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Impact of Management Information System on Organisational Performance

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Abstract

This study examined the impact of Management Information System (MIS) on organizational performance, using First City Monument Bank (FCMB) Plc branches in Osun State, Nigeria, as the focus. Specifically, the study investigated the effects of Automated Teller Machine (ATM) usage, Short Message Service (SMS) operational activity, and Bank Verification Number (BVN) effectiveness on organizational performance. Relevant theoretical and empirical literature on MIS and organizational performance was reviewed, while Innovation Diffusion Theory (IDT) and Socio-Technical Systems Theory of Acceptance were adopted as the underpinning theories. The study employed a survey research design, with primary data collected through a structured questionnaire. The population comprised 72,885 customers of selected FCMB branches in Osun State, from which a sample size of 399 was determined using the Taro Yamane formula. Data collected were analyzed using descriptive statistics and regression analysis. The findings revealed significant positive relationships between ATM usage and organizational performance ($r = .398$, $p < .01$), SMS operational activity and organizational performance ($r = .369$, $p < .01$), and BVN effectiveness and organizational performance ($r = .432$, $p < .01$). The study concluded that MIS significantly contributes to organizational performance in FCMB Plc. It therefore recommended continuous upgrading of MIS infrastructure and the effective deployment of ATM, SMS, and BVN technologies to improve service delivery, operational efficiency, customer satisfaction, and overall organizational performance.

Keywords: Customer Satisfaction, Decision-Making, Management Information System; Organizational Performance, Operational Efficiency

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INTRODUCTION

The rapid advancement of information and communication technology has significantly transformed the way organizations operate, compete and deliver services. In contemporary organizations, information has become an important strategic resource for planning, coordination, control and decision-making. Management Information Systems (MIS) provide organizations with mechanisms for collecting, processing, storing and disseminating information required by managers for effective decision-making and organizational control. Consequently, the effectiveness of an organization increasingly depends on its ability to generate accurate, relevant, timely and reliable information for managerial and operational activities. (Arkhipova et al., 2024; Alkhwaldi, 2024). The importance of Management Information Systems has become particularly pronounced in the banking industry, where organizations handle large volumes of financial and customer information on a continuous basis. Banks rely on information systems for transaction processing, customer account management, electronic banking, financial reporting, risk management, fraud monitoring, regulatory compliance and managerial decision-making. Madu and Elbadri (2024), in their review of MIS and commercial-bank performance in Nigeria, reported that MIS tools such as Decision Support Systems, Transaction Processing Systems, Operations Processing Systems and Office Information Systems have positive implications for commercial-bank performance.

The Nigerian banking industry has experienced substantial technological transformation as banks increasingly depend on digital platforms and integrated information systems to improve their operations and competitiveness. Recent evidence indicates that information technologies such as automated teller machines, point-of-sale systems, mobile money and internet banking have become important components of banking operations and have implications for banking effectiveness. Ajao et al. (2024) therefore demonstrated the growing relevance of information-technology tools to the performance of Nigerian banks. Similarly, recent evidence from Nigeria indicates that investment in more advanced information technologies can contribute to bank performance. Akuhwa, Ajekwe and Yua (2026) examined the effects of Core Banking Systems, Digital Customer Relationship Management, Big Data Analytics and Artificial Intelligence, and Cyber security Systems on bank performance in Nigeria. Their study provides recent evidence that these technology-based systems are important in understanding the relationship between technological investment and banking performance.

The relevance of MIS to organizational performance extends beyond the automation of routine activities. An effective MIS can improve the quality and timeliness of information available to managers, facilitate coordination among departments, reduce information-processing delays, improve employee productivity and support evidence-based decision-making. Madu and Elbadri (2024) specifically observed that effective utilization of MIS tools could contribute to improved commercial-bank performance, while recommending further empirical investigation using bank employees and customers. Although previous studies have examined information technology, MIS, fintech and banking performance in Nigeria, there remains a need for institution-specific research focusing on the relationship between Management Information System and organizational performance at FCMB Plc. Much of the recent literature examines several banks collectively, focuses on specific digital banking technologies, or considers broader ICT investment rather than MIS as an integrated managerial resource. This creates a research gap that the present study seeks to address. Therefore, this study investigates the impact of Management Information System on organizational performance of First City Monument Bank Plc, Nigeria. The study is expected to provide empirical evidence on whether effective MIS contributes to improved operational efficiency, employee productivity, customer satisfaction, managerial decision-making and overall organizational performance.

Statement of the Problem

Despite the rapid technological development in the Nigerian banking sector, the availability and

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deployment of Management Information Systems (MIS) do not automatically guarantee improved organizational performance. The effectiveness of MIS depends on the quality, accuracy, reliability, timeliness, accessibility and security of information generated, as well as the ability of employees and managers to utilize such information effectively. A recent study of business intelligence systems in Nigerian banks found that technological, organizational and environmental factors influence the continued use of information systems, highlighting the importance of organizational support and effective utilization of technology in achieving sustained benefits (Adalier & Isiaku, 2026). Furthermore, Akuhwa et al. (2026) provide recent evidence that technology-related capabilities are relevant to bank performance in Nigeria. However, the increasing adoption of core banking platforms, digital customer-management systems, data analytics, artificial intelligence and cybersecurity technologies has also increased the volume and complexity of information generated by banking operations.

