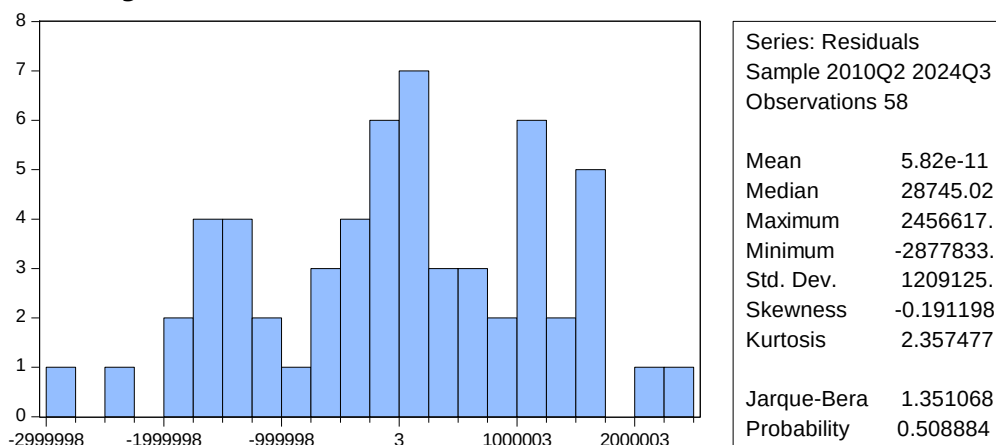


Fig 4.1 Histogram Test of Normality

Source: Eviews 10

The residual diagnostics result shows that the residuals from the VECM are normally distributed, as indicated by the histogram pattern and the Jarque–Bera probability value of 0.508884, which is above the 5% significance level. This means the null hypothesis of

normality cannot be rejected, suggesting that the model’s residuals follow a normal distribution. The skewness value of -0.191 shows a slight and acceptable left-leaning distribution, while the kurtosis value of 2.36 is close to the normal benchmark of 3 , further confirming normality. Overall, the results indicate that the model is statistically reliable, free from major distributional problems, and suitable for valid inference.

Table 4.5 Serial Correlation Test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.580998	Prob. F(2,51)	0.2157
Obs*R-squared	3.386060	Prob. Chi-Square(2)	0.1840

Source: Eviews 10

The residual diagnostic and model stability tests confirm that the VECM is well-specified and reliable. The Jarque-Bera statistic ($1.351, p = 0.508884$) indicates that the residuals are normally distributed, satisfying the assumption of normality. Additionally, the Breusch-Godfrey Serial Correlation LM Test shows no evidence of serial correlation in the residuals ($F\text{-stat} = 1.581, p = 0.2157$), suggesting that the model’s errors are independently distributed. These results support the statistical adequacy and stability of the model for inference and forecasting.

