

# Impact of E-Commerce Business Methods and Evaluation of Payment Methods in Nigeria

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## Abstract

*E-Commerce is a global trend and can be a viable source of economic reform in a nation. Nigeria, a third world country is leaving no stone unturned to make life easier and more comfortable in this electronic age. Though developed countries are on the verge of conducting e-commerce securely and comfortably, Nigeria is absorbing techniques involved either by espionage, knowledge transfers or other means. Hence, the need for ensuring effectiveness, awareness among inhabitants, and security of resources involved must be taken into account. This paper highlights different levels of e-commerce participation among banks, service providers and the public in Nigeria. A business-inclined metropolitan suburb of Lagos was used as a case study to evaluate citizenry involvement and opinions. Recommendations on the most suitable payment methods for citizenry was made based on their opinions.*

**Keywords:** E-commerce payment methods, Evaluation of payment methods & Impact of E-commerce Business Methods

## INTRODUCTION

The proliferation of digital technologies has significantly transformed the global business landscape, giving rise to e-commerce as a dominant mode of commercial transactions. In Nigeria, the e-commerce industry has witnessed substantial growth, driven by increased internet penetration, mobile technology, and a youthful population eager to adopt

digital trends (Statista, 2023). Businesses across various sectors are increasingly adopting diverse e-commerce business models such as Business-to-Business (B2B), Business-to-Consumer (B2C), and Consumer-to-Consumer (C2C), reshaping traditional commerce paradigms and consumer engagement. Despite the promising growth trajectory, the effectiveness of these e-commerce methods largely depends on infrastructural readiness, trust in digital transactions, and the availability of secure and user-friendly payment systems. Payment methods, ranging from bank transfers, card payments, mobile money, to newer fintech solutions, play a critical role in influencing the success of online transactions in Nigeria. However, factors such as cybersecurity concerns, digital literacy, transaction fees, and network failures continue to pose significant challenges (Ayo et al., 2022).

E-Commerce can be defined as the integration of communications, data management, and security capabilities that allows organizations to exchange information on the purchase of goods and services. It can also be defined as an act of conducting transaction via electronic medium. Such electronic medium can be TV, Fax, or the internet. With the unraveling evolution of GSM in Nigeria, e-commerce brings another untapped method of commerce via mobile devices called M-commerce. Despite these technologies, there are many substandard payment methods in Nigeria with crude ways of handling security issues like authentication and non-repudiation. According to Ndukwe (2020) and Olatunji et al. (2021), Nigeria has

witnessed a steady increase in e-commerce adoption due to the rising use of smartphones, social media platforms, and online marketplaces such as Jumia, Konga, and PayPorte. The COVID-19 pandemic further accelerated digital transformation, pushing traditional businesses to adopt online strategies. There are two major business models of e-commerce. Business to Business (B2B) model occurs between two organizations characterized by large volumes of products and small price margin. The second is Business to Consumer (B2C) model. It occurs between an organization and an individual.

This study investigates the impact of different e-commerce business methods and evaluates the effectiveness and acceptance of various electronic payment systems in Nigeria. Understanding these dynamics is essential for policymakers, digital entrepreneurs, and stakeholders aiming to enhance the digital economy and promote inclusive financial access.

### Statement of the Problem

The growth of e-commerce in Nigeria has been rapid in recent years, driven by increasing internet penetration, mobile phone usage, and a young, tech-savvy population. However, despite this growth, many challenges remain that hinder the full realization of e-commerce potential in the country. A significant issue lies in the effectiveness and adaptability of various business models and digital payment systems. Traditional retail models are being replaced or modified by new digital platforms, but many Nigerian businesses struggle to implement effective e-commerce strategies due to infrastructural, logistical, and trust-related issues.

Additionally, payment methods pose a major concern. Many consumers are still skeptical of online transactions due to concerns about fraud, lack of financial literacy, and unreliable payment gateways. As a result, cash-on-delivery remains prevalent, undermining the efficiency and security benefits of digital transactions. These challenges necessitate a comprehensive evaluation of the e-commerce business methods adopted in Nigeria and an analysis of the payment systems being used. Without addressing these problems, the growth of e-commerce in the country may stagnate or fail to reach its full potential.

