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EFFECTS OF CASHLESS POLICY ON THE PERFORMANCE OF SELECTED SECTORS OF NIGERIA ECONOMY (2009-2023)

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Abstract

This study examined the effect of Nigeria's cashless policy on various sectors of the economy, with emphasis on the banking, industrial, service, and agricultural sectors. The objectives are to assess how mobile banking, internet banking, and POS transactions influence sectoral performance under the cashless policy framework. Secondary data were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin 2023 and the Nigeria Deposit Insurance Corporation (NDIC), covering relevant periods. The results show that mobile banking has a positive but insignificant effect on the banking sector's performance (ROA). In the industrial sector, internet banking exhibits no significant effect on output. For the service sector, POS transactions have a positive but insignificant effect. Conversely, in the agricultural sector, mobile banking demonstrates a negative and statistically significant effect. The study concludes that while the cashless policy has contributed positively in some sectors, its benefits remain unevenly distributed. It recommends targeted expansion of digital infrastructure, sector-specific sensitization programs, and tailored interventions for agriculture to ensure inclusive and sustainable gains from Nigeria's cashless initiative.

Keywords*: Cashless policy and sartorial performance*

1. INTRODUCTION

In recent years, Nigeria has intensified its efforts to modernize the financial system and stimulate economic development through the implementation of a cashless policy. The Central Bank of Nigeria (CBN) formally introduced the Cashless Policy Initiative in 2012 as a strategic move to reduce heavy dependence on physical cash and encourage a transition toward electronic-based transactions (Omokugbo& Festus, 2020). Initially piloted in Lagos State and later expanded nationwide, the initiative aimed to curb financial crimes, enhance payment efficiency, reduce the cost of cash management, and promote financial inclusion (Oduche&Chukwunwa, 2024). Various electronic channels, including Point of Sale (POS) terminals, internet banking, and mobile banking, were promoted to not only improve transaction convenience but also support economic growth across multiple sectors of the economy (Agu&Agu, 2020).The development of Nigeria's cashless infrastructure has been central to this transition. ATMs have provided customers with flexible access to cash and basic services, while POS systems have enabled digital payments in retail outlets and service-oriented businesses, reducing dependence on cash. Internet banking has made account management, transfers, and online payments easier, and mobile banking has extended financial services to remote and underserved areas (Acha, Kanu&Agu, 2017). Together, these tools have significantly reshaped Nigeria's financial ecosystem by reducing transaction costs, improving accessibility, and enhancing efficiency in both urban and rural contexts.

The adoption of these innovations has had notable impacts across key sectors of the economy. In banking, cashless tools have reduced queues, improved service delivery, and enhanced transaction speed (Matthew & Mike, 2016). Manufacturing industries have benefited from secure and faster payments, streamlined supply chains, and improved payroll systems. The service sector—including education, healthcare, and entertainment—has leveraged electronic platforms to improve client experiences and operational efficiency. Similarly, agriculture has been positively influenced by mobile and agency banking, which connect rural farmers to credit and savings opportunities, enabling financial inclusion and reducing reliance on physical cash (Ezeanolue, 2022). These sectoral transformations highlight the broad potential of cashless policy to foster inclusive and sustainable economic growth.Despite these achievements, structural challenges persist, limiting the full realization of the cashless policy's benefits. Issues such as weak digital infrastructure, frequent transaction failures, fraud risks, low digital literacy, and poor network connectivity have undermined public trust in the system (Isaac, 2023). Many small and medium-sized enterprises (SMEs) and rural dwellers continue to rely on cash due to inconsistent service delivery and perceived risks in digital platforms (Matthew & Mike, 2016). While previous studies have examined the cashless policy in isolated sectors such as banking, SMEs, or manufacturing (Francis, Abubakar&Nuhu, 2024; Oduche&Chukwunwa, 2024), few have adopted a multi-sectoral approach. This study therefore seeks to fill this gap by empirically investigating the effects of mobile banking, internet banking, and POS systems on the banking, manufacturing, services, and agricultural sectors of Nigeria between 2009 and 2023.

2. Literature Review

A cashless policy does not imply the complete eradication of cash from the economy but rather seeks to minimise the volume of physical cash transactions, encouraging the use of electronic payment methods. Woodford (2003) describes a cashless economy as one where transaction frictions that require holding money balances are assumed to be absent, thus reducing the need to hold cash even when it earns interest. Similarly, Acha (2008) notes that modern economies have gradually shifted toward non-cash transactions, with payment cards becoming the dominant method for financial exchanges. The Central Bank of Nigeria (CBN) introduced the cashless policy to strengthen the financial system, limit the circulation of physical currency, and promote the adoption of electronic-based payments for goods, services, and fund transfers.Various scholars and institutions have defined the cashless economy in line with technological advancements and financial innovations. According to Okoye and Ejiofor (2013), a cashless economy enables the purchase and sale of goods and services using electronic platforms. Alilonu (2012) also views it as a financial system where the use of cash is minimised, and alternative channels such as cards, POS machines, mobile banking, and direct electronic transfers are widely used. The policy is built on the premise that technology-such as computer-based banking systems-can provide seamless financial transactions, reduce the need for physical cash, and improve transaction efficiency.