Previous studies have established relationships between information systems and organizational performance, but important gaps remain. For instance, Ekpudu et al. (2023) examined enterprise resource planning in Access Bank Plc and Guaranty Trust Bank Plc and found that integrated information technology systems are relevant to organizational performance. Other studies have focused on information technology tools, fintech adoption, digital banking and ICT investment in Nigerian banks. However, many of these studies concentrate on specific technological applications or examine several banks collectively rather than considering Management Information System as an integrated managerial resource within a particular banking institution. Consequently, there is limited empirical evidence on how the combined effectiveness of information systems contributes to organizational performance within individual Nigerian banks.

There is therefore a significant contextual gap concerning the extent to which Management Information System affects the performance of First City Monument Bank (FCMB) Plc, Nigeria. Although FCMB operates in a highly technology-driven banking environment and has invested substantially in information systems, the existence of sophisticated technologies cannot, by itself, be assumed to translate into improved organizational outcomes. It remains necessary to empirically establish whether the quality, reliability, accessibility, security, timeliness and decision-support capabilities of MIS significantly influence operational efficiency, employee productivity, customer satisfaction, managerial decision-making and profitability. The absence of sufficient institution-specific evidence makes it difficult to determine the extent to which MIS investments are achieving their intended organizational benefits in FCMB Plc.

Against this background, the problem is that despite the growing dependence of Nigerian banks on information systems and the substantial resources committed to their acquisition and deployment, there is insufficient empirical evidence on the contribution of Management Information System to the organizational performance of First City Monument Bank Plc. It is therefore unclear whether the effective utilization of MIS significantly enhances the bank's operational efficiency, employee productivity, customer satisfaction, managerial decision-making and profitability. This study consequently seeks to examine the impact of Management Information System on organizational performance of First City Monument Bank Plc, Nigeria**,** with the aim of providing empirical evidence that can assist management in evaluating its information systems, identifying areas for improvement and strengthening organizational performance.

Research Questions

1. What is the effect of the use of Automated Teller Machine on organizational performance of FCMB Plc Nigeria?
2. What are the influences of Short Message Service operational activity on organizational

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performance of FCMB Plc Nigeria?

3. To what extent does Bank Verification Number effectiveness affect the organizational performance of FCMB Plc Nigeria?

Objectives of the study

The broad objective of this study is to examine the impact of Management Information System on Organizational Performance, with specific references to First City Monument Bank Plc Nigeria. Other specific objectives are to:

1. analyze the effect of the usage of Automated Teller Machine on organizational performance of FCMB Plc Nigeria.
2. establish the influence of Short Message Service operational activity on organizational performance of FCMB Plc Nigeria
3. assess the effect of Bank Verification Number effectiveness on organizational performance of FCMB Plc Nigeria

Research Hypotheses

H_{01}: Automated Teller Machine (ATM) usage has no significant effect on the organizational performance of First City Monument Bank Plc, Nigeria.

H_{02}: Short Message Service (SMS) operational activities have no significant effect on the organizational performance of First City Monument Bank Plc, Nigeria.

H_{03}: Bank Verification Number (BVN) effectiveness has no significant effect on the organizational performance of First City Monument Bank Plc, Nigeria.

Scope of the Study

This study examines the impact of Management Information System (MIS) on the organizational performance of First City Monument Bank Plc, Nigeria. The study is delimited to selected information-system-enabled banking technologies that are relevant to the delivery, administration, monitoring and security of banking services. Specifically, the study focuses on Short Message Service (SMS), Automated Teller Machine (ATM) and Bank Verification Number (BVN) as the selected dimensions of MIS. These technologies were considered because they support different aspects of contemporary banking operations, including electronic communication, transaction processing, customer identification and verification, electronic payment services, monitoring and security. Geographically, the study is situated within Nigeria, with the empirical investigation restricted to the FCMB branch or branches selected for the study. This delimitation is considered appropriate because the research seeks to generate institution-specific evidence on the relationship between MIS and organizational performance within the Nigerian banking environment.

This study does not cover every information technology or digital banking innovation deployed within the Nigerian banking sector. Accordingly, technologies such as mobile applications, internet banking, artificial intelligence, block chain, cloud computing and big-data analytics are outside the immediate empirical scope of the study unless specifically incorporated into the research instrument. The study is therefore focused on establishing the extent to which SMS, ATM and BVN as selected information-system-enabled banking technologies, influence customers' patronage and, consequently, the organizational performance of First City Monument Bank Plc, Nigeria.

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LITERATURE REVIEW

Management Information System

The relevance of MIS is particularly pronounced in the banking industry because banking operations involve the continuous generation, processing, storage and transmission of large volumes of financial and customer information. Banks depend on information systems for account management, transaction processing, electronic payments, customer identification, fraud monitoring, management reporting and service delivery. Madu and Elbadri (2024), in a Nigerian commercial banking review, conceptualized MIS through Decision Support Systems, Transaction Processing Systems, Operations Processing Systems and Office Information Systems and concluded that effective utilization of MIS tools has a positive relationship with commercial-bank performance. They further identified increased customer deposits and profitability as important measures of bank performance.

Recent literature has further broadened the technological dimension of banking information systems. Akuhwa, Ajekwe and Yua (2026), for example, examined ICT investment in Nigerian banks using Core Banking Systems, Digital Customer Relationship Management, Big Data Analytics and Artificial Intelligence, and Cyber Security Systems. Their results showed positive and statistically significant relationships between each of these ICT components and bank performance. Thus, MIS can be viewed as an organizational infrastructure through which technology, information and human resources are integrated to improve managerial decision-making, operational efficiency, customer service and organizational performance.