### Objective of the study

The primary objective of this study is to analyze the impact of e-commerce business methods on consumer behavior and business performance in Nigeria, and to evaluate the efficiency, security, and adoption of various online payment methods. Specifically, the study aims to:

1. Examine the current e-commerce business models employed by Nigerian enterprises.
2. Assess the effectiveness and challenges of these models in the Nigerian market.
3. Evaluate the types of payment methods used in Nigerian e-commerce, including mobile payments, debit/credit cards, and cash-on-delivery.
4. Identify consumer preferences and trust levels regarding different payment options.
5. Investigate the key barriers to adopting secure and efficient payment systems in Nigerian e-commerce.
6. Propose strategic recommendations for improving e-commerce practices and digital payment infrastructures in Nigeria.

### Overview of E-Commerce in Nigeria:

E-commerce in Nigeria has emerged as a transformative force in the business landscape, reshaping how companies operate, reach customers, and generate revenue. It involves buying and selling goods and services online using internet-based technologies. The rapid proliferation of mobile phones and internet connectivity has contributed to the growth of online retail, service delivery, and digital entrepreneurship.

### Adopted E-Commerce Business Methods:

Several business models and methods have been adopted in Nigeria to support e-commerce operations. These include:

1. Digital Marketing strategies such as Search Engine Optimization (SEO), social media marketing, and influencer partnerships, which help brands increase visibility and customer reach.
2. Mobile Commerce (M-Commerce) driven by mobile-first consumers who engage in transactions via smartphones and apps.
3. Logistics and Fulfillment Centers used by platforms like Jumia to manage delivery and reduce last-mile challenges.

### Evaluation of Electronic Payment Systems:

The effectiveness of e-commerce in Nigeria is tightly linked to the availability and functionality of reliable payment systems. The most common digital payment methods include:

- Mobile Money Platforms like Opay, Paga, and PalmPay.
- Debit/Credit Cards (Verve, Mastercard, Visa).
- USSD Banking Codes widely used in rural and low-internet areas.
- Bank Transfers, now increasingly real-time and accessible.
- QR Code Payments and wallet-based apps.

- Central Bank Digital Currency (CBDC) in the form of the eNaira.

#### **Economic and Operational Impact:**

Studies (e.g., Bagudu & Okolie, 2022) show that e-commerce improves customer reach, marketing effectiveness, and sales efficiency. Many Nigerian businesses report significant growth after integrating digital tools and platforms. Nevertheless, these benefits are concentrated in urban and semi-urban areas, while rural regions continue to lag due to connectivity and educational limitations.

#### **Barriers to E-Commerce and Payment Method Effectiveness:**

##### **Despite its potential, e-commerce in Nigeria faces multiple constraints**

Weak internet infrastructure, especially in rural areas and limited financial inclusion, with over 40% of the population unbanked. Cybersecurity threats affecting user trust with logistical inefficiencies, such as poor road networks and delays. Cultural hesitation toward online payments and digital shopping and also lack of regulatory clarity and high cost of digital infrastructure.

Omotayo (2020) highlighted that trust and technical literacy are the most significant barriers limiting the adoption of e-commerce and digital payment systems.

##### **Regulatory and Policy Landscape:**

The Nigerian government has initiated several policies to support digital commerce and electronic payments. The Cashless Policy, introduced by the Central Bank of Nigeria, aims to reduce dependence on physical cash. Other initiatives include:

AfriGo Pay – Nigeria’s domestic card payment scheme. Fintech regulations to ensure system interoperability and data protection. While Digital identity frameworks to support transaction authentication and moreover despite these initiatives, regulatory inconsistencies and policy implementation challenges still impact user adoption and innovation in the space.

#### **Research Questions:**

1. What are the key business methods adopted by e-commerce businesses in Nigeria, and how do these methods influence business growth, customer acquisition, and engagement?
2. How effective are the current electronic payment systems in Nigeria in supporting the growth of e-commerce, and what challenges do businesses and consumers face in utilizing these payment methods?

3. What is the impact of digital payment adoption (e.g., mobile money, card-based payments, (e-Naira) on the operational efficiency, customer satisfaction, and profitability of e-commerce businesses in Nigeria?
4. How do infrastructural, cultural, and regulatory challenges affect the successful implementation and adoption of e-commerce business methods and digital payment systems in Nigeria?

