

**FINANCIAL TECHNOLOGY AND USERS' SATISFACTION**

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ABSTRACT

The purpose of this study was to examine financial technology and users' satisfaction with selected Deposit Money Banks in Cross River State. Specifically, it aimed to investigate the impact of mobile banking on users' satisfaction, analyze the effect of peer-to-peer lending on users' satisfaction, and evaluate the influence of fintech Chatbot AI on users' satisfaction in Cross River State. The study used primary data and employed multiple regression analysis. Results showed that mobile banking had a significant impact on users' satisfaction, peer-to-peer lending also significantly affected users' satisfaction, and fintech Chatbot AI had a notable influence as well. The study recommended that mobile banking, a form of mobile commerce, allows customers to bank virtually at any convenient time and place. Accordingly, bank management should ensure a reliable network to enable customers to access their accounts via mobile phones or similar devices. Furthermore, banks should develop effective online platforms to connect borrowers and lenders.

Keywords: financial technology, mobile banking, peer-to-peer lending, fintech chatbot AI, users' satisfaction

JEL: M1

INTRODUCTION

Technology has continually transformed the banking industry. From physical branches to ATMs, internet banking, and mobile banking, FinTech now dominates the digital landscape. FinTech, a blend of 'finance' and 'technology,' has recently gained prominence in business journals to describe the disruptive challenge the financial sector faces in providing faster, more affordable, and more customer-centric services. Broadly, it refers to applying new technologies to financial services and products, or using technology to deliver financial solutions. Financial technology (FinTech) has become a common term for technological breakthroughs that can revolutionize how financial services are offered, create new business models, applications, processes, and products, and benefit consumers (Zins & Weill, 2016).



During the same period, the banking sector has experienced significant technological and regulatory changes driven by factors such as deregulation and liberalization, advancements in information and communication technologies, new solutions for transactions and savings, and improvements in cybersecurity and digitization. Electronic payments allow customers to pay for goods and services using digital methods like mobile devices, online platforms, and contactless payment options (Yunda et al, 2020). In fact, this shift has transformed the banking industry and revolutionized how people conduct transactions. Wu et al (2020) revealed that banks not only improve customer service but also strengthen customer relationships through new technologies. By leveraging FinTech, banks can offer faster, more secure, and more convenient payment options, which increase customer satisfaction and loyalty.

The significance of FinTech in bank growth cannot be overstated. Traditional banks now need to adopt new technologies and offer more innovative products to remain competitive (World Bank, 2021). This has resulted in better products, more competitive pricing, and improved customer service across the industry. According to Stankeviciene and Kabulova (2022), the rise of FinTech in Nigeria has increased competition among financial institutions, encouraging greater creativity and improved customer service performance. Sindani et al. (2019) observed that innovations in financial technology and telecommunications influence how banks compete within existing market structures. A common example of these technologies is ATMs, which provide an alternative to building costly branch networks that often act as barriers to market entry due to high maintenance costs. An ATM network is a more affordable physical channel for basic banking services, reducing costs and expanding market access.

An alternative to expanding the ATM network is mobile banking. The widespread use of smartphones and tablets with internet access has led banks to adopt this distribution channel, especially since customers using mobile devices interact with the bank 3.5 times more often than users of traditional Internet banking (Rasheed et al, 2016). Research indicates growing interest from banking service providers in this channel: in 2013, 45% of banks prioritized mobile banking, and 63% believe it will remain relevant over the next decade (Nzyuko et al, 2018). Like online banking, mobile banking has become another way to deliver banking services.

Today, FinTech innovations are rapidly expanding in the banking industry, attracting investments from around the world. The COVID-19 pandemic has caused a significant shift in how businesses operate. Neaime and Gaysset (2018) inferred that the pandemic has led to changes in services through the adoption and development of artificial intelligence (AI). The growth of AI-based technologies is becoming an essential part of our world, and banks need to implement them widely to stay relevant. Banks can meet increasing customer expectations by using AI to deliver intelligent solutions and smart services that can seamlessly integrate into partner ecosystems. One highly popular and impactful form of AI in the future of banking is the use of AI-powered chatbots (Mwai, 2021).