Management Information System and Organizational Performance

Organizational performance refers to the extent to which an organization achieves its predetermined objectives using available resources effectively and efficiently. In the banking industry, performance can be assessed using financial and non-financial indicators such as profitability, operational efficiency, customer satisfaction, customer patronage, productivity, service quality and competitive position. The relationship between MIS and organizational performance is based on the premise that high-quality information enables managers to make faster and more accurate decisions, while automated information systems can reduce transaction costs, minimize errors, improve coordination and enhance service delivery. In banking, this relationship is particularly important because delays or inaccuracies in information processing can affect both customers and the financial position of the institution.

Madu and Elbadri (2024) reported from their conceptual review that MIS tools have a significant positive relationship with commercial-bank performance and recommended effective utilization of MIS for improved performance. Similarly, Iwedi (2024) found evidence of a significant positive relationship between digital banking technology and operational efficiency among commercial banking firms in Nigeria. His analysis also identified a long-run equilibrium relationship between digital banking technology and banking efficiency. At the international level, the literature increasingly treats digitalization as an important determinant of operational efficiency in banking. A 2024 thematic study in the *International Journal of Information Management Data Insights* identified major themes linking banking digitalization with operational efficiency and proposed a research agenda for digital operational efficiency. This suggests that information systems should be examined not only as technical infrastructure but also as strategic organizational resources. However, the relationship is not necessarily uniform. Gbanador (2023), using Nigerian banking data for 2019–2021, found that electronic banking systems did not have a significant short-run effect on the performance of deposit money banks, although the long-run analysis indicated a positive relationship between e-banking and performance. This finding indicates that the benefits of information systems may require time to materialize and may depend on effective

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implementation, infrastructure and user adoption.

Automated Teller Machine and Organizational Performance

Automated Teller Machine (ATM) is one of the most established electronic banking technologies. It enables customers to perform basic banking transactions, including cash withdrawals, balance enquiries, transfers and other services without direct interaction with bank employees. The introduction and expansion of ATM services have changed the traditional structure of banking service delivery by extending access beyond conventional banking halls. ATM services can reduce pressure on bank branches, increase transaction convenience and allow banks to serve customers beyond normal working hours. Orji et al. (2018) examined electronic banking innovations and the performance of selected Nigerian banks using a seemingly unrelated regression model. The study considered ATM, mobile banking and POS transactions and found that these electronic banking innovations contributed to the performance of both old- and new-generation banks. Similarly, Demaki, Eromafuru and Imasuen (2021) examined electronic banking and bank performance in Nigeria using quarterly data from 2009–2019. Their findings showed that mobile banking, ATM and POS were statistically significant technological factors associated with the financial performance of deposit money banks.

More recent evidence, however, is mixed. Edibo and Alao examined ATM usage and the performance of Nigerian deposit money banks over 2012–2022 and reported a significant adverse effect of ATM on bank performance. The authors associated possible negative effects with ATM malfunction, user charges and security risks. Conversely, Agbalaiko, Goodhead and Ogoun (2024), using Nigerian commercial-bank data from 2009–2022, found that revenue generated through ATM and POS electronic media contributed positively and significantly to the profit performance of commercial banks. The conflicting findings suggest that ATM availability alone may not determine organizational performance. Factors such as reliability, transaction charges, network availability, security, maintenance and customer adoption may moderate the relationship. This provides justification for investigating ATM usage within the specific institutional context of FCMB.

Short Message Service and Organizational Performance

Short Message Service (SMS) banking enables banks to communicate transaction information and selected banking services to customers through mobile-phone text messages. It can be used for transaction alerts, balance enquiries, notifications, authentication and other forms of customer communication. SMS is important in environments where customers may have limited access to high-speed internet services. It can improve communication between banks and customers by providing timely notifications about transactions and account activities. From an organizational perspective, effective SMS services may reduce information gaps, improve customer confidence and strengthen customer relationships. The broader literature on electronic banking supports the role of mobile-based technologies in bank performance. Orji et al. (2018) found that mobile banking transactions contributed to the performance of selected Nigerian banks. Demaki et al. (2021) similarly identified mobile banking as a significant technological factor associated with Nigerian bank performance. More recent evidence from Adibe and Aigbovo (2024) indicates that mobile banking and USSD technologies had significant positive effects on the financial performance of Nigerian deposit money banks, although the study reported mixed results across different technology channels. The implication is that mobile-based communication technologies can contribute to organizational performance by improving accessibility, transaction convenience and customer engagement. Nevertheless, the effectiveness of SMS banking can be affected by network reliability, message delivery delays, security concerns and customer adoption. Therefore, empirical investigation is necessary to establish whether SMS operational activities significantly affect FCMB's organizational performance.

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Bank Verification Number and Organizational Performance

The Bank Verification Number (BVN) is a biometric-based customer identification mechanism introduced within the Nigerian banking system to strengthen customer identification, reduce identity-related fraud and support Know-Your-Customer (KYC) requirements. Unlike ATM and POS, BVN is primarily an identification and risk-management infrastructure rather than a conventional customer transaction channel. BVN contributes to information management by providing a unique identity framework through which customer accounts can be linked and monitored. Its effective implementation can support banks in identifying suspicious activities, reducing multiple identities and strengthening customer due diligence. Although BVN is clearly important for banking security and regulatory compliance, relatively fewer empirical studies have directly tested its effect on organizational performance compared with ATM, POS and mobile banking. This represents an important gap in the literature. The present study therefore extends the discussion by examining whether BVN effectiveness is associated with customer patronage and organizational performance at FCMB.