Stability Diagnostic Test

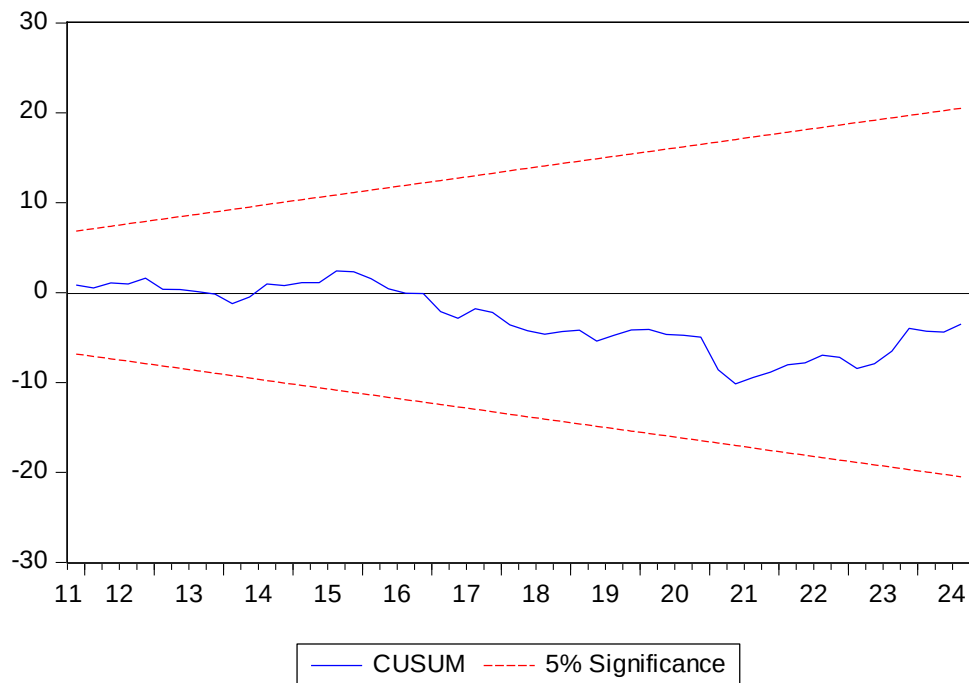


Fig 4.2: Cumulative Sum of Residual (CUSUM) Test

Source: Eviews 10

The CUSUM stability plot shows that the blue cumulative sum line remains entirely within the upper and lower 5% significance boundaries throughout the sample period. This pattern indicates that the parameters of the model are stable over time, as the fluctuations in the cumulative sum do not cross the critical lines. The result confirms that the estimated VECM does not suffer from structural breaks or instability, meaning the relationship between the variables is consistent and reliable across the study period.

Test of Hypotheses

This section provides the testing of the study's hypotheses based on the findings of the Vector Error Correction Model (VECM) presented in Table 4.4. The relevance of each explanatory variable is evaluated at the 5% level of significance through the associated t-statistics and p-values. An explanatory variable is regarded as statistically significant when its p-value is below 0.05, resulting in the rejection of the null hypothesis.

Hypothesis One

H₀₁: Automated Teller Machine (ATM) transactions have no significant effect on the Real Gross Domestic Product (RGDP) in Nigeria.

The result shows that ATM transactions have a coefficient of 0.681177, with a t-statistic of 3.413486 and a p-value of 0.0013. Since the p-value is far below the 5% significance threshold, the null hypothesis is rejected. This confirms that ATM transactions exert a favourable and statistically substantial consequence on RGDP. The positive coefficient implies that increases in ATM usage stimulate higher economic activity, likely by easing cash access, promoting smoother transactions, and encouraging consumer spending within the economy.

Hypothesis Two

H₀₂: Point of Sales (POS) transactions have no significant effect on the Real Gross Domestic Product (RGDP) in Nigeria.

The VECM reveals that POS transactions have a coefficient of 0.419104, with a t-statistic of 2.699938 and a p-value of 0.0093. Since the p-value is below 0.05, the null hypothesis is rejected. This infers that POS transactions have a favourable and substantial outcome on RGDP. This demonstrates that the widening adoption of POS terminals boosts commercial activities, enhances payment efficiency, supports retail transactions, and deepens financial sector contributions to overall economic output.

Hypothesis Three

H₀₃: Mobile Payment has no significant effect on the Real Gross Domestic Product (RGDP) in Nigeria.

Mobile payment exhibits a coefficient of -0.253060, with a t-statistic of -3.327412 and a p-value of 0.0016. Since the p-value is less than 0.05, the null hypothesis is rejected. However, the coefficient is negative, indicating that mobile payments have a significant but adverse

outcome on RGDP. This unexpected inverse relationship may reflect short-run structural issues such as system inefficiencies, high transaction failure rates, or increased substitution away from formal financial channels, which may temporarily weaken their contribution to economic performance.

Hypothesis Four

H₀₄: Internet Banking transactions have no significant effect on the Real Gross Domestic Product (RGDP) in Nigeria.

Internet banking has a coefficient of -0.003612 , a t-statistic of -1.559112 , and a p-value of 0.1250 . Because the p-value is greater than 0.05 , the null hypothesis cannot be rejected. This result indicates that internet banking does not have a statistically substantial consequence on RGDP within the study period. Although the coefficient is negative, the effect is not strong enough to influence RGDP in a statistically meaningful way, suggesting that internet banking activities may still be limited in scale compared to other digital payment methods or may require more time to translate into measurable economic performance improvements.