Cashless Policy and Law Response to Cash-Less Economy

The retail cash policy introduced by the Central Bank of Nigeria (CBN) on June 2, 2012, placed charges on cash transactions above ₦150,000 for individuals and ₦1,000,000 for corporates, while encouraging the adoption of electronic payment channels to reduce reliance on cash (CBN, 2012). The policy, first implemented in Lagos before expanding to other cities, aimed to modernize the payment system, lower cash management costs, and protect low-income earners, as 90% of Nigerians transact below the threshold. To support implementation, banks aggressively deployed ATMs and POS machines, with targets of 375,000 POS and 75,000 ATMs by 2015, alongside infrastructure improvements in power and telecoms (CBN, 2012). However, Nigeria's regulatory framework remains weak compared to countries like Kenya and South Africa, where explicit laws such as Kenya's Communication Amendments Bill (2008) legalized electronic signatures and boosted e-banking adoption. In Nigeria, electronic banking adoption continues to be driven mainly by cost reduction and customer-related factors, with oversight still relying largely on the CBN Act and complementary institutions (Haruna, Aidonojie&Beida, 2024).

Reasons for the introduction of cashless policy by CBN

The Central Bank of Nigeria (CBN) introduced the cashless policy to modernize the payment system in line with Vision 2020, recognizing that an efficient payment structure is essential for economic growth and development (Amugo&Okoro, 2023). The policy aims to reduce banking and credit costs, enhance financial inclusion, and improve the effectiveness of monetary policy in managing inflation.

Challenges of the Cashless Economy

The effectiveness of Nigeria's cashless policy is hindered by several challenges, including frequent power outages that disrupt electronic transactions (Fatogun&Ajao, 2020), high levels of illiteracy and inadequate sensitization which limit the adoption of banking technology (Calderon, 2025), and fraudulent practices that exploit system vulnerabilities, thereby eroding public trust (Eboh, 2011). In addition, inadequate infrastructure such as limited ATMs and POS machines often results in long queues and inefficiencies (CBN, 2011), while persistent system failures—such as ATM malfunctions that debit accounts without dispensing cash—further weaken confidence in electronic payment channels (Udoh&Kokoette, 2023).

Web-based transactions

Web-based transactions in Nigeria involve conducting payments, transfers, and other financial activities via internet-based platforms, driven by the increasing penetration of internet services and the growth of e-commerce (Imagha et al., 2023). Platforms such as Paystack, Interswitch, Flutterwave, and Quickteller facilitate payments for goods and services, fund transfers, bill payments, and international transactions, offering speed, convenience, and accessibility (Nwaka&Adeniran, 2021). These transactions are typically processed instantly, enhancing customer experience and efficiency, especially in e-commerce, while also ensuring greater transparency and security through encryption protocols and secure authentication. Users benefit from easy tracking of transaction histories, providing accountability. Nonetheless, challenges such as poor digital infrastructure, low digital literacy, and concerns about cybersecurity and data privacy continue to hinder widespread adoption (Adeleye, Omotayo&Omolewa, 2020).

POS transactions

POS (Point of Sale) transactions in Nigeria involve making payments through POS terminals using debit or credit cards, offering speed, convenience, and security compared to cash payments (Uzochukwu&Okoli, 2016). Widely adopted in retail, hospitality, and service industries, POS systems enable seamless transfers from customers' accounts to merchants, reducing the need to carry large amounts of cash (Nnanna&Dogo, 2019). These transactions follow international security standards to safeguard cardholder information (Imagha et al., 2023). However, their adoption faces challenges such as limited terminal availability in rural areas, network failures, and the dominance of cash-based transactions (Dike, 2020). To address these gaps, the Central Bank of Nigeria's Cashless Policy promotes electronic payments, including POS, to reduce cash dependency and strengthen financial inclusion.

Internet Banking

Internet banking in Nigeria refers to the use of the internet and electronic tools to access accounts, obtain information on bank products, and conduct transactions without physically visiting banking halls (Muotolu&Nwadialor, 2019). It enables customers to perform routine transactions such as fund transfers, bill payments, balance inquiries, and even loan applications through banks' websites. Merchants also leverage internet banking for settling payments of goods and services, including commercial bills and airline ticket purchases. By providing round-the-clock access to accounts and transactions, internet banking enhances efficiency, convenience, and service delivery, allowing customers to manage their financial activities seamlessly from their homes or offices (Muotolu&Nwadialor, 2019).

Return on Assets: Return on Assets (ROA) is a key financial ratio used to measure how efficiently a company utilises its total assets to generate earnings. Traditionally, ROA is calculated by dividing profit after tax (PAT) by total investment; however, this method has been criticised for being conceptually flawed since PAT is influenced by the company's capital structure and represents returns to shareholders alone. A more accurate method, as suggested by Groppelli, Angelico, and Ehsan (2000), is to use earnings before interest and tax (EBIT) multiplied by (1 - tax rate) and then divide by total assets, as this approach accounts for the contributions of both equity holders and debt providers. Investment, in this context, refers to the pool of funds provided by shareholders and creditors, encompassing both fixed and current assets minus current liabilities (excluding bank loans). ROA, therefore, reflects the profitability of a company relative to its asset base, offering a clearer view of operational efficiency. In contrast, Return on Equity (ROE) specifically evaluates the returns generated on shareholders' equity and is typically computed by dividing profit after tax by total equity (Pandey, 2010).