Theoretical review

The DeLone and McLean Information Systems Success Model provide the principal theoretical foundation for this study on the impact of Management Information System (MIS) on the organizational performance of First City Monument Bank Plc (FCMB), Nigeria. The model was originally developed by DeLone and McLean (1992) and subsequently updated by DeLone and McLean (2003) in response to developments in information-system research and practice. The updated model identifies six interrelated dimensions of information-system success, namely system quality, information quality, service quality, system use or intention to use, user satisfaction and net benefits. The model proposes that the quality of an information system influences its use and users' satisfaction, while use and satisfaction subsequently contribute to individual and organizational benefits. The DeLone and McLean model is particularly relevant to the banking industry because banking activities are highly dependent on information systems for the collection, processing, storage, retrieval and communication of information.

The model has also been applied to contemporary digital and banking-related information systems. Kendle and Chipangura (2024), for example, applied the DeLone and McLean model in evaluating a mobile self-service application, demonstrating its usefulness in assessing technology-enabled services. Senin and Rashid (2025) also applied the model in examining information-system success factors and employee performance within a digital environment. These applications demonstrate that the model remains relevant for investigating the relationship between information-system effectiveness and performance outcomes. The relevance of the DeLone and McLean model to the Nigerian banking sector is further supported by recent empirical evidence concerning information technology and bank performance. Akuhwa, Ajekwe and Yua (2026) found positive and statistically significant relationships between selected ICT capabilities—including core banking systems, digital customer relationship management, big-data analytics and artificial intelligence, and cyber security systems—and bank performance in Nigeria. These findings reinforce the theoretical proposition that effective information-system capabilities can generate measurable organizational benefits.

In relation to the present study, the DeLone and McLean model provides a logical explanation for how the selected MIS-enabled technologies of ATM, SMS, BVN, POS and CCTV can contribute to the organizational performance of FCMB. ATM and POS systems support electronic transaction processing and customer accessibility; SMS facilitates timely communication and transaction notification; BVN strengthens customer identification and verification; while CCTV supports monitoring and security. When these technologies possess desirable levels of system quality, information quality and service quality, they

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are expected to encourage effective utilization and user satisfaction. Effective use and satisfaction may subsequently generate organizational benefits, including improved service delivery, customer confidence and increased customer patronage.

The model therefore assumes that the organizational benefits of MIS do not arise merely from the presence of technology but from the quality, reliability, usefulness, utilization and satisfaction associated with the information systems. This distinction is important because technological investment alone does not guarantee improved organizational performance. The effectiveness of the technology depends on its integration with banking processes, employee capabilities, customer needs, information quality, infrastructure and service support. Based on the foregoing, the DeLone and McLean Information Systems Success Model is considered appropriate as the principal theoretical framework for this study. It provides a comprehensive explanation of the mechanisms through which Management Information Systems can generate organizational benefits and offers a strong theoretical basis for examining the relationship between ATM usage, SMS operational activities, BVN effectiveness, POS services, CCTV systems and organizational performance at First City Monument Bank Plc, Nigeria.

Empirical Review

Demaki, Eromafuru and Imasuen (2021) examined electronic banking and the performance of deposit money banks in Nigeria using quarterly time-series data from 2009 to 2019. The study examined mobile banking, ATM, internet banking and POS in relation to bank performance, with return on assets serving as a performance measure. Using descriptive statistics, correlation analysis, unit-root tests, cointegration analysis and an error-correction model, the researchers found that mobile banking, ATM and POS were statistically significant technological factors influencing financial performance. The findings suggest that electronic banking technologies can contribute to improved bank performance. However, the study focused on financial performance and did not examine SMS, BVN or CCTV as dimensions of MIS.

Adewoye and Adesokan (2016) examined the MIS impact on microfinance banks Operations in Oyo State, Nigeria. Precisely, the work studied the MIS products that sustain microfinance banks operations and considered the relationship between MIS and Microfinance Banks' operations. Random sampling technique was adopted to select10 percent of the microfinance banks for the study. Data for the study were sourced through questionnaire, and sixty-six respondents among the members of staff of the microfinance banks in Oyo State were carefully chosen. Both descriptive, and inferential statistics of Pearson Product Moment Correlation coefficients (PPMC)were employed to test the existing MIS products that support microfinance banks operations, and the relationship between MIS and microfinance banks operations, respectively. The result of their study revealed that Short Messaging Service (SMS) was the dominant MIS products that support Microfinance Banks operations in the study area. Similarly, there exist a significant relationship between MIS and microfinance banks operations. It is pertinent to note that their works offers a refreshing approach to the conceptualization of operation, as a measure of MIS impact.

Madu and Elbadri (2024) examined Management Information System and the performance of commercial banks in Nigeria**.** Their study conceptualized MIS through Decision Support Systems, Transaction Processing Systems, Operations Processing Systems and Office Information Systems, while commercial-bank performance was associated with customer deposits and profitability. Their review indicated a positive relationship between MIS tools and commercial-bank performance. The authors recommended effective utilization of MIS tools by commercial banks and specifically identified the need for further empirical research involving bank employees and customers. The study is directly relevant to the present research because it establishes the conceptual relationship between MIS and banking performance. Nevertheless, it was essentially a conceptual study and did not empirically examine FCMB

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or the specific MIS-enabled banking technologies considered in this study.

