Journal of Economics, Finance and Management Studies

ISSN (print): 2644-0490, ISSN (online): 2644-0504

Volume 08 Issue 12 December 2025

Article DOI: 10.47191/jefms/v8-i12-55, Impact Factor: 8.317

Page No: 8147-8158

The Impact of Financial Technology (Fintech) on Traditional Banking and Allied Financial Services in Portharcourt, Nigeria

Amah, Cletus Okey[1], Charles-Olimene Mary Ifeoluwa[2]

[1]PhD, PhD, FNIM, FCPA, FCNA, FCFIA, FMSSRN, University of Port Harcourt Business School, Nigeria

[2]BSc, MSc University of Port Harcourt Business School, Nigeria

ABSTRACT: This study examined the impact of Financial Technology (FinTech) on the financial ecosystem of Nigeria's. energy capital city of Port Harcourt. The study focused on how two critical dimensions of FinTech - *Digital Payment Systems* and *Blockchain and Cryptocurrency Technologies* - affect the effectiveness of traditional banking and allied financial services, operationalized here as *Customer Satisfaction* and *Financial Accessibility*, with *Regulatory Framework* serving as a moderating variable. The research adopted a descriptive survey design, targeting staff and customers of selected commercial banks in Port Harcourt. A structured questionnaire was used to collect data, and the responses were analyzed using Pearson Product-Moment Correlation Coefficient (PPMCC) and Multiple Regression Analysis. The findings revealed a significant positive relationship between *Digital Payment Systems* and both *Customer Satisfaction* and *Financial Accessibility*, the two proxies of *Effective Financial Services* – the criterion variable. Similarly, *Blockchain and Cryptocurrency Technologies* were found to significantly enhance transparency, efficiency, and trust in financial transactions as evidenced in *Customer Satisfaction* and *Financial Accessibility.* Furthermore, the study established that Regulatory Framework plays a crucial moderating role, ensuring that the adoption of FinTech strengthens the stability and performance of traditional banking systems rather than displacing them. The study concluded that FinTech integration has redefined customer experience, improved service delivery, and increased financial accessibility in Port Harcourt. In the light of these findings, it is recommended that banks upscale their investment in digital infrastructures and collaborate with FinTech firms. Also, regulators should establish adaptive frameworks to balance innovation with consumer protection.

KEYWORDS: Financial Technology, Digital Payment Systems, Blockchain, Cryptocurrency, Regulatory Framework, Traditional Banking, Financial Services.

1.0 INTRODUCTION

With the proliferation of internet access and digital platforms, businesses worldwide are witnessing increased opportunities to enhance operational efficiency, expand market reach, and improve customer satisfaction Amah and Nyeche (2025). The authors assert that these technologies offer businesses competitive advantages by allowing them to streamline processes, reduce costs, and meet the evolving needs of the digital consumer. The emergence of Financial Technology (FinTech) has, in particular, transformed the landscape of financial service delivery globally and is now significantly reshaping financial practices in Port Harcourt, Rivers State. FinTech represents a shift from traditional, institution-centered financial models to technology-driven, customer-centric systems that promote efficiency, speed, and inclusiveness. As noted by Arner, Barberis, and Buckley (2017), FinTech integrates innovation, data analytics, and automation to improve financial processes and offer customized services. In the Nigerian context, the growing adoption of digital financial tools, mobile payments, and blockchain solutions has reduced the dependence on physical bank branches and reshaped how people save, invest, and transact (Eze & Nwokah, 2021). Port Harcourt, being a major commercial hub in the Niger Delta, has experienced a surge in FinTech activities that are gradually altering the dynamics of its financial sector.

The concept of FinTech refers to the innovative use of digital technology in designing and delivering financial products and services. According to Schueffel (2016), FinTech can be defined as "a new financial industry that applies technology to improve financial activities." It encompasses a wide range of applications such as online banking, mobile money, peer-to-peer lending, robo-advisory services, blockchain transactions, and cryptocurrency trading. Gomber, Kauffman, Parker, and Weber (2018) emphasized that FinTech innovations are not only disrupting conventional banking systems but also enhancing accessibility, transparency, and

efficiency across the financial ecosystem. In Nigeria, FinTech solutions have helped close the financial inclusion gap by extending digital payment services to unbanked populations, particularly in urban areas like Port Harcourt where smartphone penetration is high (Adeleye & Ebohon, 2020).

The impact of FinTech on financial services in Port Harcourt has been most evident in the areas of payment systems, lending, and savings mobilization. FinTech has enabled faster, cheaper, and more reliable digital transactions that reduce human contact and eliminate long queues in banks. According to Ozili (2020), digital financial services have simplified fund transfers, bill payments, and online purchases, thereby enhancing customer satisfaction and reducing operational costs for banks. Similarly, Aduda and Kalunda (2019) noted that the introduction of FinTech platforms has increased financial inclusion and strengthened competition among banks, compelling traditional institutions to adopt digital channels. In Port Harcourt, FinTech start-ups such as Paga, Opay, and Kuda have penetrated the market, providing residents with mobile-friendly options that are more convenient than visiting bank branches.

Digital payment systems form one of the most critical dimensions of FinTech influencing financial services in Port Harcourt. As observed by Evans (2019), digital payments improve efficiency and transparency in financial transactions while enhancing user convenience. The Central Bank of Nigeria (CBN, 2021) reports that the volume of digital transactions has grown exponentially due to the proliferation of mobile payment platforms and contactless technologies. These systems promote financial inclusion by allowing individuals and small businesses to access cashless payment channels even without a traditional bank account (Adeniran & Sanni, 2020). In Port Harcourt, where commerce thrives through small and medium-scale enterprises, digital payment systems have reduced cash dependency and minimized the risks associated with carrying physical money, thus improving financial safety and transaction speed.