Service Sector Performance: The service sector, which includes financial services, healthcare, education, transportation, ICT, and hospitality, plays a critical role in driving Nigeria's economic diversification and employment generation. Its performance is often evaluated based on contributions to GDP, customer satisfaction, operational efficiency, and adoption of digital tools that enhance service delivery. Improved access to digital infrastructure, cashless payment systems, and innovation in service provision have significantly influenced the sector's growth, especially in urban areas. As noted by Siyanbola (2013), the service sector's expansion contributes to job creation and boosts national productivity, particularly when supported by reliable technology and financial systems.

Industry Sector Performance: The performance of Nigeria's industrial sector is assessed by examining manufacturing output, industrial capacity utilisation, technological adoption, and productivity growth. Industrial performance reflects how well firms convert raw materials into finished goods using available labour, capital, and infrastructure. Key challenges such as power supply, access to credit, and cost of production affect the sector's efficiency and growth potential. According to Oduche and Chukwunwa (2024), the integration of digital financial systems and payment solutions has started improving procurement, payroll, and supply chain management in manufacturing firms, enhancing their competitiveness and operational performance. The industry sector performance is proxied by the index of industrial production.

Index of Industrial Production: The Index of Industrial Production (IIP) is a key economic indicator that measures the real output of sectors such as manufacturing, mining, and utilities, providing insights into industrial capacity and overall economic health (OECD, 2001). It reflects monthly and yearly changes in production, capacity utilization, and responds quickly to fluctuations in consumer demand and interest rates, making it a valuable tool for forecasting GDP and monitoring inflationary trends (Ogunbanjo, 2016). Beyond policymaking, the IIP also distinguishes between capital and consumer goods growth, offering investors and business leaders critical insights into sectoral performance that influence market outcomes. While rising industrial production often signals stronger corporate earnings and boosts stock markets, slower growth tends to be preferred by bond markets to mitigate inflation concerns. Thus, the IIP serves as both a barometer of economic momentum and a guide for decision-making by policymakers, analysts, and investors.

Agricultural Sector Performance: Agricultural sector performance in Nigeria is measured by factors such as crop yield, livestock output, access to input markets, and the level of mechanisation. The sector remains a major contributor to employment and food security, especially in rural areas, but continues to face constraints such as inadequate infrastructure, limited access to credit, and post-harvest losses. However, the gradual integration of mobile banking, electronic payments, and agency banking has started transforming rural financing and improving market access. As observed by Ezeanolue (2022), the adoption of digital financial tools in agriculture supports financial inclusion and empowers farmers by simplifying access to credit and facilitating cashless transactions. Agricultural sector performance is proxied by the sectors contribution to GDP over time.

Effect of Cashless Policy on the various sectors of the economy

The cashless policy introduced by the Central Bank of Nigeria in 2012 was designed to reduce dependence on cash and expand the adoption of electronic payment channels such as ATMs, POS systems, internet banking, and mobile banking (Muhibudeen&Haladu, 2015). Its impact has been most visible in the banking and service sectors, where digital adoption is relatively higher. In the banking sector, the policy has improved efficiency by reducing long queues, minimizing cash-handling costs, and extending financial services to unbanked populations through digital platforms and agency banking. However, challenges such as network failures, cybersecurity threats, and system downtime continue to limit public confidence in digital banking (Vierescu&Toader, 2023). Similarly, in the service sector—including ICT, education, transport, and healthcare—cashless transactions have facilitated safer and faster payments, boosting convenience for both providers and customers. Ride-hailing services, e-commerce platforms, and schools increasingly rely on cashless systems, though infrastructural limitations in rural areas still restrict broader adoption (Rahman et al., 2022).

The industrial and agricultural sectors, while less immediately impacted, are also experiencing gradual transformation. In industry, digital payment systems streamline payroll, procurement, and supplier payments, enhancing accountability and operational efficiency. Yet, adoption remains slow due to infrastructure gaps, cybersecurity concerns, and entrenched reliance on traditional cash transactions in some subsectors (Oduche&Chukwunwa, 2024). The agricultural sector, historically dominated by cash-based transactions, is gradually being integrated into the cashless economy through mobile banking, rural POS terminals, and agent banking, which improve farmers' access to credit and markets. Nonetheless, low smartphone penetration, poor internet coverage, and digital illiteracy hinder widespread use. Overall, while the cashless policy has demonstrated potential to modernize financial transactions, increase transparency, and reduce costs, its benefits remain unevenly distributed across Nigeria's economy. Bridging infrastructural, educational, and technological gaps through sector-specific interventions is therefore crucial to achieving equitable outcomes (Ihenyen&Yeitaribo, 2024).