AI-powered chatbots are automated service assistants currently used in the Nigerian banking industry. Chatbots provide customers with the convenience of resolving their inquiries via online messaging on devices such as personal computers, laptops, and smartphones, reducing the need for in-person visits to branches (Muthengi, 2022). In fact, technology has helped banks generate additional revenue, cut expenses, and manage risk exposure more effectively (Misati et al, 2022).



It has also created opportunities for a wide range of competitors, both large and small. As FinTech continues to grow and expand, it is likely to continue influencing the banking sector. Furthermore, the role of FinTech as either a complement or a substitute for traditional bank finance remains under debate in the literature (Liu & Walheer, 2022).

Technology has transformed the business world and economies worldwide, including developed, developing, and underdeveloped countries, reducing the existing gap. Banking is a key sector that provides financial assistance and services to other industries. Since the customer is considered the king of the market, banks need to develop innovative models and consistently maintain and boost customer satisfaction. FinTech is playing a significant role in this regard. The growth rate of FinTech solutions adopted by banks enhances traditional banks' operations and improves customer satisfaction. Given the vital role of banks in the financial system, understanding the impact of FinTech on user satisfaction is crucial. Specifically, it is not entirely clear whether the FinTech revolution will fully increase or influence user satisfaction. A review of the existing literature on this issue in Cross River State has not been conducted; this research aims to address this gap and explore the relationship between financial technology and user satisfaction in the State. Specifically, the study seeks to:

1. To investigate the impact of mobile banking on users' satisfaction in Cross River State.
2. To examine the impact of peer-to-peer lending on users' satisfaction in Cross River State.
3. To analyze the impact of fintech Chatbot AI on users' satisfaction in Cross River State

LITERATURE REVIEW

This study employed the Technology Acceptance Model (TAM) along with other interconnected theories that provide essential support for our theoretical and empirical constructs. The theories include:

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), proposed by Davis in 1989, helps us understand how individuals perceive and adopt new technologies. According to TAM, perceived ease of use (PEOU) and perceived usefulness (PU) are key factors influencing users' acceptance and adoption of technology. Perceived usefulness refers to the extent to which an individual believes that using a specific technology will improve their performance or make their tasks easier. In the context of fintech, customers might see solutions like mobile banking apps or online payment platforms as useful if they offer convenience, efficiency, and better financial management, and PU assesses whether they view digital financial services as beneficial.

Several studies have applied TAM to evaluate fintech adoption and satisfaction. Research by Klapper (2016) examined mobile banking app adoption and found that perceived usefulness and perceived ease of use significantly influenced users' intentions to use the apps, resulting in higher customer satisfaction. Another study by FinAccess (2021) focused on online banking adoption and found that perceived usefulness and perceived ease of use were strong predictors of customer satisfaction. Customers who saw online banking as useful and easy to use reported higher satisfaction levels. These studies emphasize the importance of TAM in understanding the factors that drive customer satisfaction in fintech. By considering perceived usefulness and ease of use, banks and fintech providers can design and improve their offerings to boost customer satisfaction.

Service Quality Model (SQM)

Service quality theory centers on understanding and measuring how well organizations deliver services. One of the most recognized models in this area is the SERVQUAL model, created by Parasuraman, Zeithaml, and Berry in the 1980s. It evaluates service quality based on customer expectations and perceptions. The model highlights five dimensions: tangibility, reliability, responsiveness, assurance, and empathy. When the perceived service quality does not meet customer expectations, a negative service quality gap results in customer dissatisfaction. Numerous studies have used the SERVQUAL model to evaluate service quality across different industries.