The regulatory framework serves as a critical moderating factor in the relationship between FinTech adoption and the performance of traditional banking services. According to Parasuraman, Zeithaml, and Berry (1988), customer satisfaction is shaped by key dimensions such as reliability, responsiveness, assurance, empathy, and tangibility. When a strong regulatory environment ensures that FinTech platforms uphold standards of convenience, security, and transparency, customers are more likely to develop trust and satisfaction with digital financial services (Pavlou, 2018). Conversely, weak or inconsistent regulation heightens perceived risks such as cybercrime and data breaches, leading to decreased satisfaction and a stronger preference for traditional banking systems (Akpan, 2021). In the context of Port Harcourt, an effective regulatory framework not only safeguards users but also promotes confidence, thereby accelerating FinTech adoption through enhanced satisfaction and positive user experiences.

Traditional banking and financial services, on the other hand, refer to the conventional methods of offering financial intermediation through physical branches, face-to-face transactions, and manual record-keeping. According to Mishkin (2019), traditional banking involves deposit mobilization, credit creation, and payment facilitation through regulated institutions. While these services emphasize stability and trust, they often suffer from inefficiencies, long processing times, and limited geographical reach. In Nigeria, banks have historically served as the dominant providers of financial services, but the rise of FinTech has forced them to innovate or collaborate with technology firms (Olaniyi & Adeoye, 2021). In Port Harcourt, many banks now integrate mobile apps, automated teller machines (ATMs), and online portals to remain competitive and maintain customer loyalty.

Empirical studies have revealed that FinTech positively influences financial service delivery and customer satisfaction when effectively implemented. For example, Ghosh (2020) found that digital innovations in developing economies enhance efficiency and promote inclusion. Similarly, Olaniyi and Adeoye (2021) observed that Nigerian banks that adopt FinTech solutions report higher operational efficiency and customer engagement. In contrast, Eze and Nwokah (2021) highlighted that inadequate digital infrastructure and regulatory uncertainty limit the full potential of FinTech adoption in Port Harcourt. These studies suggest that while FinTech offers transformative potential, the outcomes depend on customer trust, technology readiness, and supportive policy frameworks.

The gap in literature lies in the lack of localized studies examining how FinTech influences traditional banking and financial services specifically within Port Harcourt's socio-economic environment. Most existing research focuses on national trends or Lagos-based FinTech hubs, neglecting the unique experiences of consumers and banks in Port Harcourt. Furthermore, there is limited empirical evidence on how customer satisfaction moderates the relationship between FinTech adoption and service performance in Rivers State. Future research should, therefore, investigate how digital payment systems, blockchain technologies, and customer satisfaction jointly shape the evolution of banking and financial services in Port Harcourt, as this would provide insight into sustainable FinTech integration strategies for local financial institutions.

The Impact of Financial Technology (Fintech) on Traditional Banking and Allied Financial Services in Portharcourt, Nigeria

1.1 Statement of the problem

The traditional banking and financial service system in Port Harcourt, Rivers State, continues to face mounting challenges in meeting the dynamic financial needs of a rapidly evolving digital economy. Despite their long-standing presence and regulatory stability, most traditional banks still rely heavily on manual processes, physical branches, and bureaucratic procedures that limit accessibility and convenience for customers. Lengthy transaction times, poor service delivery, inadequate technological infrastructure, and inconsistent power supply have further constrained operational efficiency. Many customers, especially young adults and entrepreneurs, express dissatisfaction with poor customer service and limited digital interaction, prompting a gradual shift toward FinTech alternatives that offer faster, more flexible, and user-friendly financial solutions. Consequently, traditional banks are losing market share to digital platforms such as *moniepoint, Opay, PalmPay,* and *Kuda*, which have successfully leveraged technology to provide instant payments and simplified financial services in Port Harcourt.

Addressing these challenges requires a comprehensive transformation of traditional banking models through technology-driven strategies, customer-centric innovations, and capacity building. Traditional banks must adopt digital infrastructures such as mobile banking applications, online customer support systems, and automated transaction processing to remain competitive and relevant in the modern financial landscape. Additionally, there is a need for improved customer education and financial literacy programs to enhance trust and promote seamless adoption of digital banking solutions. Strengthening collaborations between banks and FinTech firms could also foster innovation, enhance service delivery, and improve financial inclusion across Rivers State. Therefore, this study seeks to examine the persistent challenges faced by traditional banking and financial services in Port Harcourt and propose strategies that can help traditional banks adapt effectively to technological disruptions while maintaining customer satisfaction and trust.

1.2 Objectives of the Study

The main objective of this study is to examine the impact of Financial Technology (FinTech) on traditional banking and financial services in Port Harcourt, Rivers State.

The specific objectives are to:

1. Determine the impact of Digital Payment Systems on the effectiveness of Traditional Banking and allied Financial Services in Port Harcourt.
2. Examine the influence of Blockchain and Cryptocurrency Technologies on the performance of Traditional Banking and allied Financial Services in Port Harcourt.
3. Assess the moderating role of Customer Satisfaction in the relationship between FinTech adoption (Digital Payment Systems and Blockchain Technologies) and Traditional Banking and Financial Services in Port Harcourt.

Research Questions

The study will be guided by the following research questions:

1. How do Digital Payment Systems impact the effectiveness of Traditional Banking and allied Financial Services in Port Harcourt?
2. In what ways do Blockchain and Cryptocurrency Technologies influence the performance of Traditional Banking and allied Financial Services in Port Harcourt?
3. To what extent does Customer Satisfaction moderate the relationship between FinTech adoption and Traditional Banking and Financial Services in Port Harcourt?

Hypotheses

The following hypotheses are formulated to guide the study:

$H0_1$: There is no significant relationship between Digital Payment Systems and Customer Satisfaction in the Traditional Banking and Allied Financial Services in Port Harcourt.

$H0_2$: There is no significant relationship between Digital Payment Systems and Financial Accessibility in the Traditional Banking and Allied Financial Services in Port Harcourt.

$H0_3$: There is no significant relationship between Blockchain and Cryptocurrency Technologies and Customer Satisfaction in the Traditional Banking and Allied Financial Services in Port Harcourt.