Agbalaiko, Goodhead and Ogoun (2024) investigated the contribution of Automated Teller Machine (ATM) and Point of Sale (POS) electronic media to the profit performance of Nigerian commercial banks. The study examined data covering 2009–2022 and found that ATM and POS electronic media contributed positively and significantly to the profit performance of Nigerian commercial banks. This finding provides empirical support for the proposition that electronic transaction technologies can contribute to banking performance. However, the study concentrated on profitability and did not consider customer patronage as an organizational-performance indicator. It also did not incorporate SMS, BVN and CCTV into its analytical framework.

Akuhwa, Ajekwe and Yua (2026) examined Information and Communication Technology and bank performance in Nigeria**.** The study focused on Core Banking Systems, Digital Customer Relationship Management, Big Data Analytics and Artificial Intelligence, and Cyber security Systems. Using data from 13 Nigerian banks listed on the Nigerian Exchange Group for 2013–2022, the researchers employed descriptive statistics, correlation analysis and multiple regression, with return on investment as the measure of bank performance. The findings showed that core banking systems, digital customer relationship management, big-data analytics and artificial intelligence, and cyber security systems all had positive and statistically significant effects on bank performance. The study provides very recent evidence that technology investment can contribute to financial performance in Nigerian banking. However, it did not investigate ATM, SMS, BVN, POS and CCTV as individual MIS applications and did not focus on FCMB.

Michael, Thomas and Ikole (2026) investigated electronic banking and bank macro-performance in Nigeria using secondary data covering 2009–2023. The study employed an ARDL framework and examined ATM, mobile banking, internet banking and POS, with banks' contribution to GDP serving as the performance indicator. The findings established a stable long-run relationship between electronic banking and bank macro-performance. ATM and internet banking had positive and statistically significant long-run effects, while POS had a positive but statistically weak effect and mobile banking recorded a negative long-run coefficient. These mixed results demonstrate that the effect of information technology may vary according to the particular technology examined and the performance indicator employed.

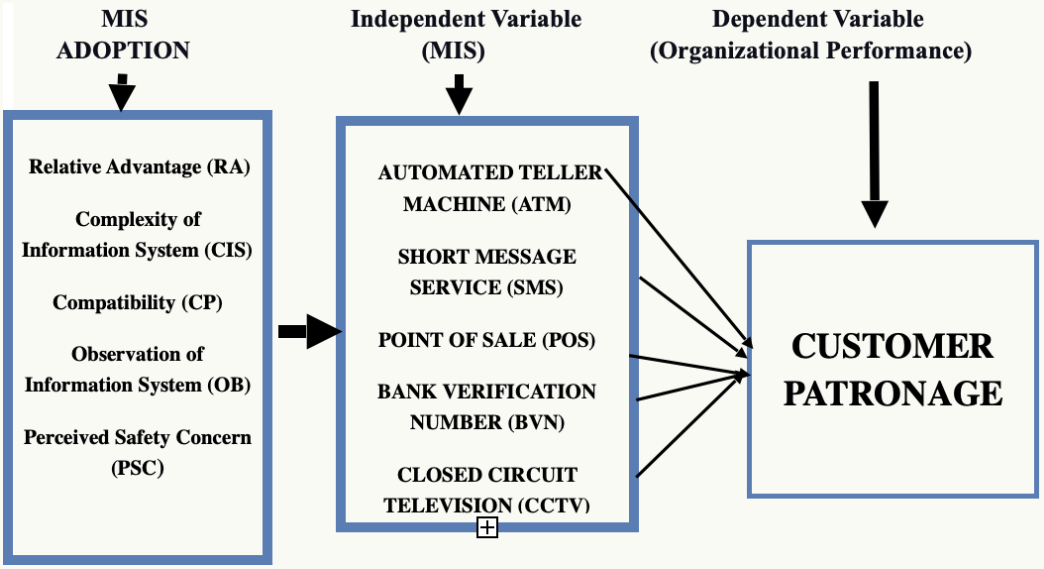
A further recent study by Ifarajimi and Japinye (2026) examined digitalization and banking performance in Nigeria using 20 years of panel data covering six listed banks from 2005–2024. The study constructed a composite digitalization index using seven bank-level indicators covering ICT expenditure, delivery infrastructure and transaction activity. The study therefore represents a movement from examining individual electronic-banking channels towards examining digitalization as a broader organizational capability. Its importance to the present study lies in demonstrating that digital transformation has become an increasingly important determinant of banking efficiency and financial performance. However, the composite approach does not identify the individual contribution of ATM, SMS, BVN, POS and CCTV, which the present study seeks to examine.

Conceptual Model for the Study

Having looked at the various models on MIS both in the developed and developing countries. This study set to visualize a model that will show the variables that influence management information systems on organizational performance in FCMB Plc Nigeria. The model showed the dependent and independent variables. The MIS adoption decision was hypothesized to be influenced by; Relative Advantage (RA), Complexity of Information System (CIS), Perceived Safety Concern (PSC), Compatibility(CP)**,** Financial Commitment (FC), and Observation of Information System (OB). While performance would be assessed

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by; short Messaging Services (SMS), Automated Teller Machines (ATMs), Point of Sales (POS), Bank Verification Number (BVN), and Closed Circuit Television (CCTV) and performance was proxy by customer patronage.