#### **Literature Review**

The literature reveals that e-commerce has had a transformative but uneven impact on Nigeria’s business environment. While businesses benefit from broader reach and cost efficiency, the success of e-commerce methods heavily depends on internet access, trust, and payment infrastructure. Meanwhile, diverse and evolving payment methods like mobile money, card-based payments, and digital currencies have enhanced convenience but require robust regulatory support, cybersecurity frameworks, and user education to scale effectively.

##### **Conceptualizing E-Commerce in Nigeria**

E-commerce in Nigeria refers to the buying and selling of goods and services over electronic systems such as the internet and other computer networks. E-commerce businesses in Nigeria commonly utilize websites, mobile apps, and social media for advertising, communication, and sales. Babalola and Oluwatoyin (2019) found that the use of targeted digital marketing strategies significantly increases customer engagement and brand loyalty in Nigerian SMEs. Additionally, companies like Jumia and Konga have revolutionized the retail space by adopting integrated logistics and warehousing models to handle last-mile delivery challenges. A study by Areghan et al. (2025) showed that SMEs that accepted multiple forms of digital payment experienced better sales volumes and customer satisfaction. However, the uptake of more advanced tools like eNaira has been limited due to trust issues and technical barriers.

Business Models Studies such as Agwu & Murray (2015) and Eze et al. (2019) categorize Nigerian e-commerce business models into:

B2C (Business to Consumer) – e.g., Jumia and Konga, C2C (Consumer to Consumer) – e.g., Jiji.ng and OLX and B2B (Business to Business) – largely seen in logistics and wholesale sectors. Social Commerce has significant growth through platforms like WhatsApp, Instagram, and Facebook for informal retail.

##### **Business Methods Adopted in Nigerian E-Commerce**

**The transition to digital business models has involved several methods:**

Digital Marketing (SEO, social media advertising, influencer marketing). Mobile Commerce (M-commerce) leveraging Nigeria's increasing mobile phone penetration and Omni channel Retailing combining physical stores with online presence. Drop-shipping and Fulfillment Centers to reduce overhead and evaluation of payment methods in Nigeria

**Nigeria has seen the rise of multiple electronic payment systems. These include:**

1. Mobile Money (e.g., Paga, Opay, Monie-point)
2. Debit/Credit Cards (Verve, Mastercard, Visa)
3. Bank Transfers
4. USSD-based Payments
5. QR Code Payments
6. Central Bank Digital Currency (eNaira)

**Impact of E-Commerce on Business Performance:**

Several studies highlight the transformative impact of e-commerce on business efficiency, customer acquisition, and profitability. According to Bagudu & Okolie (2022), e-commerce businesses report increased reach, lower marketing costs, and data-driven decision-making capabilities. However, the benefits are disproportionately enjoyed by urban businesses, with rural e-commerce adoption lagging due to infrastructure constraints.

**Barriers to Effective E-Commerce and Payment Systems**

**Despite the benefits, several challenges persist:**

Poor Internet Infrastructure, limited Access to Banking Services (only 45% of adults are banked, according to the World Bank, 2021). Cybersecurity Risks, Logistics and Delivery Challenges.

**Cultural and Trust Issues in Online Transactions:**

Omotayo (2020) argues that trust and digital literacy are significant barriers, especially for older generations and rural populations, limiting the effectiveness of e-commerce strategies and the adoption of digital payments.

**Government Policy and Regulatory Landscape:**

Nigeria's government has taken notable steps to promote digital finance through the Cashless Policy, introduction of AfriGo Pay, and regulation of fintech operations. However, inconsistent policies and regulatory uncertainty have also created friction for businesses, particularly startups. As CBN reports indicate, collaboration between regulators and fintechs is key to building a resilient payment ecosystem.

**Challenges Facing E-Commerce in Nigeria. Several studies highlight challenges such as:**

1. Poor logistics infrastructure (Nwankwo et al., 2018)
2. Limited digital literacy (Uzonwanne, 2020)
3. Lack of trust and cybersecurity threats (Okeke, 2017)

4. Regulatory inconsistencies and taxation issues (Ayo et al., 2016)
5. Despite these, e-commerce continues to grow, particularly in urban areas where broadband and logistics services are more developed.