3. Theoretical Framework

Diffusion of Innovation Theory (DOI)

The Diffusion of Innovation (DOI) Theory by Rogers (1962) explains how new technologies spread across societies, classifying adopters as innovators, early adopters, early majority, late majority, or laggards, based on readiness and speed of adoption, with key factors such as relative advantage, compatibility, complexity, trialability, and observability influencing uptake. Applied to Nigeria's cashless policy, it clarifies why banking and service sectors adopt electronic payment systems like POS, internet, and mobile banking faster due to stronger infrastructure, while agriculture, especially in rural areas, lags behind because of limited digital access and literacy. The theory not only aids in analysing adoption patterns but also guides policy design, making it a suitable framework for evaluating and improving the spread and impact of Nigeria's cashless policy across sectors.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), developed by Davis (1989), explains how individuals adopt new technologies based on two key factors: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU), which shape attitudes, behavioural intentions, and actual usage.

Applied to Nigeria's cashless policy, TAM helps assess how users in sectors like banking, industry, services, and agriculture adopt tools such as ATMs, POS, mobile, and internet banking depending on whether they find them beneficial and easy to use (Gambo, Ussaini&Ozah, 2023). While it does not account for broader structural barriers like the Diffusion of Innovation theory, TAM highlights user-level behavioural factors—such as trust, awareness, and system design—making it a valuable framework for improving adoption through user-friendly systems, education, and targeted awareness campaigns (Marikyan&Papagiannidis, 2025).

Implication of the theory to the study

The Diffusion of Innovation Theory (DOI) provides a useful lens for understanding how Nigeria's cashless policy tools—such as POS systems, internet banking, and mobile banking—are adopted differently across economic sectors, depending on factors like relative advantage, compatibility, and complexity. It explains why banking and service sectors, with better infrastructure and digital literacy, are early adopters, while industrial and agricultural sectors lag due to infrastructural and operational challenges. By highlighting sector-specific barriers and drivers of adoption, DOI underscores that the success of the cashless policy depends not only on its availability but also on how stakeholders perceive and engage with it. Thus, the theory strengthens this study by guiding sector-sensitive interventions that can accelerate adoption and maximize the policy's impact on Nigeria's economy.

2. Empirical Review

Okonewa, et al (2025) examined the nexus of cashless policy on business growth of manufacturing companies, focusing on two key players in Anambra State, Nigeria: Tummy-Tummy Foods Ind. Limited and Tiger Foods Limited. Conducted between 2012 and 2022, the research was motivated by the escalating prevalence of cashless transactions and their potential influence on economic activities, particularly within the manufacturing sector. Utilizing a mixed-methods research design, the data collection process involved a comprehensive analysis of financial reports and operational metrics. The sample size was carefully chosen to reflect the distinctive features of each company's financial landscape, considering factors such as turnover, profitability, and market share. Both quantitative and qualitative data analyses were deployed, leveraging statistical software like SPSS alongside qualitative data analysis tools to extract nuanced insights. The findings provided valuable insights into the correlation between the adoption of cashless payment channels and business growth within the manufacturing sector. Specifically, the research uncovered how the cashless policy influenced financial performance, market competitiveness, and overall growth strategies for Tummy-Tummy Foods Ind. Limited and Tiger Foods Limited. In conclusion, the study contributed essential insights into the evolving landscape of cashless transactions and their implications for the business growth of manufacturing companies.

Amaegberi and Akarara (2025) investigated the impact of electronic banking on the " profitability of deposit money banks (DMBs) in Nigeria, using Eco bank as a case study. The study used times series monthly data ranging from 2012 to 2021. The data were analysed using the Autoregressive Distributed Lag (ARDL) model. It was found that Point of Sale transactions in monetary value had a positive and significant impact on profit before tax of DMBs in Nigeria.

ATM transactions also had a positive and significant impact on profit before tax of Deposit money banks in Nigeria. While electronic mobile banking transactions and internet banking transactions both have positive but insignificant impact on profit before tax of DMBs in Nigeria. The study concludes that point of sale transactions and ATM transactions are important determinants of profit before tax of Eco bank in Nigeria. While internet banking transactions and electronic mobile banking transactions are not important determinants of profitability of Eco bank in Nigeria.

Abdullahi, Orugun and Ameh (2024) investigated cashless policy and the performance of Small and Medium Scale Enterprises in Kogi State. The main objectives were to; examine the connection between Online banking via the internet and the effectiveness of SMEs in Kogi State, investigate the relationship between Mobile Banking and the performance of SMEs in Kogi State. The study's population comprises 938,740 Small and Medium Sized Enterprises located in Kogi State. 400 people make up the sample size. Primary data were used in the investigation. Information from the respondents was gathered using a questionnaire, which served as the main data source. The study employed descriptive and multiple regression analysis to test the hypotheses. The finding from the study revealed that, showed that the performance of small and medium sized enterprises is influenced by the use of mobile and online banking. The study concluded that, the efficiency, productivity, and competitiveness of SMEs have increased dramatically as a result of the integration of these technologies, allowing them to expand and succeed in the current digital economy by streamlining their operations, managing their finances, and becoming more successful.