Discussion of Findings

Automated Teller Machine (ATM) Transactions and Real Gross Domestic Product

The findings of this study revealed that Automated Teller Machine (ATM) transactions exert a positive and statistically significant effect on Real Gross Domestic Product (RGDP) in Nigeria, as indicated by the positive coefficient (0.681177) and probability value (0.0013). This implies that increased utilisation of ATM services contributes significantly to economic performance by improving access to financial services, facilitating cash withdrawals, and enhancing the efficiency of commercial transactions. The result suggests that ATM remains an important digital payment channel that stimulates consumption and business activities, thereby promoting economic growth. This finding is consistent with the study of Zwingina et al. (2023), who reported that ATM transactions contribute positively and significantly to Nigeria's economic growth in both the short run and the long run. The result also agrees with Chukwunulu (2019), who found that electronic payment channels positively influence Nigeria's macroeconomic performance through improved transaction efficiency and increased financial activity. Similarly, the finding supports Afaha (2019), who concluded that greater adoption of electronic payment channels, including ATM transactions, significantly enhances economic growth and recommended continued investment in digital payment infrastructure. The finding further corroborates Austin-Olowo et al. (2023), who established that ATM transactions positively contribute to Nigeria's economic growth through improved digital financial service delivery. Likewise, Oyadeyi (2024) found that banking innovation, particularly ATM and other digital banking channels, significantly promotes economic growth by enhancing financial inclusion and strengthening financial intermediation.

Point of Sale (POS) Transactions and Real Gross Domestic Product

The study further established that Point of Sale (POS) transactions have a positive and statistically significant effect on Real Gross Domestic Product, with a coefficient of 0.419104 and a probability value of 0.0093. This finding indicates that increased use of POS terminals enhances economic activities by encouraging cashless transactions, improving business efficiency, reducing transaction costs, and promoting commercial exchanges across various sectors of the economy. The result is in agreement with Zwingina et al. (2023), who found that POS transactions significantly contribute to Nigeria's economic growth by supporting electronic payment adoption and expanding digital financial services. The finding also corroborates Afaha (2019), whose study showed that POS transactions constitute one of the major electronic payment channels that positively influence economic growth. In addition, the result supports the findings of Adesete et al. (2021), who reported that disaggregated financial innovation channels, including POS transactions, positively contribute to economic expansion, although the magnitude of their effects differs across payment platforms. The finding equally supports Austin-Olowo et al. (2023), who reported that POS transactions are among the digital financial service channels that significantly stimulate economic growth through increased electronic payment adoption and improved financial inclusion.

Mobile Payment Transactions and Real Gross Domestic Product

The empirical findings revealed that Mobile Payment transactions exert a negative and statistically significant effect on Real Gross Domestic Product, as evidenced by the coefficient of -0.253060 and a probability value of 0.0016. This indicates that, within the study period, increases in mobile payment transactions were associated with a decline in economic performance in the short run. The negative relationship may reflect persistent challenges such as unstable network infrastructure, transaction failures, cybersecurity concerns, and limited digital literacy, which may reduce the effectiveness of mobile payment platforms in stimulating productive economic activities. This finding contrasts with the studies of Afaha (2019) and Zwingina et al. (2023), both of whom reported that mobile banking transactions positively and significantly promote Nigeria's economic growth. The divergence may be attributed to differences in study periods, model specification, and the inclusion of more recent data in the present study, which captures emerging operational challenges affecting mobile payment services. The finding also differs from Chukwunulu (2019), who generally reported a positive contribution of electronic payment systems to economic performance but did not isolate the specific short run effects of mobile payment transactions. The present finding is also at variance with Austin-Olowo et al. (2023), who found that mobile banking transactions positively influence economic growth through improved digital financial services. Similarly, Oyadeyi (2024) reported that mobile banking innovation exerts a positive and significant effect on Nigeria's economic growth by expanding financial inclusion and increasing access to formal financial services. The disparity may be explained by differences in estimation techniques, data

frequency, and the inclusion of more recent observations that capture operational bottlenecks affecting mobile payment systems.