Conceptual model

Source: Researcher's Computation (2026)

METHODOLOGY

Research Design

The research design used in this study was *survey* research design, which involves the use of a questionnaire. It creates ample opportunities for researchers to select respondents and collect data from respondents without manipulation of variables and without exercising control of the respondents.

Area of the Study

The researchers examined the impact of the management information system on organizational performance regarding all the existing FCMB branches in the Osun State, Nigeria; Osogbo, Ile-Ife, and Ilesha.

Population of the Study

The population of this study comprises all the customers of FCMB branches in Osun State. The entire customer constitutes the population sizes, which are 72,885 customers from Osun State. They were selected because they have reliable information about MIS in their banks. Below is the population in detail:

S/N	BRANCHES	CUSTOMER PROFILE
1.	Osogbo	44,210
2.	Ilesha	20,530
3.	Ile-Ife	8,145
TOTAL		72,885

Researcher's computation (2026)

Source: http://www.fcmb.com/branch-network

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Sample Size and Sampling Technique

The sample size is the selected participants, elements, or observations from a universe population for study. For this study and the inability of the researcher to cover up the whole population, however, the sample size was taken using the Taro Yamane formula to determine the size of the population for the study. Simple random sampling techniques was adopted for this study. The sample size for this study is based on the formulae of Taro Yamane.

Sample Size

$$n = \frac{N}{1 + N(e^2)}$$

Where;

n represent sample size

N represents population size

e represents error estimate (0.05)

Therefore,

$$n = \frac{72{,}885}{1 + 72885\ (0.0025)}$$

$$n = \frac{72{,}885}{183.213}$$

n = 397.8 respondents

n = **399 respondents approximately**

Distribution of respondents from the selected bank branches.

S/N	BRANCHES	CUSTOMER PROFILE	PROPORTIONATE VALUE
1.	**Osogbo**	**44,210**	**44,210/72885 X 399 = 242**
2.	**Ilesha**	**20,530**	**20,530/72,885 X 399 = 112**
3.	**Ile-Ife**	**8,145**	**8,145/72,885 X 399 = 45**
	TOTAL	**72,885**	**399**

Researcher's computation (2026)

Methods of Data Collection

The data were collected from primary source. Questionnaire was used in gathering necessary data from the respondents for the study. The source involves the researcher's personal and direct contact with the eyes witness that can provide information accurately about the problem under investigation**.**

Validity of the Research Instrument

The validity of the questionnaire was evaluated by customers in banking industries to ensure that the

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developed questionnaire was included, all the important questions needed to facilitate excellent study about the impact of management information system on organizational performance of First City Monument Bank Plc, Nigeria. The first section of the research instrument focus on the Bio-data of respondents consisting of 5 items while the second section deals with research questions on the variable captured in the study. The instrument was made simple and to the point of which enabled the respondents to supply relevant information, this proves the validity of the instrument. The study instrument that was used in this research is observation and feedback hence, its validity is of no doubt still used by other researchers.

Reliability of the Research Instrument

To establish the reliability, a sample of the research instrument was administered to the sampled respondents on two different occasions and the scores obtained was compared by computing a reliability co-efficient using Cronbach's coefficient alpha and split-half method. This method was used to measure the reliability of the instrument between each field and the mean of the whole fields of the questionnaire.

Methods of Data Analysis

Regression analysis was used at a different significant level of 0.05 to analyze the data obtained with the aid of the Statistic Package for Social Science (SPSS) to measure the relationship between the variables captured in the model. Hypotheses one and two on the relationship between Management Information System and Organizational Performance output was tested using Pearson Correlation. Hypotheses three, four, and five was tested using Linear Regression.

Model Specification

The formula is given as $Y = f(X)$

Where Y = Organizational Performance (Dependent Variable)

F = Functional Relationship

X = Management Information System (Independent variable)

Where:

The model used is shown below:

$Y = b1x1 + b2x2 + b3x3 + b4x4 + b5x5 + \mu$ ……1

Simple linear form is stated below

$CP = \beta o + \beta\ 1ATM + \mu$ …….equ 2

$\beta o + \beta\ 2SMS + \mu$ ……..equ3

$\beta o + \beta 3BVN + \mu$ ……..equ 4

$\beta o + \beta 4POS + \mu$ ……..equ 5

$\beta o + \beta 5CCTV + \mu$ ……..equ 6

Where:

CP = Customer Patronage

SMS = SMS Transaction Alert

ATM = Automated Teller Machine
POS = Point of Sales

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BVN = Bank Verification Number

CCTV = Closed Circuit Television (Video Surveillance)

M = Error Term

β0, β1, β2, β3, β4, β5 = Regression parameters

RESULTS AND FINDINGS

This analysis was carried out on Customer's Patronage on the relationship between management information system and organizational performance. Based on demographic and objectives of research which includes effect of the usage of Automated Teller Machine, influence of Short Message Service operational activity, effect of Bank Verification Number effectiveness, impact of Point of Sale Service and the effect of Closed Circuit Television on organizational performance. These were presented in form of percentage (%) and frequencies (f). Three hundred and ninety nine (399) respondents were randomly selected for the study and copies of questionnaire were distributed to them accordingly with using of 5-point Likert scale using SPSS 26.0.

