

ARTIFICIAL INTELLIGENCE AND FINANCIAL TECHNOLOGY: REDEFINING FINANCIAL SERVICES DELIVERY IN NIGERIA

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ABSTRACT

Artificial Intelligence (AI) has been incorporated into the operations of Financial Technology (FINTECH) companies to streamline operations, render round-the-clock financial services and ensure efficiency. Notwithstanding the advantages of AI in the operations of FINTECH companies, there exist some perceived disadvantages. Therefore, this study examined the influence of AI on financial services delivery of FINTECH companies operating in Nigeria using primary data sourced from respondents through the use of structured questionnaire. Percentage and regression techniques were employed in the analysis of data. The results indicated that Robotic Process Automation, AI-powered Chatbots and Virtual Assistants, as well as AI Credit Scoring have significant positive influence on financial services delivery of FINTECH companies. Thus, it was concluded that the use of AI has enhanced financial services delivery of FINTECH companies in Nigeria. The study recommended that the application of Robotic Process Automation in FINTECH should be sustained and the conventional banks should also employ such technology to improve their financial services delivery. Also, AI-powered Chatbots and Virtual Assistants should be upgraded to handle complex customers' complaints logically and accurately without frequent recourse to human customer agents. Finally, The AI Credit Scoring should be programmed to store and upgrade customers' credit rating continuously. This would make it possible for old customers who complied duly in repayment of their previous loans, but have not taken another loan for a while, not to start from the lowest level of consideration whenever they are ready to request for another loan.

Keywords: *Artificial Intelligence, Robotic Process Automation, AI-powered Chatbots and Virtual Assistants, AI Credit Scoring, Financial Technology, Financial Services Delivery*

INTRODUCTION

Artificial Intelligence (AI) refers to the technology that enables computers to carryout series of advanced tasks that would otherwise require human intelligence to accomplish. It involves the use of machines to perform tasks such as seeing, learning, reasoning, understanding, discovering, problem solving, translation, data analysis and recommendations/decision making. AI has become a field of research in computer science for understanding and development of procedures and software that empowers machines to perceive and understand

their environment and use learning and intelligence to take actions aimed at achieving defined goals. Though in some disciplines, there are yet no computer programme that can beat human capacity, flexibility and intelligence in proffering logical solutions to issues, some AI programmes have achieved the level of performance of human experts in some fields of Sciences, Medicine and Social Sciences.

Financial Technology (FINTECH) is the use of modern technologies in the provision of financial products and delivery of financial services. It involves the employment of advanced technologies in mobile banking, online lending applications, blockchain applications and robo-advisory services. The FINTECH ecosystem consists of startup companies developing new financial technologies, established technology companies expanding into financial services and traditional financial institutions adopting new technologies (Wikipedia, 2025).

The global financial crisis of 2008 was an eye-opener leading to the speedy growth of the FINTECH industry as the decreasing trust in traditional financial institutions paved way for innovative and technology-driven solutions (Wikipedia, 2025). Also in 2008, Bitcoin which uses blockchain technology was invented, marking a turning point in evolution of digital currencies or cryptocurrencies and created new opportunities for secure, transparent and decentralized financial systems. As FINTECH continued to develop, new technology-driven companies joined the financial sector, offering simplified and user-friendly online financial services (Charles & Uford, 2023). Notwithstanding, FINTECH became so popular in 2020 during the Corona Virus lockdown which exposed the limitations of the traditional financial institutions as people were restricted from going to banking halls for transactions. Thus, with sophisticated technology, FINTECH companies were able to fill in the gap by providing banking services online, including opening of account, effecting payments, lending and other allied services.

AI has made it possible for FINTECH companies to automate their routine procedures and expand their scale of operations. The use of AI by FINTECH companies ensures threats detection, fraud prevention, automatic operation and quality enhancement (Moqod, 2023). FINTECH companies use Chatbots powered by AI as customer service agents that interact with customers and help them to address their complaints at any-time and any-day. Also, AI enables the FINTECH companies to provide personalized services to customers, generate credit score for loan assessment, detect suspicious transactions and prevent scam, monitor user behavior and improve security checks, analyse data and generate reports. Notwithstanding the advantages, AI also has disadvantages on FINTECH companies, including treating all customers the same irrespective of their ability or disability status, regulatory issues, the possibility of sensitive data breach due technical problems, limited information, security vulnerability and inability to explain the basis of certain decisions. Considering the issues raised, it is pertinent to ascertain the actual effect of AI on financial services delivery of FINTECH companies.