$H0_4$: There is no significant relationship between Blockchain and Cryptocurrency Technologies and Financial accessibility in the Traditional Banking and Allied Financial Services in Port Harcourt

$H0_3$: Regulatory Framework does not significantly moderate the relationship between FinTech adoption (Digital Payment Systems and Blockchain Technologies) and Effective Traditional Banking and Allied Financial Services in Port Harcourt.

2.0 LITERATURE REVIEW

In this section, we shall carry out a systematic review of related literature, beginning with the conceptual review, followed by the theoretical review, and finally empirical review.

2.1.0 Conceptual Review

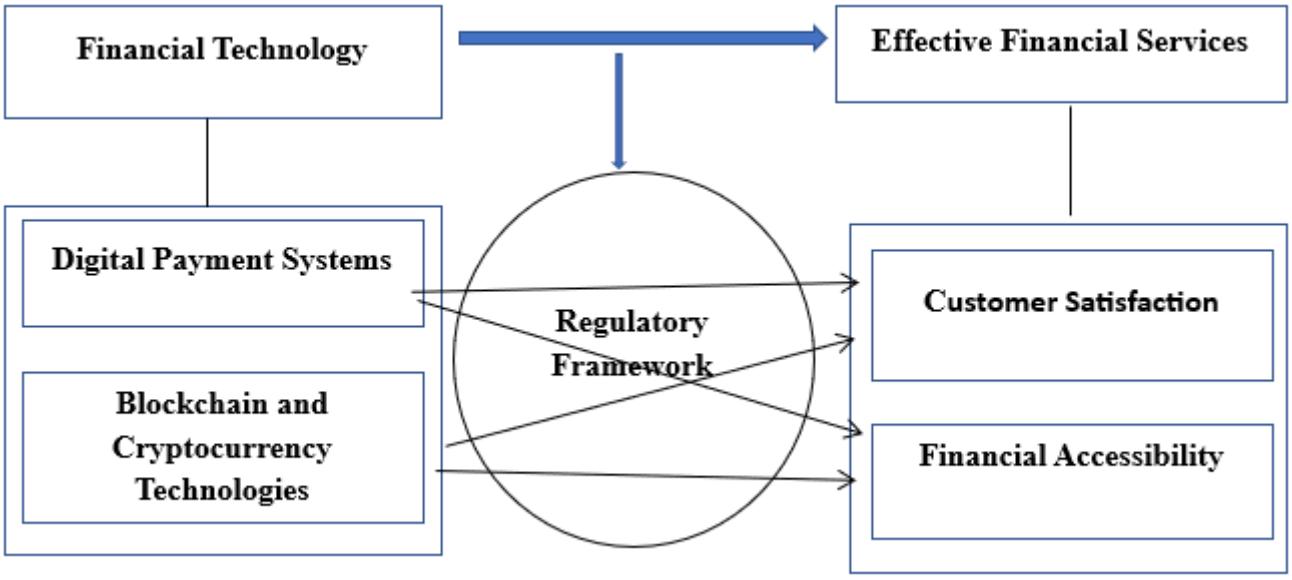

Fig. 2.1 Conceptual framework on the impact of Financial Technology (FinTech) on traditional banking and financial services in Port Harcourt, Rivers State.

Source: Adapted from Ogunleye, & Oloruntoba, (2021), Parasuraman, Zeithaml, & Berry, (1988).

Conceptual Framework

2.1.1 Financial Technology (FinTech)

Financial Technology, commonly known as FinTech, refers to the integration of advanced digital tools into financial service delivery to enhance efficiency, accessibility, and customer experience. FinTech encompasses a range of innovations such as mobile banking, peer-to-peer lending, blockchain technology, artificial intelligence, and digital payment systems (Arner, Barberis, & Buckley, 2017). According to Gomber, Kauffman, Parker, and Weber (2018), FinTech represents the technological revolution that reshapes how consumers, businesses, and financial institutions interact in the financial ecosystem. It enables faster transactions, reduces operational costs, and fosters inclusion by extending services to unbanked populations. The growth of FinTech in developing economies, including Nigeria, has been largely driven by mobile technology, internet penetration, and the demand for convenient financial solutions (Ozili, 2020).

In the context of Port Harcourt, FinTech plays a transformative role in addressing limitations associated with traditional banking, such as long queues, bureaucratic processes, and limited branch access. Through platforms like Opay, PalmPay, and Kuda, customers can conduct seamless transfers, savings, and bill payments using smartphones. FinTech innovations have also enhanced transparency and trust through real-time data analytics and secure payment systems (Philippon, 2016). However, as Adegboye, Osabohien, and Olayinka (2022) note, the rapid expansion of FinTech poses regulatory and cybersecurity challenges, making it essential for policymakers to balance innovation with consumer protection. Thus, FinTech serves both as an enabler and disruptor in the Port Harcourt financial ecosystem, redefining traditional financial service delivery.

2.1.2 Digital Payment Systems

Digital Payment Systems refer to electronic methods that allow individuals and businesses to transfer funds or pay for goods and services without physical cash. These include mobile money, internet banking, point-of-sale (POS) systems, and QR code payments (Schueffel, 2016). According to Singh and Rana (2021), digital payment systems promote convenience, speed, and transparency, significantly reducing transaction costs and processing times. They have become integral to the FinTech revolution, enabling cashless economies and expanding financial inclusion. In Nigeria, platforms such as Flutterwave, Paystack, and Opay have revolutionized payments by providing user-friendly, secure, and real-time solutions for individuals and businesses alike.

In Port Harcourt, digital payment adoption has surged due to increased smartphone penetration and urban consumer demand for efficiency. Ejemeyovwi, Osabuohien, and Ejemeyovwi (2019) observed that digital payments facilitate financial accessibility,

especially among young entrepreneurs and SMEs who rely on instant transactions. However, barriers such as unstable network connectivity, cyber fraud, and regulatory inconsistencies limit full-scale adoption. Despite these challenges, digital payment systems continue to reshape consumer expectations, pushing traditional banks to integrate online and mobile payment solutions. Their success depends largely on customer trust, system reliability, and effective regulatory oversight.