**Evaluation of Payment Methods in Nigerian E-Commerce**

**Major Payment Methods**

Payment Methods	Description	Pros	Cons
Bank Transfer	Direct Transfer via Mobile App or USSD	Widely Available Secure	Can be slow; Human errors in Details
Debit/Credit card	Visa, Verve, MasterCard	Fast, Globally accepted	Fraud risk; card rejection issues
Mobile Money	Services like Paga, Opay, Palmpay, Monie-point	No need for Bank account: Convenient	Low Merchant integration
Payment gateways	Pay-stack, Flutterwave, Interswitch	Seamless checkout; supports multiple methods	Internet-dependent
Cash on Delivery (CoD)	Pay upon product delivery	Builds trust; reduces fraud fear	Risk of returns; logistics burden
Cryptocurrency (Emerging)	Mostly informal use; some merchants accept BTC	Borderless, fast	Volatility; lack of regulation

**Payment Trends and Adoption:**

High mobile penetration (over 90%) has made USSD and mobile money services very popular, especially in semi-urban and rural areas. Fintech innovation is leading to secure and fast digital transactions, often integrated directly into e-commerce sites and mobile apps and Decline of CoD in urban areas due to growing trust in digital platforms. Regulatory support from CBN (Central Bank of Nigeria) with sandbox frameworks for fintech startups.

**Challenges in Payment Systems:**

Fraud and Cybersecurity: Phishing scams, SIM swap fraud, and data breaches. Interoperability Issues: Not all platforms are seamlessly connected (e.g., mobile wallets and banks) and limited Financial Inclusion: Large segments of rural populations still unbanked while poor Infrastructure: Network issues and power outages disrupt online payments.

**Government and Regulatory Support:**

1. Cashless policy drive by CBN promotes e-payments.
2. Initiatives like BVN (Bank Verification Number) and NIN (National Identity Number) for secure identity verification.

3. Investments in financial literacy campaigns.

**Summary, Conclusion and Recommendations**

**Conclusion:**

E-commerce in Nigeria is rapidly transforming how businesses operate and consumers shop. With mobile technology and fintech playing key roles, there's a growing shift toward digital marketplaces. However, infrastructural gaps, trust issues, and regulatory hurdles still hinder optimal growth. The evolution of e-commerce business methods in Nigeria has significantly reshaped the commercial landscape, offering new avenues for economic growth, job creation, and entrepreneurship. With the increasing adoption of digital technologies, online retail platforms have bridged the gap between urban and rural markets, enabling broader market access for businesses and consumers alike.

However, challenges such as infrastructural deficiencies, limited trust in online transactions, and logistical hurdles continue to impact the full realization of e-commerce potential. On the other hand, payment systems in Nigeria have seen remarkable growth, driven by innovations in fintech, mobile banking, and payment gateways like Paystack and Flutterwave. While digital payment methods have improved transaction efficiency, security and financial inclusion remain pressing concerns. The high reliance on cash-on-delivery in certain areas underscores the need for greater consumer trust and more inclusive financial education.

To sustain and accelerate this growth, Nigeria must invest in robust digital infrastructure, improve regulatory oversight, and foster public trust in both e-commerce platforms and electronic payment systems. By addressing these gaps, the country can unlock the full potential of e-commerce as a driver of inclusive economic development.

**Recommendations:**

Enhance digital infrastructure (internet, electricity, logistics). Strengthen cybersecurity frameworks and consumer protection. Promote financial inclusion and support for rural digital education. Encourage innovation in localized payment methods (e.g., voice-based USSD). Build trust via transparent return policies, verified sellers, and customer reviews. The need for efficient and reliable payment gateways should not be underrated because many banks will produce their own debit or prepaid cards. The payment gateways should be able to connect to these banks regardless of their various proprietary technologies. Also, a regulatory body should be set-up involving both parties to ensure a standard ecommerce system in Nigeria.

That is, they must provide an immediate response for every card detail submitted during an online purchase. Invariably, they must ensure that the card is valid or has sufficient money to make the order or purchase. Banks will handle the settlement process by transferring the money from cardholder's account to the seller's account. E-commerce is transforming the way Nigerians conduct business, buy products, and interact with global markets. The payment methods have evolved significantly, though challenges like security, trust, and infrastructure still persist.

**Suggestions for Further Research**

However, with technological advancements and a growing shift towards digital payments, the future of e-commerce in Nigeria looks promising, with more opportunities for growth, innovation, and financial inclusion. At present, confirmation in direct payment method is carried out by sending a soft copy of the teller used in paying. Improvement can be made on this by using a unique number on every teller of payment when sending or indicating the proof of payment. While this can be time-wasting, the prepaid card system has proven effective and fast by its current use to check results.

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