Akinrin et al (2024) investigated the impact of cashless economy on profitability of Deposit Money Banks (DMBs) in Nigeria. The research adopted an ex-post facto design based on post-positivist ontology. The data for the study were sourced from the Central Bank of Nigeria (CBN) annual report and statistical bulletin, annual and account reports of 13 listed banks for 11 years i.e. 2012 -2022. The main objective was to find out the effect of cashless economy on profitability of Deposit Money Banks in Nigeria. The specific objectives are to ascertain the effect of automated teller machine on profitability of Deposit Money Banks in Nigeria, to examine the effect of point of sale on profitability of Deposit Money Banks in Nigeria, to assess the effect of mobile banking on profitability of Deposit Money Banks in Nigeria and to examine the effect of internet banking on profitability of Deposit Money Banks in Nigeria. Descriptive and Inferential Statistics, Augmented Dickey Fuller Tests for Unit Roots and the Ordinary Least Square (OLS) were applied on profitability of the listed banks adopted as sample size. The result of the study indicates that Automated Teller Machine (ATM), Point of Sale (POS), Mobile Banking (MOB), and Internet Banking (ITB) have positive and significant effect on return on assets (ROA). The study concludes that cashless economy has positively affected the profitability of Deposit Money Banks in Nigeria.

Damilola (2024) did a study on the effect of electronic banking on the financial performance of deposit money banks in Nigeria. Determining the performance of Nigerian listed Deposit Money Banks with respect to electronic banking was the aim of the research. Finding out how web payments, ATM transactions, and point of-sale transactions affected the financial performance of Nigeria's DMBs were the study's specific objectives. The study's research design was ex post facto, and its basis was the technology acceptance model (TAM). All DMBs in Nigeria made up the study's population. The CBN Statistical Bulletin provided time series data on electronic banking from 2013 to 2022. The study's findings demonstrated that the value of ATM transactions as well as web payments had a positive and significant impact on the sampled DMBs' financial performance. Additionally, the study discovered that while not statistically significant, POS transactions improve the financial performance of DMBs in Nigeria. Accordingly, the study comes to the conclusion that the performance of listed DMBs in Nigeria is impacted by the adoption of electronic banking through the use of information and communication technology.

Francis,Abubakar and Nuhu (2024) examined the effect of Central Bank of Nigeria Cashless Policy on operational performance of selected commercial banks in Nigeria. A panel data was collected from a sample of 15 banks covering 6 years ranging from 2012 when the policy was introduced in Nigeria to 2018. The study has adopted return on Asset as proxy for banks performance while the value transactions done through the ATM, POS, Internet Banking, NIP and NEFT platforms (E-banking Products) was used to proxy cashless policy using two different model. In other to ensure the validity and the reliability of the data, the data was subjected to a diagnostic test using Descriptive Statistic Analysis, Multicolinearity test, Correlation testing, and Herteroskadaticity testing. Findings from the study revealed that ATMV has a positive and significant effect on return on assets (ROA) of banks in Nigeria while, POSV, WEBV, NIPV and NEFV was found to have a positive but insignificant effect on ROA of quoted banks in Nigeria.

Ngwu, Odo and Okereke (2024) examined impact of cashless policy on socio-economic development in Aba City. Specifically, the study sought to: examine the impact of automated teller machine (ATM) transaction on living condition in Aba City and determine the impact of Point of sales transaction (POS) transaction on employment generation in Aba City. The research design was descriptive survey research design. Study Area was Aba City, Nigeria. The sample size of 400 respondents was drawn from population of 2.534 million (estimated population 2016) indigenes of Aba City. The sample size of 400 respondents was drawn with Taro Yamane sampling technique. Research questions of the study were answered using mean score and standard deviation. The hypotheses stated were tested using regression analysis. The empirical result of the study showed that automated teller machine (ATM) transaction has significant impact on living condition in Aba City (t-statistic = 6.446; P-value (0.000) < Sig-value (0.05) and Point of sales transaction (POS) transaction has significant impact on employment generation in Aba City (t-statistic = 7.238; P-value (0.000) < Sig-value (0.05).

Oducheand Chukwunwa (2024) examined the effect of cashless policy implementation on the performance of Nigerian manufacturing sector. The specific objective was to determine the effect of point of sale (POS) channel, web channel and automated teller machine (ATM) channel of cashless policy on the real gross domestic product of the Nigerian manufacturing sector. Ex-post facto research design was employed in the study. Secondary data were obtained from the Central Bank of Nigeria Statistical Bulletin from 2012 to 2022. The time series data were analyzed using descriptive analysis and the Robust Least Square (RLS) regression method for hypotheses testing. It was found that: POS channel of cashless policy has a significant positive effect on the real gross domestic product of the Nigerian manufacturing sector (p=0.0338); Web channel of cashless policy has a non-significant positive effect on the real gross domestic product of the Nigerian manufacturing sector (p=0.3322); Automated teller machine (ATM) channel of cashless policy has a significant negative effect on the real gross domestic product of the Nigerian manufacturing sector (p=0.0212). In conclusion, the implementation of cashless policies in Nigeria has significant implications for the performance of the manufacturing sector, offering opportunities to enhance efficiency, transparency, and financial inclusion while also presenting challenges related to infrastructure, security, and cost.