2.1.3 Blockchain and Cryptocurrency Technologies

Blockchain technology refers to a decentralized digital ledger that records transactions securely and transparently across multiple computers (Nakamoto, 2008). It ensures data immutability and eliminates the need for intermediaries in financial transactions. Cryptocurrencies, such as Bitcoin and Ethereum, are digital assets built on blockchain systems and enable peer-to-peer financial exchanges without central authorities (Tapscott & Tapscott, 2017). According to Peters and Panayi (2016), blockchain enhances trust, reduces fraud, and increases transaction speed, making it a vital FinTech innovation. Its adoption by financial institutions is growing as it promises operational efficiency and improved security.

In Port Harcourt, the adoption of blockchain and cryptocurrencies remains nascent due to regulatory uncertainty and limited awareness. However, many young professionals are exploring digital currencies for investment and remittance purposes. As noted by Okoye and Ofoegbu (2023), blockchain's potential to streamline cross-border payments and reduce transaction fees could transform Nigeria's financial landscape. Traditional banks are beginning to explore blockchain applications for *Know-Your-Customer* (KYC) processes and fraud detection. Nonetheless, concerns over volatility, consumer protection, and legal recognition continue to affect the mainstream acceptance of cryptocurrencies in Port Harcourt's financial ecosystem.

2,1.4 Traditional Banking

Traditional banking refers to the conventional model of financial intermediation where banks operate through physical branches and offer core services such as deposits, loans, and payments (Mishkin & Eakins, 2021). These institutions rely on centralized structures, strict regulations, and human interactions for service delivery. According to Sanya and Wolfe (2020), traditional banks function as trusted intermediaries between savers and borrowers, maintaining stability through established governance and compliance frameworks. However, their dependence on manual processes and limited technological integration has reduced their competitiveness in the digital era. In Nigeria, traditional banks such as Zenith Bank, First Bank, and Union Bank still dominate, but they face rising pressure from FinTech firms offering faster and cheaper digital alternatives.

In Port Harcourt, traditional banking institutions have begun adopting digital channels in response to FinTech disruption. As observed by Eze and Nwokah (2021), many conventional banks now operate hybrid models, combining digital services with branch operations to improve efficiency and customer retention. Nevertheless, challenges such as poor infrastructure, long transaction times, and limited financial literacy persist. Traditional banks also struggle to meet the expectations of younger, tech-savvy customers who prefer self-service digital platforms (Adewoye, 2020). Consequently, the success of traditional banking in Port Harcourt depends on its ability to leverage technology, rebuild customer trust, and integrate digital innovations that align with evolving consumer behavior.

2.1.5 Financial Services

Financial services encompass a wide range of economic activities provided by financial institutions, including banking, insurance, investment, and payment systems (Levine, 2019). They play a crucial role in promoting economic development, capital formation, and financial stability. According to Beck, Demirgüç-Kunt, and Singer (2020), financial services enhance productivity by facilitating transactions, mobilizing savings, and allocating resources efficiently. In developing economies like Nigeria, financial services are critical for promoting financial inclusion and supporting small and medium enterprises (SMEs). The sector's growth has been significantly influenced by technological innovation, which has improved access, reduced transaction costs, and enhanced risk management.

In Port Harcourt, financial services have evolved from conventional banking practices to a diversified digital ecosystem. As noted by Osabuohien (2020), mobile financial services, online lending platforms, and digital insurance schemes have broadened participation in the formal economy. However, regulatory gaps, cybersecurity risks, and infrastructural deficiencies continue to hinder optimal service delivery. FinTech's integration into financial services has enhanced accessibility and efficiency but has also intensified competition for traditional banks. Thus, understanding how digital innovation reshapes financial services in Port Harcourt is crucial for evaluating its impact on customer satisfaction and long-term industry stability.

2.1.6 Customer Satisfaction

Customer satisfaction refers to the degree to which a product or service meets or exceeds the expectations of its users (Oliver, 1997). In the financial services context, it reflects clients' perceptions of service quality, reliability, convenience, and trust. According to Parasuraman, Zeithaml, and Berry (1988), customer satisfaction is influenced by the responsiveness and empathy of

service providers, as well as the technological quality of delivery platforms. In FinTech environments, satisfaction is shaped by user experience, transaction speed, data security, and the perceived value of digital products (Gómez, López, & Molina, 2019).

In Port Harcourt, customer satisfaction serves as a key moderating factor between FinTech adoption and traditional banking performance. When customers experience seamless digital services with minimal errors and strong data protection, their satisfaction and loyalty increase (Ogbulu & Akpan, 2022). Conversely, service failures or security breaches can erode trust and drive customers back to traditional banking systems. Therefore, maintaining customer satisfaction is central to FinTech's sustainability and its ability to influence the evolution of financial services in Port Harcourt.

2.1.7 Financial Accessibility

Financial accessibility refers to the ease with which individuals and businesses can access and utilize financial services (Demirgüç-Kunt, Klapper, Singer, Ansar, & Hess, 2022). It is a core component of financial inclusion, ensuring that marginalized groups participate in formal financial systems. According to Beck and Cull (2015), accessibility is determined by factors such as affordability, proximity, and availability of financial infrastructure. FinTech innovations, through mobile banking and digital payments, have significantly improved access to financial services by removing traditional barriers such as distance and high transaction costs. In Port Harcourt, financial accessibility has improved through FinTech platforms that enable unbanked populations to perform transactions using smartphones and mobile wallets. As observed by Eze and Nwokah (2021), digital financial services have empowered small-scale traders and rural residents to participate in formal financial systems. However, challenges such as digital illiteracy and inconsistent regulation continue to affect inclusivity. FinTech's promise of accessibility thus depends on a supportive digital infrastructure, consumer education, and trust-building among users.