Internet Banking Transactions and Real Gross Domestic Product

The findings further showed that Internet Banking transactions have a negative but statistically insignificant effect on Real Gross Domestic Product, with a coefficient of -0.003612 and a probability value of 0.1250. This suggests that internet banking transactions do not exert a significant influence on Nigeria's economic performance during the study period. The insignificant effect may be attributed to relatively low adoption levels, cybersecurity concerns, inadequate internet penetration, and the increasing preference for mobile-based payment platforms over conventional internet banking services. This finding is broadly consistent with Adesete et al. (2021), who observed that while certain financial innovation channels significantly promote economic expansion, others exhibit weak or statistically insignificant effects depending on their level of adoption and utilisation. However, the finding differs from Ashiru et al. (2023), who found that internet banking positively contributes to bank performance, although their study focused on banking industry performance rather than national economic performance. Similarly, Ibekwe (2021) reported that internet banking positively influences bank profitability and operational efficiency, suggesting that its benefits may currently be more evident at the institutional level than at the macroeconomic level. Although Austin-Olowo et al. (2023) found that digital financial services generally enhance economic growth, the present study suggests that internet banking, when examined separately, does not significantly contribute to macroeconomic performance during the study period, possibly due to its relatively lower utilisation compared to ATM, POS, and mobile payment platforms.

Taken together, the findings demonstrate that the effects of mobile banking transactions on Nigeria's economic performance vary across payment platforms. Specifically, ATM and POS transactions significantly stimulate economic growth, while Mobile Payment transactions exert a significant negative effect in the short run, and Internet Banking transactions have a negative but statistically insignificant effect on RGDP. These outcomes reinforce the argument of Adesete et al. (2021) that the impact of financial innovation differs across individual payment channels and should therefore be examined separately rather than as a single aggregate measure. The findings also complement those of Austin-Olowo et al. (2023) and Oyadeyi (2024), who emphasized the importance of digital financial services and banking innovation in promoting economic growth, although the present study demonstrates that the growth effects are not uniform across all mobile banking transaction channels. Furthermore, the findings extend the existing literature by employing more recent quarterly data spanning 2010 to 2024 and a Vector Error Correction Model to capture both the short run and long run relationships between disaggregated mobile banking transaction channels and Nigeria's economic performance. This provides more robust and policy relevant evidence for strengthening digital financial services in Nigeria.

Summary, Conclusion and Recommendations

Summary of the Study

This study investigated the impact of financial innovation through mobile banking transactions on the performance of the Nigerian economy using quarterly time series data covering the period from 2010 to 2024. The research concentrated on four key electronic payment platforms: ATM transactions, POS transactions, mobile payment transactions, and Internet Banking transactions, with (rGDP) serving as the indicator of economic performance. An ex post facto research design was adopted, while econometric methods such as descriptive statistics, unit root analysis, the Johansen cointegration test, and the Vector Error Correction Model were utilised for data analysis. The results confirmed the presence of a long-run equilibrium association among the variables. The empirical findings further indicated that:

1. Automated Teller Machine (ATM) transactions have a positive and statistically significant effect on the RGDP in Nigeria.
2. Point of Sale (POS) transactions also have a positive and statistically significant effect on the RGDP in Nigeria.
3. While mobile payment transactions exhibited a significant negative effect on the RGDP in Nigeria.
4. Internet banking transactions had a negative but statistically insignificant effect on RGDP in Nigeria.

Conclusion

Based on the findings, the study concludes that financial innovation through mobile banking transactions holds an essential part in shaping the viability of the Nigerian economy. ATM and POS transactions contribute positively to economic growth by improving transaction speed, enhancing access to funds, and promoting commercial activities. However, mobile payment systems, despite their growing popularity, currently exhibit structural and operational limitations that reduce their short run contribution to economic performance. Internet banking, though important, has not yet achieved sufficient adoption and scale to significantly influence real economic output. Therefore, while mobile banking transactions are important drivers of economic performance, their impact depends largely on infrastructure quality, system efficiency, and level of public adoption.