Samuel andEmenyi (2024) examined the relationship between cashless policy and economic growth of Nigeria. Specifically, the study aimed at ascertaining the relationship between web-based transactions, POS transactions and ATM transactions with real GDP of Nigeria over a period of 10 years (2013 2022). This study adopted the ex-post facto design with data obtained from the Nigerian Stock Exchange fact books, National Bureau of statistics (NBS) and Central Bank of Nigeria statistical bulletins for the various years under study. The collected data for this study were computed and analyzed using descriptive statistics and multiple linear regression tools with the aid of SPSS 20.0 software. The findings revealed that POS transactions and ATM transactions have an insignificant positive relationship with real GDP while web-based transactions showed an insignificant inverse relationship. Based on the analysis of variance (ANOVA), the F-change test suggests that the model is statistically significant (p-value = 0.020<0.05).

Uzowulu, Anyanwu and Amakor (2024) examined the impact of cashless policy on the economic growth in Nigeria. This study makes use of the ex-post facto research design in conducting the investigations. The time series data of the variables, ATM transactions, POS transactions, Mobile banking transactions, Web pay transactions and Nominal GDP were obtained from CBN statistical bulletin (2021). The data gathered in this study was analyzed using a multiple linear regression model and the Granger Causality Test. The Augmented Dickey Fuller (ADF) Unit Root Test was conducted to determine the stationairty of the time series data used for the analysis. The post-estimation tests include; LM serial correlation tests, the Heteroskedasticity test, the Redundant Variable test, the Ramsey Reset Test and the Jarque-Bera Normality Test. The findings of the study showed that, the value of ATM transactions is positively related to economic growth but has not significantly impacted economic growth in Nigeria and that Value of POS transactions is negatively related to and has significant impact on economic growth in Nigeria; value of Web pay transactions is negatively related to economic growth but has no significant impact on the economic growth in Nigeria and that value of mobile pay transactions is negatively related to economic growth but has no significant impact on the economic growth in Nigeria.

Adu and Williams (2023) examined the effect of cashless policy on financial performance of commercial banks in Nigeria. The objectives include determining the effect of ATM transactions, NEFT transactions, POS transactions, and e-banking transactions on financial performance of commercial banks in Nigeria. The study was panel in nature, requiring data from the annual reports of top five (5) commercial banks in Nigeria. Data were collected for the period between 2013 and 2020. The study utilized E-Views 10 statistical software for the analysis. The study employed regression to investigate how ATM transactions, NEFT transactions, POS transactions, and E-banking transactions have affected performance. The findings revealed that ATM transactions, NIP transaction, mobile banking transactions, and cheque transaction have significant impact of the performance of commercial banks in Nigeria.

Arinze-Emefo and Ibrahim (2023) analyzed the relationship between cashless banking and the performance of de posit banks. The study employs a quantitative research method. The quantitative component involves the use of secondary data from financial statements of deposit banks for a period of five years (2016-2020). The financial performance indicators to be analyzed include return on assets (ROA), return on equity (ROE), net interest margin (NIM), and cost-to-income ratio (CIR). The data collected from the quantitative components was analyzed using the matic statistical techniques. The findings will provide insights into the impact of cashless banking on the performance of deposit banks and the factors that influence this relationship.

3 METHODOLOGY

The study obtained data from Central Bank of Nigeria Statistical Bulletin 2023 and Nigerian Deposit Insurance Corporation annual report (NDIC). The data used in the study covers a period of 2009 to 2023 and the study adopted an ex-post facto research design. The study adopted and modified the model by of Akinrin et al (2024) who did a study on Cashless economy and profitability drive of deposit money banks (DMBs) in Nigeria from 2012 to 2022. Where his model is stated thus:

ROA = f (ATM, POS, MOB, ITB) ……………………………… (1)

Where: ROA = Return on Assets, ATM = Automated Teller Machine, POS = Point of sale, MOB = Mobile Banking, ITB = Internet Banking (ITB)**.**

The model for this study is

ROA = f (MOB) ------------------------------(2)

INDP= f (INT) ------------------------------(3)

SS= f (POS) ------------------------------(4)

AGS= f (MOB) ------------------------------(5)

Where:

ROA	=	Return on Assets proxy for banking sector performance
INDP	=	Index of Industrial Production proxy for Industrial Sector performance
SS	=	Service Sector proxy for service sector contribution to GDP
AGS	=	Agricultural Sector proxy for agricultural sector contribution to GDP
POS	=	Point of Sale value of transactions
INT	=	Internet Bankingvalue of transactions
MOB	=	Mobile Bankingvalue of transactions

Converted to the mathematical/econometric form by the introduction of the (α0) and error term (μ):

$ROA = \alpha_0 + \alpha_1 MOB + \mu$………………………………………..(6)

$Log(ROA) = \alpha_0 + \alpha_1 logMOB + \mu$………………………………(7)