Thus, the main objective of this study is to examine the influence of Artificial Intelligence (AI) on financial services delivery of Financial Technology (FINTECH) Companies in Nigeria. The specific objectives are to:

- i. Assess the influence of Robotic Process Automation on financial services delivery of FINTECH Companies;
- ii. Ascertain the influence of AI-powered Chatbots and Virtual Assistants on financial services delivery of FINTECH Companies; and
- iii. Determine the influence of AI Credit Scoring on financial services delivery of FINTECH Companies.

The following research hypotheses stated in null form will be tested in the course of this study:

- i. Robotic Process Automation has no significant positive influence on FINTECH Companies' financial services delivery in Nigeria;
- ii. AI-powered Chatbots and Virtual Assistants have no significant positive influence on FINTECH Companies' financial services delivery in Nigeria;
- iii. AI Credit Scoring has no positive and significant influence on FINTECH Companies' financial services delivery in Nigeria.

LITERATURE REVIEW

Conceptual Review

A Brief Overview of Artificial Intelligence (AI)

According to Uford and Akpan (2024), AI is the use of computerized intelligent machines to perform cognitive tasks including reasoning, learning and speech recognition. In recent years, artificial intelligence has developed rapidly and is being introduced in all the key sectors of an economy, including finance, management/administration, health, applied sciences, engineering and other fields of human endeavor. Thus, finance which use big data and process automation should lead the adoption of AI (PWC, 2020).

The fact is that AI is presently deeply part of our daily lives; from the operations of our smart phones to research and even complex and unthinkable inventions like self-driving cars, AI is involved. Presently, the development and applicability of AI focused on the following:

- i. Learning: There are different forms of learning as regards to artificial intelligence. The simplest form of learning is by trial and error. In this case, if a problem-solving programme is initiated with a command for the computer to find the solution, when the computer searches and finds the solution, it stores the solution against the problem. This simple learning process is known as rote learning (Copeland, 2025). A more challenging learning process is called generalisation. Generalisation entails the application of past experience to a similar new situation.
- ii. Reasoning: This a situation where AI is used to draw inferences (either deductive or inductive) suitable to a situation.
- iii. Problem-Solving: AI has been used to solve problems through a systematic search for possible solutions. One of the problem-solving techniques is special purpose designed for a particular problem. Thus, the programme would search through specific features of the condition in which the problem is rooted. On the other hand, general-purpose technique is applicable to a wide array of problems (Copeland, 2025).
- iv. Perception: In this case, AI is used to scan the environment through various sensors and the scene is decomposed into various spatial relationships. An object may appear different depending on the angle of view, direction and intensity of the illumination and the degree of contrast of the object with the surrounding. Presently, there are serious advancements in AI perception in upgrading the optical sensors. For instance, these advanced sensors enable a self-driving car to move on the road without colliding with another object.
- v. Language: AI programmes such as ChatGPT can respond fluently to questions in a human language. Although it might not have a high level of understanding of the language as human, it can select words that are more probable and responds accurately.

The use of artificial intelligence comes with some notable benefits as follows:

- i. **Decrease in Human Error and Improved Decision-Making:** AI ensures accuracy as it uses previous data and information collected as well as some algorithms in taking decision. Therefore, leveraging on vast available data to identify patterns and trends, machine learning algorithms can analyse historical data and produce reliable results as well forecast future outcomes (Duggal, 2025).
- ii. **No Risk:** AI can take care of dangerous tasks/missions with no risk to human. Such tasks include neutralizing enemies at war, defusing bombs, exploring the ocean and even space missions.
- iii. **Availability:** AI is available 24/7 without breaks unlike humans that have work hours per day.
- iv. **Improved Efficiency and Productivity:** AI enhances efficiency and productivity by optimizing processes and saving time and resources. It can streamline operations, analyse data, predict future outcomes and recommend solutions to issues.
- v. **Fraud Detection and Prevention:** AI can detect and prevent fraud through the analysis of transaction patterns and identifying strange behavior and place suspicious transactions on red alert to attract the attention of the organization for necessary actions.
- vi. **Improved Customer Service:** The employment of AI by service providing institutions boosts customers' experience by using the available data/information to provide personalized services to customers.