2.1.8 Regulatory Framework as a Moderating Variable

The regulatory framework refers to the set of laws, policies, and institutional guidelines that govern financial operations and innovations (Arner, Barberis, & Buckley, 2017). It plays a crucial moderating role in balancing innovation with consumer protection and systemic stability. According to Zetzsche, Buckley, Arner, and Barberis (2020), an effective regulatory framework encourages responsible innovation while preventing risks such as money laundering and cyber fraud. In Nigeria, regulatory bodies such as the Central Bank of Nigeria (CBN) and the Securities and Exchange Commission (SEC) oversee FinTech operations to ensure compliance with financial standards.

In Port Harcourt, the strength of the regulatory framework determines how FinTech and traditional banking interact within the financial ecosystem. A clear and adaptive regulatory environment promotes confidence among investors and customers while ensuring fair competition between digital firms and banks (Okoye & Ofoegbu, 2023). Conversely, inconsistent or outdated regulations can stifle innovation and limit FinTech's potential impact. Therefore, regulatory policy serves as a moderating variable that shapes how FinTech innovations influence traditional financial service delivery, ensuring that technological progress aligns with public interest and financial stability.

2.2.0 Theoretical Framework

2.2.1 Technology Acceptance Theory (TAM)

The Technology Acceptance Model (TAM), developed by Davis (1989), provides a theoretical foundation for understanding users' acceptance and adoption of technological innovations. According to the model, two major factors — Perceived Usefulness (PU) and Perceived Ease of Use (PEOU**)** determine an individual's intention to use a new technology. Perceived usefulness refers to the degree to which a person believes that using a particular system will enhance job performance, while perceived ease of use denotes the extent to which a person believes that using the system will be free from effort. TAM has been widely applied in financial technology research to explain customer acceptance of digital payment systems, blockchain technology, and mobile banking platforms (Venkatesh & Bala, 2008). In the context of this study, TAM helps explain how customers in Port Harcourt perceive and accept FinTech services based on their usefulness and ease of operation compared to traditional banking methods.

The model is highly relevant to this study because the rate at which individuals in Port Harcourt adopt digital financial services depends largely on their perceptions of the value and convenience of FinTech tools. When digital payment platforms and blockchain-based systems are perceived as reliable, secure, and easy to use, customers are more likely to adopt them over conventional banking channels (Ayo & Ukpere, 2019). However, where trust issues or low technological literacy exist, customers may remain attached to traditional banking methods, despite their limitations. Therefore, TAM provides an analytical framework for understanding the moderating role of customer satisfaction in the relationship between FinTech adoption and traditional banking performance. The theory underscores that customers' satisfaction and trust determine how effectively FinTech can transform financial service delivery in Port Harcourt.

2.2.2 Disruptive Innovation Theory

The Disruptive Innovation Theory, proposed by Christensen (1997), explains how new technologies emerge to challenge and eventually transform established industries. According to Christensen, disruptive innovations often begin by serving low-end or previously unserved market segments with simpler, cheaper, and more convenient alternatives. Over time, these innovations evolve, improve in quality, and displace established players. In the financial services sector, FinTech represents a classic example of disruptive innovation — providing new, technology-based solutions that compete directly with traditional banking systems (Bower & Christensen, 1995). Digital payment systems, blockchain technologies, and online banking platforms offer faster, more accessible, and cost-effective financial services, forcing traditional banks to rethink their operational models.

This theory is particularly relevant to the Port Harcourt context, where FinTech start-ups such as Opay, Kuda, and PalmPay have introduced disruptive financial models that attract younger, technology-oriented consumers. These innovations have begun to reduce the dominance of brick-and-mortar banks by offering real-time services through mobile apps, digital wallets, and peer-to-peer transfers (Eze & Nwokah, 2021). Traditional banks in Port Harcourt are thus compelled to integrate technology and collaborate with FinTech firms to maintain relevance and customer loyalty. The Disruptive Innovation Theory helps explain this shift by showing how FinTech's customer-centric, digital-first strategies are transforming the competitive landscape of banking and financial services. It also supports the study's premise that the degree of disruption depends on customer satisfaction, which moderates how traditional banks respond to and adapt within this changing environment.

2.3.0 Empirical Study

Amah and Odedeji (2025) investigated the impact of technology adoption on business performance

The authors conducted an empirical analysis of how technology adoption influences the sales performance of Software-as-a-Service (SaaS) sales teams in Nigeria. Results of the statistical analysis revealed a strong positive correlation between technology adoption and sales performance in this critical yet underexplored area given the country's evolving digital economy. The work of Amah and Odedeji (2025) reaffirms the nexus between the operational efficiency of service organizations and the adoption of digital tools in their service delivery to customers.

Olaniyi & Adeoye (2021) Adoption of financial technology and bank performance in Nigeria. Olaniyi and Adeoye (2021) used a quantitative approach, drawing on secondary bank performance data and a cross-sectional survey of bank managers across major Nigerian commercial banks to test how FinTech adoption (digital channels, mobile banking, automated processes) correlates with operational efficiency and profitability. Their econometric analysis showed a positive and statistically significant relationship between banks' digital adoption index and indicators such as cost-to-income ratio, transaction volumes, and customer acquisition rates. The study concluded that banks which proactively integrate FinTech tools report measurable efficiency gains and improved market reach. While highly useful for national-level policy implications, Olaniyi and Adeoye's (2021) work is largely industry-aggregate and bank-centric; it emphasizes institutional metrics rather than consumer-level outcomes. Their sample underrepresents secondary cities and local market heterogeneity, meaning city-specific dynamics (e.g., Port Harcourt's oil-driven economy, intermittent power, or unique SME structure) are not fully captured. This limits direct transferability of findings to understand how FinTech affects traditional banking behavior and customer perceptions in Port Harcourt specifically.

Eze & Nwokah (2021) FinTech adoption and performance of financial institutions in Nigeria.

Eze and Nwokah (2021) combined survey data from retail banking customers and bank staff with case studies of selected FinTech partnerships to evaluate how FinTech adoption influences customer satisfaction, inclusion, and service delivery. They found that mobile-based services and agent networks significantly increased account usage among previously unbanked populations, and that customer satisfaction mediated continued use of digital channels. Their mixed-methods design provided richer insight into consumer behavior and indicated that customer experience (ease of use, speed, perceived security) is a strong predictor of sustained FinTech uptake.