$INDP = \alpha_0 + \alpha_1 INT + \mu$………………………………………...(8)

$Log(INDP) = \alpha_0 + \alpha_1 logINT + \mu$…………………………………………….....(9)

$SS = \alpha_0 + \alpha_1 POS + \mu$……………………………………………………...(10)

$Log(SS) = \alpha_0 + \alpha_1 logPOS + \mu$………………………..……………………..(11)

$AGS = \alpha_0 + \alpha_1 MOB + \mu$……………………………………......................(12)

$Log(AGS) = \alpha_0 + \alpha_1 logMOB + \mu$……………………………………(13)

Where:

α_0	=	Constant Term
α_1	=	Coefficients of Predictors
Log	=	Natural Logarithm

4. RESULTS AND DISCUSSION

Table 1: Descriptive statistics results

	POS	INT	MOB	ROA	SS	AGS	INDP
Mean	12623.10	188003.8	27268.16	-2.844000	57792.27	26222.44	112.1013
Median	759.0000	132.3600	756.9000	1.480000	61324.81	21523.51	106.0000
Maximum	110347.1	1097133.	219800.1	3.910000	100253.5	53273.14	139.1100
Minimum	11.03000	25.05000	1.270000	-64.72000	22157.26	11625.44	90.00000
Std. Dev.	29410.32	352404.2	61292.33	17.15176	22945.53	13230.00	18.19918
Skewness	2.728442	1.594618	2.420647	-3.450348	0.095531	0.790496	0.250659
Kurtosis	9.421142	4.171696	7.751116	12.96907	2.113531	2.366196	1.658702
Jarque-Bera	44.38040	7.215058	28.75702	91.87618	0.513958	1.813277	1.281500
Probability	0.000000	0.027119	0.000001	0.000000	0.773384	0.403880	0.526897
Sum	189346.5	2820057.	409022.3	-42.66000	866884.1	393336.7	1681.520
Sum Sq. Dev.	1.21E+10	1.74E+12	5.26E+10	4118.559	7.37E+09	2.45E+09	4636.941
Observations	15	15	15	15	15	15	15

Source: Computer analysis using E-views 12.0

Table 4.2 shows the descriptive statistics results for the entire sample of the study. We observed that for the full sample, the mean (or standard deviation) values of Point of Sale machine (POS), Internet Banking (INT), Mobile Banking (MOB), Return on Assets (ROA), Service Sector (SS), Agricultural Sector (AGS) and Industrial Performance (INDP)were12623.10, 188003.8, 27268.16, -2.844000, 57792.27, 26222.44 and 112.1013 (or 29410.32, 352404.2, 61292.33, 17.15176, 22945.53, 13230.00 and 18.19918), respectively. The maximum and minimum values for the seven variables are found to be between 1097133 and -64.72000, respectively. The skewness has both negative (ROA) and positive values, which shows a negatively (ROA) and positively skewed distribution.

Diagnostic Tests

Diagnostic tests show that residual series are homoscedastic and no serial correlation. The tests involved are Normality tests, Berusch-Pagan-Godfrey tests for heteroskedasticity and Berusch-Godfrey tests for serial correlation.

First of all, the study tested for the presence or absence of normality using the Jacque-Bera tests for normality each of the four models stated in the Null hypothesis format that there is no normality in data distributions. This holds if p-value is less than the chosen level of significance otherwise reject. From table 2, all the models' p-values were greater than the chosen level of significance of 5%, indicating the presence of normality in the four models.

Table 2: Results of Jacque Bera tests for normality

Model Specification	p-values of Jarque-Bera test	Decision
ROA=f(MOB)	0.568735	Normally distributed
INDP=f(INT)	0.298480	Normally distributed
SS=f(POS)	0.758449	Normally distributed

AGS=f(MOB)	0.507390	Normally distributed

Source: Researcher's Computation using E-Views

Table 2 presents the results of the Jarque-Bera normality test for the residuals of the specified regression models. The p-values for all the models—ROA as a function of MOB (0.5687), INDP as a function of INT (0.2985), SS as a function of POS (0.7584), and AGS as a function of MOB (0.5074)—are all greater than 0.05. This indicates that the null hypothesis of normality cannot be rejected in any of the cases, implying that the residuals of all the models are normally distributed. Therefore, the models meet the normality assumption required for valid regression analysis, confirming that the estimation results are statistically reliable.

Table 3: Results of Breusch-Godfrey tests for serial correlation

Model Specification	p-values of Breusch-Godfrey Breusch-Godfrey Serial Correlation LM Test	Decision
ROA=f(MOB)	0.0579	No serial correlation
INDP=f(INT)	0.5174	No serial correlation
SS=f(POS)	0.9142	No serial correlation
AGS=f(MOB)	0.4317	No serial correlation

Source: Researcher's Computation using E-Views

Table 3 presents the results of the Breusch-Godfrey Serial Correlation LM Test used to detect the presence of autocorrelation in the residuals of the specified regression models. The p-values for all the models-ROA as a function of MOB (0.0579), INDP as a function of INT (0.5174), SS as a function of POS (0.9142), and AGS as a function of MOB (0.4317)-are all greater than the conventional significance levels of 0.01, 0.05, and 0.10. This implies that the null hypothesis of no serial correlation cannot be rejected in any of the models. Therefore, it is concluded that there was no evidence of serial correlation in the residuals of the estimated equations, indicating that the models were well-specified with respect to autocorrelation and the regression results are reliable for inference.