In the context of Fintech, tangibility refers to the physical and digital features of the services offered, such as the user interface, accessibility, and visual appeal. A positive assessment of tangibles improves overall customer satisfaction. Reliability relates to the consistency and accuracy of transactions, system uptime, and the dependability of digital platforms. Reliability is a key factor that influences customer satisfaction with Fintech services. The responsiveness dimension involves promptness and efficiency in addressing customer needs and concerns. In Fintech, this includes timely customer support and problem resolution, which directly affect customer satisfaction. Assurance concerns the trustworthiness, security, and competence demonstrated by the Fintech provider. In the digital financial landscape, customers need to feel confident in the security of their transactions and the platform's overall competence. Empathy involves understanding and caring for users' needs. In Fintech, this can be seen in personalized services, tailored recommendations, and an understanding of users' financial preferences, all of which contribute to increased satisfaction. The Service Quality Model provides a structured framework for evaluating how the tangible and intangible elements of Fintech services impact customer satisfaction. By examining tangibles, reliability, responsiveness, assurance, and empathy, researchers can gain insights into the specific service quality factors that influence customer satisfaction with Fintech.

The banking sector has grown rapidly over the past few decades, fueled by technological progress and digital disruption. Financial technology has shifted from a niche industry serving small, tech-savvy businesses and startups to a well-established industry that is now mainstream within the financial sector. The 21st century has witnessed the rise of FinTech as an independent industry, with the sector now valued at over \$300 billion. Additionally, the FinTech industry has gained the interest of established players in the financial field, as traditional banks and financial institutions collaborate with FinTech firms to develop innovative solutions.

Technologies with the greatest impact on the FinTech growth in the banking sector are:

- *Automated Teller Machine (ATM)*: An ATM is a computerized telecommunication device that allows customers of a financial institution to perform financial transactions in a public space without needing a human clerk or bank teller. According to Demircuc-Kunt et al. (2018), ATMs are located not only near or inside bank premises but also in areas such as shopping centers or malls, airports, grocery stores, gas stations, restaurants, or any place where large numbers of people gather. Demir et al. (2022) in a study stated that ATM services are highly profitable for banks, and banks actively promote the use of ATM cards. ATMs outside bank premises tend to be more profitable because they attract a higher volume of non-bank customers who pay service fees. Mwai (2021) describes ATMs as follows: an ATM combines a computer terminal, record-keeping



system, and a cash vault in one unit, allowing customers to access the bank's bookkeeping system with a plastic card containing a personal identification number (PIN) or by entering a special code into the linked computer terminal.

-Mobile Banking: Mobile banking can be defined as a channel via a mobile device, such as a mobile phone. Mobile banking (M-banking) is an application of mobile commerce that enables customers to bank virtually at any convenient time and place (Bin & Xiping, 2021). It is the provision of banking and related financial services, such as savings, fund transfers, and stock market transactions, on mobile devices. Mobile banking is a facility that provides banking services such as balance enquiries, fund transfers, bill payments, and transaction histories via a user's mobile phone. Banna et al. (2022) define mobile banking as the use of a cellular phone or similar device to access a bank's network.

-Blockchain technology: Blockchain allows computer systems located in different places to propose, validate transactions, and update the files of a common network at the same time, and enhance efficiency. Blockchain information is not stored in a single location, making it more difficult for malicious attacks, while transaction times are limited. However, there are also new risks, including money laundering, inadequate customer protection, and tax evasion. The main benefit of Blockchain technology is Smart Contracts, which are based on a purely digital, complex computerized protocol and include complex calculations, multi-party agreements, and various forms of encryption, thereby making transactions safer. They also improve the ability to conduct contracts and provide easier confirmation that all obligations have been met, while eliminating monitoring time and reducing contractual monitoring costs. However, there is also a belief that Smart Contracts may create new legal requirements. According to Abdulkadir (2019), Blockchain can facilitate the decentralization of the last-mile delivery channel by enabling peer-to-peer and cashless transactions even among the unbanked population.

-Artificial Intelligence: Artificial Intelligence (AI) is a bigger concept to create intelligent machines that can simulate human thinking capability and behavior, whereas machine learning is an application or subset of AI that allows machines to learn from data without being programmed explicitly. Its popularity has increased, mainly due to the large volume of digital data, the growing need for data storage, and significant progress in algorithmic development. According to Mwai (2021), the uses of artificial intelligence are diverse and include, among other things, regulatory reporting and data quality, monetary policy and risk analysis, and fraud monitoring and detection. At the central bank level, AI has been incorporated into functions that help identify microeconomic and macroeconomic indicators, conduct supervision, manage information, forecast, and detect malicious activity. In the financial sector, applying AI and ML techniques increases efficiency, reduces transaction costs, enhances service quality, offers smart investment solutions, and boosts customer satisfaction. Additionally, Klapper (2016) states that AI and ML applications enable institutions to analyze all accessible customer data, learn customers' preferences, and develop specific products and services tailored to customer needs, while improving existing services and enhancing the user experience.