However, Eze and Nwokah (2021) focused predominantly on metropolitan contexts with larger FinTech ecosystems (notably Lagos) and did not disaggregate findings by smaller urban centers. The city-level variations in infrastructure, cultural attitudes to technology, and local regulatory enforcement in places like Port Harcourt were therefore not explored in depth. Consequently, there remains a need for focused empirical work that examines consumer satisfaction as a moderator in Port Harcourt's local context, especially across different socioeconomic groups.

Ozili (2020) Financial inclusion and FinTech during the COVID-19 pandemic. Ozili (2020) used national surveys and transaction data to assess how pandemic-related shocks accelerated digital financial adoption in Nigeria, documenting rises in digital payment volumes, remote lending activity, and the adoption of contactless services. The analysis demonstrated that FinTech mitigated access barriers during lockdowns and contributed to short-term increases in formal financial engagement, particularly among

urban and digitally literate cohorts. Ozili also highlighted regulatory and cybersecurity vulnerabilities that accompanied rapid adoption, calling for strengthened policy responses. Although Ozili's (2020) findings show important temporal dynamics (acceleration under crisis conditions) and identify systemic lessons, the study is time-bound (pandemic period) and predominantly descriptive at the national level. It does not unpack longer-term behavioral shifts or local differences in post-pandemic adoption sustainability. For Port Harcourt, which has its own economic shocks and infrastructure profile tied to the oil industry, longitudinal and locale-specific evidence is required to determine whether pandemic-driven FinTech gains persisted and how they reshaped traditional bank roles.

2.4 Gap in the Literature

Most Nigerian FinTech studies are national in scope or Lagos-centric (Olaniyi & Adeoye, 2021; Eze & Nwokah, 2021). There is a clear gap for micro-level, city-focused research that captures Port Harcourt's unique economic structure (oil sector linkages), infrastructure constraints (power and connectivity), and consumer segments (SMEs, expatriate workers, informal traders). Although studies note customer satisfaction as important (Eze & Nwokah, 2021; Ozili, 2020), Amah and Udedeji (2025), few quantitatively test **customer satisfaction** as a formal moderating variable between FinTech dimensions (e.g., digital payments; blockchain/crypto) and traditional banking outcomes in a single model. Our study can fill this methodological gap by specifying and testing moderation effects. Existing work often uses cross-sectional or short-term pandemic-era data (Ozili, 2020). There is limited longitudinal analysis on whether FinTech adoption leads to sustained shifts in banking behaviour and branch roles over time—especially in secondary cities like Port Harcourt. While national regulations are discussed broadly, there is little research on how local enforcement, informal financial practices, and city-level regulatory interactions shape FinTech–bank relations in Port Harcourt. Most empirical attention has focused on payments and mobile money; rigorous empirical work on blockchain/cryptocurrency adoption and its concrete impacts on traditional banks within Port Harcourt is limited and presents an opportunity. By addressing these gaps—using a Port Harcourt-focused sample, modeling customer satisfaction as a moderator, and incorporating city-level regulatory and infrastructure variables—your study can offer novel empirical insights that are directly actionable for local banks, policymakers, and FinTech firms. Would you like me to draft a suggested research design (sample, instruments, and analysis plan) that targets these gaps?

3.0 METHODOLOGY

The study adopted a descriptive survey research design, which was deemed appropriate for examining the impact of financial technology (FinTech) on traditional banking and financial services in Port Harcourt, Rivers State. This design enabled the researcher to gather quantitative data from respondents on their perceptions, attitudes, and experiences with FinTech innovations and traditional banking operations. The descriptive approach was suitable because it allowed for the identification of patterns, relationships, and effects among variables such as digital payment systems, blockchain and cryptocurrency technologies, and traditional financial services, while considering customer satisfaction as a moderating factor. The design also supported the use of structured questionnaires to collect standardized responses from participants, ensuring comparability and objectivity in data analysis.

The population of the study comprised all staff and customers of selected commercial banks and FinTech companies operating within Port Harcourt metropolis, including Zenith Bank, First Bank, Access Bank, Opay, and PalmPay. Given the large and dispersed nature of the population, a representative sample was determined using the Taro Yamane formula at a 5% margin of error, which yielded a sample size of 384 respondents. To ensure inclusivity, the sample was distributed across different occupational groups and service users within the financial sector. The study employed a stratified random sampling technique to ensure that both bank employees and FinTech users were adequately represented. The research instrument used was a structured questionnaire divided into sections that addressed the dimensions of FinTech adoption, traditional banking performance, and customer satisfaction. Items were measured using a five-point Likert scale ranging from "Strongly Agree" to "Strongly Disagree."

The instrument underwent content and face validity assessment by three experts in banking, finance, and research methodology from Rivers State University to ensure that the items accurately reflected the study objectives. The reliability of the instrument was determined through a pilot test conducted among 30 respondents outside the main sample, and the results were analyzed using Cronbach's Alpha, which yielded a coefficient of 0.87, indicating high internal consistency. Data collected were analyzed using both descriptive and inferential statistical methods. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize the responses, while inferential statistics such as Pearson's Product Moment Correlation and multiple regression analysis were applied to test the formulated hypotheses at a 0.05 level of significance. The Statistical Package for the Social Sciences (SPSS, version 26.0) was employed to process the data and derive meaningful interpretations.

4.0 DATA ANALYSIS, RESULTS, AND FINDINGS

4.1 Results

Table 4.1: Correlation between Digital Payment Systems and Customer Satisfaction with Banking and Financial Services in Port Harcourt

Variable	N	R	Sig. (2-tailed)	Decision
Digital Payment Systems	384	0.764**	0.000	H_{o1} Rejected
Customer Satisfaction	384			

Source: Field Survey, 2025

The result in Table 4,1 reveals a strong and statistically significant positive correlation ($r = 0.764$, $p < 0.05$) between digital payment systems and customer satisfaction with banking and financial services in Port Harcourt. This implies that as digital payment technologies such as mobile transfers, internet banking, and POS systems become more integrated, the efficiency and accessibility of banking services improve correspondingly leading to enhanced customer satisfaction. The rejection of the null hypothesis (H_{o1}) indicates that FinTech innovations in digital payments have enhanced customer convenience, reduced transaction delays, and supported banks in reaching a wider customer base. This finding aligns with the work of Singh and Rana (2021), who reported that digital payment adoption significantly enhances service efficiency and customer satisfaction in developing financial systems. The finding also accords with the submission of Amah nd Odedeji (2025) that adoption of digital technology is a strong predictor of efficient service delivery to customers.