Table 4: Results of Breusch-Godfrey tests for Heteroskedasticity Test

Model Specification	p-values of Breusch-Godfrey Breusch-Godfrey Heteroskedasticity Test	Decision
ROA=f(MOB)	0.7065	Homoskedastic distribution
INDP=f(INT)	0.4614	Homoskedastic distribution
SS=f(POS)	0.3929	Homoskedastic distribution
AGS=f(MOB)	0.5792	Homoskedastic distribution

Source: Researcher's Computation using E-Views(Appendix 5, page 144 for details)

The results of the Breusch-Pagan-Godfrey heteroskedasticity tests presented in the table indicate that all four regression models exhibit homoskedasticity. Specifically, the p-values for ROA=f(MOB)(0.7065), INDP=f(INT)(0.4614), SS=f(POS) (0.3929), and AGS=f(MOB) (0.5792) are all significantly greater than the standard significance levels of 0.01, 0.05, and 0.10. This means that the null hypothesis of constant variance (homoskedasticity) was not rejected in any of the models. Consequently, the residuals from each model are evenly distributed across observations, suggesting that the models do not suffer from heteroskedasticity, and thus the standard errors of the estimates are valid for inference.

Table 5: OLS Regression output and various sector of the economy

Dependent Variable	Current Year Variable	Coefficient	Probability Value	R^2	Durbin-Watson	F-Statistic	Prob(F-Statistic)
ROA (Return on Assets)	MOB (Mobile Banking)	0.0000454	0.0685	0.908	1.154	11.84	0.0046
INDP (Industrial Production)	INT (Internet Banking)	-0.0000376	0.2470	0.842	1.240	6.37	0.0216
SS (Service Sector)	POS (Point of Sale)	0.229841	0.2030	0.993	1.689	286.45	0.0000
AGS (Agricultural Sector)	MOB (Mobile Banking)	-0.117004	0.0065	0.999	1.192	1940.38	0.0000

Source: Author's E-view 12 computations

Text of Probability

The results show that mobile banking has a positive but insignificant effect on banking sector performance (ROA), suggesting it modestly enhances profitability. In contrast, the industrial sector (INDP) shows no significant response to current internet banking, indicating that internet banking changes may not immediately influence industrial output. For the service sector (SS), POS transactions exhibit a positive effect, but the relationship is not statistically significant, reflecting limited short-term impact despite potential benefits. However, in the agricultural sector (AGS), mobile banking demonstrates a negative and statistically significant effect, suggesting that infrastructural challenges, low digital literacy, and rural constraints hinder its effective use, thereby reducing agricultural output. Overall, while the model fit indicators (high R^2 and significant F-statistics) confirm strong explanatory power, the sectoral effects of cashless policy tools remain uneven across Nigeria's economy.

6. SUMMARY, CONCLUSION AND POLICY IMPLICATION

This study examined the effect of Nigeria's cashless policy on different sectors of the economy, focusing on banking, services, industry, and agriculture. The findings reveal that the policy has generally promoted efficiency, transparency, and financial inclusion, especially in the banking and service sectors, where adoption rates are relatively high due to stronger infrastructure and customer engagement. The industrial and agricultural sectors, however, face slower adoption because of limited technological infrastructure, inadequate literacy, and persistent connectivity challenges. While the cashless policy has the potential to modernize financial transactions, its benefits remain unevenly distributed across sectors, highlighting infrastructural and educational gaps.The cashless policy represents a strategic initiative by the Central Bank of Nigeria to reduce reliance on physical cash and foster a digital economy. Evidence suggests that its impact on sectoral performance is largely positive but not uniformly significant across all sectors. Banking and services have benefitted the most, reflecting greater digital readiness, while agriculture and industry lag due to structural and technological barriers. Overall, the policy underscores the importance of digital transformation in driving efficiency, financial inclusion, and sustainable economic growth. However, realizing its full potential requires addressing sector-specific challenges that constrain adoption and effectiveness.

To maximize the benefits of the cashless policy, several measures are recommended. First, government and financial institutions should expand digital infrastructure, including POS terminals, internet coverage, and reliable power supply, especially in rural and underserved areas. Second, targeted literacy and sensitization campaigns should be implemented to build trust, awareness, and digital skills among farmers, SMEs, and informal businesses. Third, financial institutions should design tailored cashless products that meet the unique needs of different sectors, such as simplified mobile banking tools for rural farmers and SMEs. Fourth, cybersecurity measures and system reliability should be strengthened to reduce fraud and enhance public confidence. Finally, a sector-sensitive approach should guide implementation, ensuring that interventions are aligned with the realities of each sector. By addressing these gaps, Nigeria can achieve broader adoption of cashless tools, enhance transparency, stimulate economic activity, and promote inclusive and sustainable growth.

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