Demographic features of the Respondents

VARIABLE	ITEMS	FREQUENCY	(%) PERCENTAGE	MEAN	STANDARD DEVIATION
GENDER	Male	212	53.1		
	Female	187	46.9		
	TOTAL	399	100.0		
AGE	Below 20 years	108	27.1	2.44	±1.218
	21-30 years	116	29.1		
	31-40 years	95	23.8		
	41-50 years	51	12.8		
	51 years & above	29	7.3		
	TOTAL	399	100.0		
MARITAL STATUS	Single	136	34.1	2.01	±0.943
	Married	165	41.4		
	Divorced	58	14.5		

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	Widow /Widower	**40**	**10.0**		
	TOTAL	**399**	**100.0**		
EDUCATIONAL QUALIFICATIONS	**O'LEVEL**	**113**	**28.3**	**2.19**	**±0.946**
	ND/NCE	**134**	**33.6**		
	HND/BSC/ MBA.MPA	**117**	**29.3**		
	Other Professional Bodies	**35**	**8.8**		
	TOTAL	**399**	**100.0**		
LENGTH OF PATRONAGE	**Less than 5 Years**	**119**	**29.8**	**2.38**	**±1.252**
	5-10 years	**118**	**29.6**		
	11-20 years	**90**	**22.6**		
	21-25 years	**35**	**8.8**		
	26 years & above	**37**	**9.3**		
	TOTAL	**399**	**100.0**		

Source: Research's Computation (2026)

Table 1 shows the frequency distribution analysis result of the demographic factors of the respondents. The result shows that there are 212(53.1%) males and 187(46.9%) females. This denotes that there are more males and females in the study. Age of the respondents showed that 108(27.1%) of the respondents are below 20 years, 116(29.1%) are within the age of 21-30 years, 95(23.8%) are within the age of 31-40 years, 51(12.8%) are within the age of 41-50 years, while 29(7.3%) are 51 years and above. The study, therefore, concluded that the majority of the respondents are young. Also, the frequency distribution result on the marital status of the respondents revealed that 136(34.1%) are single, 165(41.4%) are married, 58(14.5%) are divorced and 40(11.8%) are widow/widowers. This denotes that majority of the respondents are married. Analysis of demographic factors showed that 113(28.3%) are O'level degree holders, 134(33.6%) are ND/NCE holders, 117(29.3%) are either HND/BSC/MBA.MPA degree holders and 35(8.8%) have other degree certificates, i.e., the majority of the respondents are learned. Finally, the result showed that 119(26.8%) have been patronizing their bank for less than 5 years, 118(29.6%) for 5-10 years, 90(22.6%) for 11-20 years, 35(8.8%) for 21-25 years and 37(9.3%) for 26 years and above. This depicts that majority of the respondents have been patronizing their bank for long period.

Hypothesis One

Ho_1: There is no significant relationship between the use of Automated Teller Machine service and organizational performance of FCMB Plc Nigeria.

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Table 2	Correlations	
		Organizational Performance
Organizational Performance	Pearson Correlation	1
	Sig. (2-tailed)	
	N	398
ATM/Cash Cards are issued by bank to all customers.	Pearson Correlation	.303**
	Sig. (2-tailed)	.000
	N	398
ATM transaction has significant impact on the performance of Nigerian Deposit Money Banks.	Pearson Correlation	.376**
	Sig. (2-tailed)	.000
	N	398
Does ATM services value on the intermediation efficiency of the Nigerian economy.	Pearson Correlation	.377**
	Sig. (2-tailed)	.000
	N	398
Customers complain about frequent downtimes of ATM machines.	Pearson Correlation	.332**
	Sig. (2-tailed)	.000
	N	398
Regulations enforcing the use of ATMs for certain cash withdrawals does not go down well with customers.	Pearson Correlation	.373**
	Sig. (2-tailed)	.000
	N	398
**. Correlation is significant at the 0.01 level (2-tailed).		

Source: Research's Computation (2026)

As shown in table2, ATM/Cash Cards are issued by the bank to all customers show a positive relationship with organizational performance at r = .303. Meaning that ATM card being issued to customers has a positive relationship with organizational performance. ATM transaction has a medium positive relationship with bank performance as r = .376. ATM service valuation on the intermediation efficiency of the Nigerian economy also shows a medium positive correlation with organizational performance (r = .398). The question, customers complain about frequent downtimes of ATMs has a relationship with organizational performance as indicated by r = .332. Regulations enforcing the use of ATMs for certain cash withdrawals do not go down well with customers showing r = .373.

The above correlations were significant at 0.01 levels of significance as indicated in table 4.3 (sig. = 0.00, $p < 0$). Based on these, the Null hypothesis is rejected and the study concluded that there is a significant relationship between the use of Automated Teller Machine service and organizational performance of

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FCMB Plc Nigeria.

Hypothesis Two

Ho_2: There is no significant relationship between Short Message Service operational activity and organizational performance of FCMB Plc Nigeria.