Table 4.2: Correlation between Digital Payment Systems and Financial Accessibility in Banking and Financial Services in Port Harcourt

Variable	N	R	Sig. (2-tailed)	Decision
Digital Payment Systems	384	0.716**	0.000	H_{o1} Rejected
Financial Accessibility	384			

Source: Field Survey, 2025

The result in Table 4.2 similarly reveals a strong and statistically significant positive correlation ($r = 0.716$, $p < 0.05$) – this time, between digital payment systems and financial accessibility in traditional banking and financial services in Port Harcourt. This clearly demonstrates that as mobile transfers, internet banking, POS systems, and allied digital payment technologies become more integrated, the efficiency and accessibility of banking services improve correspondingly. The rejection of the null hypothesis (H_o2) indicates that FinTech innovations in digital payments have improved financial accessibility due largely to enhanced customer convenience, reduced transaction delays, and supported banks in reaching a wider customer base. This finding is equally supported by Singh and Rana (2021), who reported that digital payment adoption significantly enhances service efficiency in developing financial systems.

Table 4.3: Correlation between Blockchain and Cryptocurrency Technologies and Customer Satisfaction with Banking and Financial Services in Port Harcourt

Variable	N	R	Sig. (2-tailed)	Decision
Blockchain and Cryptocurrency Technologies	384	0.689**	0.000	H_{o2} Rejected
Customer Satisfaction	384			

Source: Field Survey, 2025

Table 4.3 shows a moderate to strong positive correlation ($r = 0.689$, $p < 0.05$) between blockchain and cryptocurrency technologies and the performance of traditional banking and financial services in Port Harcourt as measured by customer satisfaction. The result suggests that the adoption of blockchain-based solutions, including secure transaction validation and digital asset management, positively influences banking operations by improving transparency, reducing fraud, and enhancing data integrity. The rejection of the null hypothesis (H_o3) confirms that blockchain innovations complement the efficiency and security of traditional banks. This

outcome supports the assertion of Peters and Panayi (2016) that blockchain enhances operational performance by decentralizing transactions and reducing third-party risks in the financial sector.

Table 4.4: Correlation between Blockchain and Cryptocurrency Technologies and Financial Accessibility in Banking and Financial Services in Port Harcourt

Variable	N	R	Sig. (2-tailed)	Decision
Blockchain and Cryptocurrency Technologies	384	0.671**	0.000	H_{o2} Rejected
Financial Accessibility	384			

Source: Field Survey, 2025

As evident in Table 4.4, there is a moderate but positive correlation ($r = 0.671$, $p < 0.05$) between blockchain and cryptocurrency technologies and financial accessibility. This implies that the adoption of blockchain-based solutions, including secure transaction validation and digital asset management, positively influences financial accessibility. This is because they positively and significantly influence banking operations by improving transparency, reducing fraud, and enhancing data integrity. The rejection of the null hypothesis (H_o4) confirms that blockchain innovations complement the efficiency and security of traditional banks leading to easier and more secure access to financial services. This results equally validates the assertion of Peters and Panayi (2016) that blockchain enhances operational performance by decentralizing transactions and reducing third-party risks in the financial sector.

Table 4.5: Moderating Effect of Regulatory Framework on the Relationship between FinTech Adoption (Digital Payment and Blockchain Technologies) and Effective Traditional Banking and Financial Services

Model	R	R^2	ΔR^2	F-Change	Sig.	Decision
FinTech Adoption only	0.782	0.611	0.611	221.56	0.000	
FinTech Adoption + Regulatory Framework	0.826	0.682	0.071	45.23	0.000	H_{o3} Rejected

Source: Field Survey, 2025

Table 4.5 presents the hierarchical regression analysis testing the moderating effect of the regulatory framework on the relationship between FinTech adoption (digital payment and blockchain technologies) and traditional banking and financial services. The inclusion of the regulatory framework in the model led to an R^2 change of 0.071 ($p < 0.05$), indicating that regulatory oversight significantly strengthens the predictive relationship between FinTech adoption and banking performance. This result leads to the rejection of the null hypothesis (H_o5). The finding implies that effective regulation promotes innovation while ensuring consumer protection and institutional stability. This aligns with Zetzsche, Buckley, Arner, and Barberis (2020), who argued that a well-structured regulatory environment facilitates sustainable FinTech integration by balancing technological advancement with financial system integrity.

4.2 Discussion of Finding

The findings from the first and second hypotheses revealed strong positive correlations between digital payment systems and the proxies of effective traditional banking and financial services in Port Harcourt, indicating that as the adoption of digital payment platforms such as mobile transfers, point-of-sale (POS) devices, and internet banking increases, the efficiency and accessibility of financial transactions also improve. The outcomes are consistent with the findings of Singh and Rana (2021), who discovered that digital payment adoption significantly enhances operational efficiency, reduces transaction time, and boosts customer satisfaction in the financial sector. Similarly, Ejemeyovwi, Osabuohien, and Ejemeyovwi (2019) found that digital financial tools expand inclusion by reaching unbanked populations through user-friendly mobile platforms. The present study therefore supports the notion that digital payment systems serve as a crucial bridge between financial innovation and service delivery, enabling banks in Port Harcourt to maintain competitiveness amid rising FinTech disruptions.