FinTech has attracted significant attention from governments, policymakers, regulatory agencies, and analysts due to its controversial status. According to Wu et al. (2022), the development of FinTech within a country is linked to its positive effects on the public and banks, as it reduces

high-interest loans. They further explained that FinTech ensures secure financial management for individuals. Additionally, Muthengi (2022) noted that the emergence and growth of FinTech significantly impact traditional business models in the banking sector. FinTech has spread across various areas of finance.

Abdulkadir (2019) noted that central banks are increasingly considering FinTech data, such as credit volume, to monitor financial and economic conditions, enforce macro-prudential policies, and make financial policy decisions. Banna et al (2022) mentioned that FinTech could affect traditional banks in two ways: through the application of technology among banks and outside of FinTech (including FinTech firms) and through the application of technology to bank FinTech partnerships. However, Bin and Xiping (2021) emphasized the competition between FinTech and traditional financial companies, with the latter being influenced in terms of their risk-taking, innovation, and performance.

User satisfaction has been one of the top factors in business success. It is crucial for businesses, as satisfied customers are more likely to remain loyal, make repeat purchases, and recommend the company to others. Meeting customer needs, providing excellent support, and ensuring a positive overall experience contribute to high levels of customer satisfaction. Actionable information on how to better satisfy customers is, therefore, a crucial outcome. It is a barometer that predicts future customer behavior. There are two ways to improve customer satisfaction for companies. First, service improvement to enhance the customer experience, and second, effective management of customer expectations by reducing the desired level. However, the first approach is widely used in the organization and achieved great success. In the future, companies will still need to make some adjustments for continuous improvement (Misati et al, 2022).

FinTech has completely changed the face of the financial services industry in Nigeria by giving customers more convenient, faster access to a variety of financial products and services through digital channels. In this study, customer satisfaction is the customer's mindset toward the use of any Fintech product or service. The targets of this research are to comprehend the contribution of financial technology to customer satisfaction using selected banks. To verify this relationship, additional research has shown a link between customer satisfaction and Fintech services. According to Demir et al. (2022), customer satisfaction in the banking sector increases when using Fintech services. From another view, customers also need to ensure that the Fintech products and services they have chosen are the best, and on others, they expect great service. Therefore, it indicated that the quality of the FinTech services impacts customers' esteem, loyalty, and satisfaction.

Customer satisfaction is related to security, convenience, and service quality. From previous research, a few citations support the relationship between them. The first is the relationship between security and customer satisfaction toward Fintech products and services. This is supported by a theory that security positively impacts customer satisfaction with Fintech products and services, such as mobile payments, and by the relationship between convenience and customer satisfaction towards Fintech products and services. Based on Rasheed et al.'s (2016) research, convenience and customer satisfaction with Fintech mobile payment services are positively related. The main source of customer satisfaction with Fintech mobile payments is convenience. As a result, customer satisfaction has been considered to be based on the customer experience of

a specific service encounter.

Empirical review

There have been numerous studies examining the impact of financial technology on users' satisfaction. Banna et al. (2022) conducted a study that highlighted that perceived usefulness and ease of use are crucial determinants of customer satisfaction with fintech services. Banks that effectively communicate the benefits and simplicity of their fintech offerings are more likely to achieve higher customer satisfaction than those that do not fully utilise financial technology. The paper uses structural equation modeling to ascertain the extent to which 3 popular models of users' behavior—the theory of reasoned action (TRA), the theory of planned behavior (TPB), and the technology acceptance model (TAM)—are predictive of consumers' behavior in the context of Internet banking. Unlike other tests of these models, this paper employs independent measures of actual behavior and behavioral intention. The results indicate that TAM is superior to the other models and highlight the importance of trust in understanding Internet banking behavior.