Recommendations

Drawing from the findings and conclusions of this study, the following recommendations are proposed:

1. Deposit money banks should optimise the operational efficiency of ATM networks by reducing maintenance costs, improving uptime, and expanding access points, as this channel has demonstrated strong positive effects on economic performance.

2. Financial institutions and policymakers should promote wider deployment and usage of POS terminals, particularly among small and medium scale enterprises, to deepen cashless transactions and stimulate business activities.
3. Service providers of mobile payment platforms should address issues of network reliability, transaction failures, fraud risks, and user trust to reverse the observed negative short run effect on economic performance.
4. Banks should intensify investment in secure, user friendly internet banking platforms and carry out aggressive public awareness campaigns to increase adoption and trust among customers.

These measures will help to maximise the economic benefits of financial innovation in mobile banking transactions and support sustainable economic growth in Nigeria.

Contribution to Knowledge

This study makes significant contributions to existing knowledge in the field of banking and finance by providing updated empirical evidence on the association between financial innovation in mobile banking transactions and economic performance in Nigeria using recent quarterly data. The study extends the body of literature by employing a VECM, thereby capturing both the short run dynamics and long run equilibrium relationship among electronic payment channels and Real Gross Domestic Product. Unlike many previous studies that aggregated mobile banking transactions, this study disaggregated the channels into ATM, POS, mobile payments, and internet banking, revealing their distinct and heterogeneous effects on economic performance. The study also contributes methodologically by combining unit root, cointegration, and post estimation diagnostics to ensure statistical robustness. These contributions provide policymakers and researchers with more reliable evidence for designing targeted digital financial reforms.

Areas for Further Research

Future studies are encouraged to explore the influence of financial digital tools on economic performance using disaggregated sectoral output such as manufacturing, agriculture, and services to determine sector specific effects of mobile banking transactions. Further research should incorporate additional digital financial innovations including fintech platforms, agency banking, blockchain based payments, and cryptocurrencies to capture the evolving nature of financial technology. Researchers are also advised to adopt comparative cross-country studies to examine how mobile banking transactions influence economic performance across different African and emerging economies. In addition, future studies may employ alternative econometric techniques such as Autoregressive Distributed Lag models, Structural Vector Autoregression, and Dynamic Panel models to test the robustness of findings and enhance generalisability.

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Appendix 1:

Dataset of Financial Innovation of Mobile banking transactions and Economic Performance in Nigeria

Period	ATM	POS	MOB	INTBT	RGDP
2010Q1	25,330.00	1,040.00	380	3,370	12,790,378.37
2010Q2	26,710.00	910	510	4,260	13,141,504.95
2010Q3	39,360.00	1,020.00	610	9,940	14,516,589.08
2010Q4	49,930.00	1,740.00	970	7,480	15,020,877.91
2011Q1	128,380.00	2,310.00	1,180.00	24,130	13,621,792.96
2011Q2	125,230.00	2,350.00	1,250.00	22,010	13,917,309.44
2011Q3	128,660.00	3,040.00	1,880.00	6,360	15,007,592.57
2011Q4	190,530.00	3,540.00	2,240.00	7,110	15,633,656.92
2012Q1	168,209.70	1,456.92	514.52	6,380.68	14,105,661.79
2012Q2	156,510.80	3,549.78	2,117.35	6,933.11	14,504,449.86