The results of the third and fourth hypotheses both showed moderate to strong positive relationships between blockchain and cryptocurrency technologies and the performance of traditional banking and financial services in Port Harcourt - operationalized as customer satisfaction and financial accessibility - suggesting that blockchain innovations enhance transaction transparency, reduce fraud, and improve trust in financial institutions. These findings align with the study by Peters and Panayi (2016), which emphasized the role of blockchain in increasing data integrity and minimizing intermediary costs in financial transactions. Similarly,

Tapscott and Tapscott (2017) noted that the distributed nature of blockchain promotes trust and accountability in banking operations. The implication of this result is that blockchain technology, despite being relatively new in Nigeria, has the potential to complement traditional banking systems by fostering operational efficiency and customer confidence. It also demonstrates that as financial institutions in Port Harcourt continue to explore blockchain-based solutions, they are likely to experience improved performance outcomes and enhanced security frameworks.

The third finding revealed that the regulatory framework significantly moderates the relationship between FinTech adoption (digital payment and blockchain technologies) and traditional banking and financial services, implying that a supportive and adaptive regulatory environment strengthens the positive effects of technological innovations on banking performance. This finding corroborates the work of Zetzsche, Buckley, Arner, and Barberis (2020), who asserted that balanced regulation is essential to ensuring that FinTech growth does not compromise consumer protection or financial stability. Similarly, Arner, Barberis, and Buckley (2017) observed that proactive regulatory oversight fosters innovation by providing clarity, trust, and competitive equity within the financial ecosystem. The implication of these findings in the context of Port Harcourt is that consistent enforcement of regulatory policies by agencies such as the Central Bank of Nigeria enhances confidence among customers and investors, thereby ensuring that FinTech innovations contribute to sustainable banking development rather than institutional disruption.

5.0 CONCLUSION AND RECOMMENDATIONS

Based on the findings of this study, it can be concluded that financial technology (FinTech) has significantly transformed the operations and effectiveness of traditional banking and financial services in Port Harcourt. The adoption of digital payment systems has enhanced service delivery, efficiency, and customer satisfaction, while blockchain and cryptocurrency technologies have improved transparency, security, and operational trust within financial transactions. Furthermore, the moderating role of a sound regulatory framework has been shown to be vital in ensuring that technological innovations strengthen, rather than destabilize, the financial sector. Thus, the synergy between FinTech adoption and regulatory oversight is essential for achieving sustainable growth, competitiveness, and financial inclusion in Port Harcourt's banking system.

In the light of the results and findings of this study, it is recommended as follows:

1. Traditional banks should increase investment in digital payment infrastructures and customer education to improve service efficiency and expand access to financial services.
2. Financial institutions should explore blockchain applications for secure record-keeping, fraud reduction, and transparent transactions to strengthen trust and performance.
3. Regulatory bodies such as the Central Bank of Nigeria should continuously update and enforce adaptive regulatory frameworks that balance innovation with consumer protection, ensuring that FinTech growth supports sustainable banking operations.

REFERENCES

1) Amah, C. O. and Odedeji, J. O. (2025). An Empirical Analysis of the Impact of Technology Adoption on Sales Performance of Software-as-a-Service (SaaS) Sales Teams in Nigeria *International Journal of Science and Research Archive, 10*(3), 530–544
2) Amah, C. O. and Nyeche, O. (2025). Digital Entrepreneurship Practice and Business Performance of Safety Equipment Dealers in Rivers State *European Journal of Innovative Studies and Sustainability, 10*(03), 164–181
3) Adewoye, J. O. (2020). The impact of information technology on banking operations in Nigeria. *Journal of Internet Banking and Commerce, 1*(3), 1–12.
4) Akpan, E. I. (2021). Cybersecurity risks and customer confidence in Nigeria's digital banking ecosystem. *African Journal of Business and Economic Research, 16*(3), 145–160.
5) Alao, O. R., & Oyewole, F. (2019). The role of FinTech in enhancing financial inclusion in developing economies. *International Journal of Finance and Accounting, 8*(2), 33–45.
6) Anyoha, O. (2022). The influence of blockchain technology on the efficiency of financial service delivery in Nigeria. *Journal of Banking and Financial Innovation, 10*(4), 72–84.
7) Aregbeyen, O. (2019). Customer satisfaction and performance of financial institutions in Nigeria. *International Journal of Economics and Management Studies, 6*(1), 18–28.
8) Eze, B. U., & Ebere, C. O. (2021). The nexus between FinTech adoption and operational efficiency of Nigerian banks. *Nigerian Journal of Management Sciences, 8*(2), 110–123.

9) Feyen, E., Frost, J., Gambacorta, L., Natarajan, H., & Saal, M. (2021). FinTech and the digital transformation of financial services: Implications for market structure and public policy. *Bank for International Settlements Working Paper Series, 117*, 1–45.
10) KPMG. (2020). *Pulse of FinTech 2020: Biannual global analysis of investment in FinTech.* Retrieved from https://home.kpmg/fintech
11) Nwankwo, O., & Nwosu, A. (2022). Regulatory frameworks and financial innovation: A study of digital banking in Nigeria. *African Review of Economics and Finance, 14*(2), 57–73.
12) Obi, C. F., & Ibenta, S. N. (2020). Financial technology and customer satisfaction in the Nigerian banking sector. *Journal of Business and Management Studies, 9*(1), 48–61.
13) Ogunleye, O. J., & Oloruntoba, A. (2021). Digital payments and banking performance in sub-Saharan Africa. *International Journal of Financial Research, 12*(5), 25–37.
14) Okoye, P. V., & Eze, A. O. (2021). Evaluating the effects of cryptocurrency on traditional banking systems in Nigeria. *Journal of Finance and Accounting Research, 13*(4), 102–119.
15) Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing, 64*(1), 12–40.
16) Pavlou, P. A. (2018). Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model. *International Journal of Electronic Commerce, 7*(3), 69–103.
17) Sanusi, L. S. (2021). Financial technology and the changing face of banking in Nigeria. *CBN Journal of Applied Statistics, 12*(2), 5–22.
18) World Bank. (2022). *Nigeria: FinTech and financial inclusion report.* Washington, DC: World Bank Group.