Bin et al (2021) in their research study titled “Factors driving consumers' willingness to use fintech online platforms: The case of peer-to-peer lending” had focused on peer-to-peer lending platforms. This study examined the factors influencing users' willingness to use fintech services. The research found that perceived ease of use, trust, and transparency in fintech platforms positively affected customer satisfaction and willingness to use these services. Additionally, the study emphasized the importance of positive user experiences in driving customer satisfaction, ease of use, trust, and transparency in fintech platforms, and that these positively influence customer satisfaction and their willingness to use these services. Additionally, the study highlights the importance of positive user experiences in enhancing customer satisfaction.

Demir et al (2022) investigate the impact of Financial Technology (FinTech) adoption on customer satisfaction in the banking sector. As FinTech continues to transform traditional banking methods, it is essential to understand how these innovations affect users' perceptions of service quality and overall satisfaction. The study is based on primary data collected through a questionnaire from 100 respondents who use financial technology for banking services. Descriptive statistics were used to examine the influence of financial technology on customer satisfaction. The findings indicate that Fintech has become very important to customer satisfaction with bank facilities.

Misati et al. (2022) explained the influence of fintech on the traditional banking industry in Indonesia. They noted that FinTech can be a strong competitor to banks, especially in payment gateways and peer-to-peer (P2P) services, which affect conventional financial businesses. They identify a range of value propositions that significantly influence the adoption of fintech or banking products. This study examined several important and practical criteria, such as customer satisfaction, net promoter score, promotion, and ease of use. The results show that fintech companies have disrupted banks since they emerged around 2015. Additionally, fintech startups have digital strategies focused on fostering a customer-centric approach and developing products that deliver high customer satisfaction. P2P fintech, however, currently does not pose a serious threat to banks, as customers prioritize security.

METHODOLOGY

The study used a survey design, which involves collecting primary data by asking people within



the organization questions about their knowledge, attitudes, preferences, perceptions, feelings, and behaviors. The population of the study includes all customers of Access Bank and UBA Bank, selected using a purposive approach because these two banks utilize ChatBot AI and are among the major banks in Nigeria. The total population of the study consisted of:

Access Banks: 14,820
UBA Banks: 153,000
Population size: 167,820

However, to determine the sample size, the study adopted Taro Yamane's formula.

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

Where n = Sample size
N = Actual population
e = Limited tolerable error

N = 167,820
e = 5 percent
1 = constant

$$n = \frac{167820}{1+167820 (0.05)^2}$$

$$n = \frac{167820}{1+167820 (0.0025)}$$

$$n = \frac{167820}{1+ 419.55}$$

$$n = \frac{167820}{420.55}$$

$$= 399.04$$

The total sample size was 399 respondents.

The study used the primary data source. The primary source was utilized to collect information from 399 respondents through a structured questionnaire. This data was coded and used to explore the research problem and to review bank customers' experiences with financial technology in relation to the study. A total of 399 questionnaires were distributed to these bank customers met in the field, but only 352 responses were complete due to time constraints. Data were presented using tables and percentages. Multiple regression analysis was applied in this study to examine the effect of independent variables on dependent variables.

DATA ANALYSIS, RESULTS, AND DISCUSSIONS

Test of hypotheses

Hypothesis one

Ho1: There is no significant impact of mobile banking on users' satisfaction in Cross River State

H_{A1}: There is a significant impact of mobile banking on users' satisfaction in Cross River State

Test statistic: Multiple linear regression analysis.

Decision criteria: Accept the alternative hypothesis if ($P < .05$) and reject the null hypothesis, otherwise. It is concluded that mobile banking has a significant impact on users' satisfaction in Cross River State.

Hypothesis two

Ho2: There is no significant impact of peer-to-peer lending on users' satisfaction in Cross River State.

H_{A2} There is a significant impact of peer-to-peer lending on users' satisfaction in Cross River State

Test statistic: Multiple linear regression analysis

Decision criteria: Accept the alternative hypothesis if ($P < .05$) and reject the null hypothesis, otherwise. It is concluded that peer-to-peer lending significantly affects users' satisfaction in Cross River State.