Period	ATM	POS	MOB	INTBT	RGDP
2012Q3	156,161.09	5,119.83	2,361.63	7,534.60	15,825,996.77
2012Q4	205,046.56	9,430.10	8,085.62	10,718.96	16,233,942.05
2013Q1	611258.16	26284.95	22878.57	11,368.66	14,715,329.72
2013Q2	675087.99	30941.48	28915.65	9,359.09	15,262,311.10
2013Q3	729229.73	43145.87	33924.3	12,302.03	16,646,797.02
2013Q4	813363.13	60644.03	57078.61	14,286.54	17,318,407.72
2014Q1	784053.48	67467.8	66359.92	16,604.99	15,601,048.05
2014Q2	852355.34	70251.99	74157.07	14,133.18	16,249,366.98
2014Q3	1027923.58	78001.43	86476.95	18,935.88	17,707,533.42
2014Q4	1015545.2	96350.51	119473.36	24,369.59	18,419,510.77
2015Q1	937963.28	96314.88	91610.44	22,764.65	16,203,803.56
2015Q2	962429.78	104568.64	100432.53	17,045.59	16,623,053.88
2015Q3	1011481.56	112424.97	109304.03	22,388.97	18,208,475.09
2015Q4	1058377.79	135204.06	141006.78	29,382.09	18,745,360.19
2016Q1	1069989.91	144760.31	135242.2	31,692.18	16,087,230.32
2016Q2	1134496.22	163712.01	168284.64	26,275.94	16,349,290.03
2016Q3	1246798.7	189947	223057.44	30,763.58	17,775,969.03
2016Q4	1536848.56	260577.18	230313.2	43,628.62	18,439,940.98
2017Q1	1502056.94	285977.3	260589.36	46,574.00	15,919,656.99
2017Q2	1544229.43	324131.54	295236.13	37,092.79	16,477,424.32
2017Q3	1558755.28	364549.89	239356.06	45,577.66	17,988,950.81
2017Q4	1832550.74	435154.35	306817.42	55,352.17	18,819,658.99
2018Q1	1568949.12	474731.34	329115.76	60,742.36	16,234,954.95
2018Q2	1603166.42	543625.55	410565.94	53,255.61	16,718,625.28
2018Q3	1591013.53	650406.6	498081.71	340,387.17	18,305,126.40
2018Q4	1716956.84	714345.41	736488.01	221,531.52	19,277,641.99
2019Q1	1539265.92	633805.67	810105.68	107,644.81	16,569,734.73
2019Q2	1699162.91	749818.31	1155638.88	116,258.38	17,076,100.72
2019Q3	1622925.98	856863.34	1428111.57	120,566.94	18,697,323.82
2019Q4	1651253.42	964265.9	1687108.5	133,667.54	19,750,934.72
2020Q1	4858796.46	1008312.67	2260091.35	98,144,103.83	16,893,269.79
2020Q2	3741308.09	994914.01	2896906.19	73,053,828.47	16,044,513.73
2020Q3	5054101.53	1207981.41	5009506.36	100,869,126.80	18,109,596.02
2020Q4	4545454.18	1515868.72	4821234.97	120,273,187.54	19,753,163.95
2021Q1	3604977.43	4417559.15	11808553.75	119,626,624.65	16,962,505.92
2021Q2	5646394	5540630.99	12516080.18	125,805,306.36	16,904,236.42
2021Q3	5517186.14	6423603.29	13924286.75	137,556,310.12	18,845,916.29
2021Q4	6462376.98	8073622.78	14959351.8	162,051,444.28	20,670,112.75
2022Q1	6137168.97	7486280.82	23687715.25	174,817,226.44	17,573,272.22
2022Q2	6501972.97	8377803.34	25966844.83	192,024,227.83	17,478,222.63
2022Q3	9672325.69	10284981.56	30693856.68	194,375,143.41	19,294,013.81
2022Q4	10336555.96	14886735.61	30773693.92	222,443,431.73	21,423,436.66
2023Q1	7165563.96	23284143.33	42312659.08	229,245,973.07	17,994,283.26
2023Q2	7467002.162	25160722.81	54743409.75	232,928,132.83	17,941,050.89
2023Q3	6361692.53	26822054.47	54280404.44	278,864,620.36	19,889,648.36
2023Q4	7218335.98	35080182.28	68463610.63	356,094,313.03	22,111,117.55
2024Q1	6,103,366.55	42,957,352.40	79,709,829.04	825,500,108.74	18,497,171.68
2024Q2	6,902,366.25	48,947,322.50	82,809,822.14	1,294,905,904.45	18,480,670.81

Period	ATM	POS	MOB	INTBT	RGDP
2024Q3	7,701,365.95	54,937,292.60	85,909,815.24	1,764,311,700.16	20,510,484.46

Source: CBN Statistical Bulletin