Table 3 Correlations

		Organizational performance
Organizational performance	**Pearson Correlation**	**1**
	Sig. (2-tailed)	
	N	**398**
All the bank customers have SMS transaction alerts on their accounts	**Pearson Correlation**	**.386****
	Sig. (2-tailed)	**.000**
	N	**398**
SMS alert influence service delivery of DMB to its customer	**Pearson Correlation**	**.363****
	Sig. (2-tailed)	**.000**
	N	**398**
SMS Alert has effect on the performance of Nigerian Deposit Money Banks	**Pearson Correlation**	**.369****
	Sig. (2-tailed)	**.000**
	N	**398**
Introduction of SMS alert has improved Bank-Customer relationship and customer satisfaction	**Pearson Correlation**	**.464****
	Sig. (2-tailed)	**.000**
	N	**398**
SMS Alert has significant effect on the performance of Nigerian DMBs.	**Pearson Correlation**	**.256****
	Sig. (2-tailed)	**.000**
	N	**398**
****. Correlation is significant at the 0.01 level (2-tailed).**		

Source: Research's Computation (2026)

As shown in table 3, the question all the bank customers have SMS transaction alerts on their accounts shows a positive relationship with organizational performance at r = .386. Meaning that, as customers get

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SMS alerts on their account organizational performance of FCMB increases. The question SMS alert influences service delivery of DMB to its customer show r = .363. SMS Alert affects the performance of Nigerian Deposit Money Banks (r = .369). The question, Introduction of SMS alert has improved bank-customer relationship and customer satisfaction r = .464. SMS Alert has a significant effect on the performance of Nigerian DMBs showing r = .256. The above correlations were significant at 0.01 levels of significance as indicated in table 4.4 (sig. = 0.00, p < 0). Based on these, the Null hypothesis is rejected and the study concluded that there is a significant relationship between Short Message Service operational activity and organizational performance of FCMB Plc Nigeria.

Hypothesis Three

Ho_3: There is no significant influence between Bank Verification Number effectiveness and organizational performance of FCMB Plc Nigeria

Table 4 Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.432[a]	.187	.185	3.40004	2.237

a. Predictors: (Constant), Bank Verification Number effectiveness

b. Dependent Variable: Organizational Performance

Source: Research's Computation (2026)

Table 4 shows the model summary of the regression analysis of the interaction between BVN effectiveness and organizational performance of deposit money banks of FCMB Plc Nigeria. With an (R) value of .432 (43.2%), this implies a positive strong association between BVN and organizational performance. This magnitude of direct interaction is statistical significance at a 5% level of significance. The R Square value of 0.187 means that 19% of changes in organizational performance are explained or accounted for by BVN effectiveness. While the remaining 81% of variations are caused by other factors or variables which are not included in this model but captured under stochastic error term.

Table 5 ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1049.652	1	1049.652	90.798	.000[b]
	Residual	4566.308	395	11.560		
	Total	5615.960	396			

a. Dependent Variable: Organizational Performance

b. Predictors: (Constant), Bank Verification Number effectiveness

Source: Research's Computation (2026)

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Table 5 shows the F-statistics value for regression to test the overall significance of the independent variables in explaining the criterion variable. Figures in Table 4.5 shows that BVN effectiveness in the selected study area significantly predicted the organizational performance, P-value, or sig value < 0.05 (Sig .000). This indicates strong evidence against the null hypothesis, as there is less than a 5% probability that the null hypothesis is correct. F – statistical indicates that the overall regression model is highly statistically significant in terms of its goodness of fit.

Table 6 Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.086	1.055		9.556	.000
	Bank Verification Number effectiveness	.481	.051	.432	9.529	.000

a. Dependent Variable: Organizational Performance

Source: Research's Computation (2026)

Table 6 shows the regression coefficients of the contribution of each independent variable to the criterion variable. The results show a standardized beta coefficient of 0.432. This means that BVN effectiveness makes a strong unique contribution in explaining organizational performance when the variance explained by all other variables in the model is controlled. 1% increase in the BVN led to a 43.2% increase in organizational performance. The study, therefore, rejects the null hypothesis and accepts the alternate hypothesis that there is a significant effect of Bank Verification Number (BVN) effectiveness on the organizational performance of deposit money bank of FCMB Plc Nigeria.

CONCLUSION AND RECOMMENDATIONS

The result of the study had shown that the right usage of MIS products could enhance Nigerian Commercial Banks' operations. Arising from the results of the study obtained, the following conclusions were made:

i. The usage level of MIS in commercial banks in Nigeria was high.
ii. There were differences in the effect of the factors influencing the usage of MIS in commercial banks.
iii. The study established that Short Messaging Service, Automated Teller Machine and Bank Verification Number were the dominant management information system product that supports First City Monument Banks operation in Nigeria.
iv. Furthermore, the adoption of a management information system has a positive impact on commercial banks' operation in Nigeria. There are indeed significant relationships between management information systems and organizational performance of First City Monument Banks operations in Nigeria.
v. Relative advantage, Complexity of information system, Perceived safety concern, and Financial commitment were the factors influencing MIS usage.

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Based on the finding and conclusion of this study that MIS enhance commercial banks' operations, the following recommendations were made;

i. Progressive policies that make management information system products accessible and affordable should be formulated by the government to encourage the use of management information systems within commercial banks and for the development of the banking industries.
ii. Commercial banks regulators (Central Bank of Nigeria and Nigeria Deposit Insurance Corporation) should rise beyond the level of requiring commercial banks putting appropriate MIS in place, but assist the banks to acquire relevant MIS for operations such as ATM, SMS, POS, BVN, CCTV, and compliance with a regulatory provision as well as coping with competition.
iii. For commercial banks to be able to realize the benefit of MIS usage, they should invest only, in particular, MIS products that serve the peculiarity of their customers' base. Upgrade their existing MIS to adapt to customers' requirements by increasing their investment in modern facilities and technologies with several functions to adjust to customers' demands in its services and products delivery.

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