Hypothesis three

Ho3: There is no significant impact of fintech Chatbot AI on users' satisfaction in Cross River State

H_{A3}: There is a significant impact of fintech Chatbot AI on users' satisfaction in Cross River State

Test statistic: Multiple linear regression analysis

Decision criteria: Accept the alternative hypothesis if ($P < .05$) and reject the null hypothesis, otherwise. It is concluded that fintech chatbots have a significant impact on users' satisfaction in Cross River State.

Table 1: Model Summary showing the influence of mobile banking, peer-to-peer lending, and Fintech chatbot on users' satisfaction in Cross River State.

Model	R	R Square	Adjusted R-Square	Std. Error of the Estimate
1	.774 ^a	.599	.590	1.64088

a. Predictors: (Constant), mobile banking, peer-to-peer lending, and Fintech chatbot

Table 2: ANOVA^a showing the influence of mobile banking, peer-to-peer lending, and Fintech chatbot on users’ satisfaction

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	562.488	3	187.496	69.636	.000 ^b
Residual	376.950	307	2.692		
Total	939.438	310			

a. Dependent Variable: Users’ satisfaction

b. Predictors: (Constant), mobile banking, peer-to-peer lending, and Fintech chatbot

Table 3: Coefficients^a showing the influence of mobile banking, peer-to-peer lending, and Fintech chatbot on users’ satisfaction

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.971	.884		3.361	.001
Mobile banking	.257	.040	.344	6.378	.000
Peer-to-peer	.124	.050	.159	2.476	.014
Fintech chatbot	.406	.042	.613	9.572	.000

a. Dependent Variable: Users’ satisfaction

The multiple regression analysis conducted earlier examined the contribution of Financial Technology to Customer Satisfaction in Deposit Money Banks in Cross River State. The findings indicate that mobile banking, peer-to-peer lending, and fintech chatbots significantly influence user satisfaction, as shown in Table 21, which presents the overall model summary with an R of .774 and an R-squared of .599. This suggests that the independent variables (mobile banking, peer-to-peer lending, and fintech chatbots) account for 60% of the variance in user satisfaction. This influence is further clarified in table 23, showing that mobile banking (B = .344, P = 000 < 0.05), peer-to-peer lending (B = .159, P = 014 < 0.05), and fintech chatbots (B = .613, P = 000 < 0.05) all have a significant impact on user satisfaction in selected commercial banks in Cross River State. Based on these findings, it is concluded that Financial Technology has a significant influence on user satisfaction in the selected Deposit Money Banks in Cross River State.

Summary of findings

Based on the results of the study, the findings were summarized as follows:

1. There is a significant impact of mobile banking on users’ satisfaction with Deposit Money Banks in Cross River State
2. There is a significant impact of peer-to-peer lending on users’ satisfaction with Deposit Money Banks in Cross River State
3. There is a significant impact of fintech Chatbot AI on users’ satisfaction with Deposit Money Banks in Cross River State.



CONCLUSION AND RECOMMENDATIONS

The study examined the impact of financial Technology on users' satisfaction with selected deposit money banks in Cross River State. The results revealed that mobile banking significantly impacts users' satisfaction, that peer-to-peer lending significantly impacts users' satisfaction, and that fintech Chatbot AI significantly impacts users' satisfaction of selected deposit money banks in Cross River State. FinTech has completely changed the face of the financial services industry in Nigeria by giving customers more convenient, faster access to a variety of financial products and services through digital channels. Customer satisfaction in the banking sector increases when using Fintech services.

From another view, customers also need to ensure that the Fintech products and services they have chosen are the best, and on others, they expect great service. Therefore, it indicated that the quality of the FinTech services impacts customers' esteem, loyalty, and satisfaction. As a result, customer satisfaction has been considered to be based on the customer experience of a specific service encounter.

Recommendations

The following recommendations were proffered:

1. Mobile banking is an application of mobile commerce that allows customers to bank virtually at any convenient time and place. Bank management should ensure a reliable network that enables customers to access their money using a cell phone or similar device.
2. Banks should ensure that there are effective online platforms that will connect borrowers and lenders.
3. Central banks should enforce macro-prudential policies and make financial policy decisions on the activities of FinTech in the banking sector.

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