However, the disadvantages of using AI are as follows:

- i. **The possibility of Data Breach:** In the course of using AI, there could be an incident that results in unauthorised access to classified information or erroneous disclosure of confidential data or even outright loss of valuable personal records.
- ii. **Lack of Transparent Explanation of AI Systems and Procedure:** AI systems does not follow a straight forward, transparent and explainable procedures, algorithm and models. These issues affect the confidence of users as regarding the reliability of the AI system.
- iii. **Adaptability to Growing Threats:** The increasing cyber security threats has posed serious challenges to AI in being up-to-date and resilient to the emerging threats, thereby making the use of AI a bit risky.

The Concept of Financial Technology

Financial Technology (FINTECH) entails the employment of scientific knowledge to automate and enhance financial services delivery. It involves the use of specialised computer software and algorithms in the operations of financial institutions. The emergence of FINTECH in the 21 century caused a paradigm shift in the financial industry across the globe. At first, it was employed in the back-end operations of banks, until 2018 that FINTECH was also used for consumer-oriented services (Kagan, 2024). FINTECH is used in mobile banking, digital payment systems, blockchain applications and robot-advisors.

In Nigeria, FINTECH has gradually changed the narratives in the finance industry. As all the operations of FINTECH companies/banks are automated, making it stress-free, the younger generation prefer opening and operating accounts with them than the conventional commercial and microfinance banks. With FINTECH, bank accounts are opened and operated from any

location (including homes) and at any time (24 hours a day and 7 days a week) without any need to visit the banking hall. Also, with the insurance of FINTECH companies/banks by the Nigeria Deposit Insurance Corporation (NDIC), the older generation are gradually becoming customers of FINTECH companies/banks. Moreover, as at 2025, most FINTECH companies have acquired either microfinance bank or commercial bank licenses from the Central Bank of Nigeria, placing them at par with the conventional microfinance and commercial banks operating in the country. Consequently, the conventional microfinance and commercial banks whose businesses got threatened by the sophisticated technology employed by the FINTECH banks made efforts to upgrade their technological facilities and improve their service delivery to customers (Duh & Uford, 2019).

The Nexus between Artificial Intelligence and Financial Technology

AI has been incorporated into the operations of FINTECH companies/banks to streamline operations, render round-the-clock financial services and ensure efficiency. The core areas of FINTECH companies' operation that involve the use of AI include Robotic Process Automation, AI-powered Chatbots and Virtual Assistants as well as AI Credit Scoring.

- i. Robotic Process Automation: This involves the use of intelligent automation technologies to execute repetitive office tasks that should have been handled by human workers.
- ii. AI-powered Chatbots and Virtual Assistants: Chatbots are computer software that can have conversations with customers, helping them to address their complaints without delay. However, if the complaint is more complicated, the chatbot involved redirects such query to a human customer care agent.
- iii. AI Credit Scoring: This measures how well a customer can pay and is willing to off debt without demanding for documents or filling of forms by the customer.

Theoretical Framework

This article is backed by both theory of financial intermediation and theory of technological dominance.

Theory of Financial Intermediation

The theory of financial intermediation was propounded by John Gurley and Edward Shaw in 1960 in recognition of the role played by financial institutions in channeling savings of customers to productive sectors that require the funds for their economic activities. Thus, the theory explains the mobilization of funds from savers (surplus unit) to borrowers (deficit unit) who intend to put the funds in productive ventures.

With the emergence of FINTECH, financial intermediation has taken an improved dimension as technology is used in delivering financial services round-the-clock even without physical human contact. Thus, the ease and convenience it guarantees in accessing financial services has made customers, especially the younger generation, to prefer FINTECH institutions to conventional banks. In Nigeria, aside the fact that FINTECH banks do not impose charges on customers using some financial services including fund transfer, they provide incentives for savings as well as speedy loan processing and disbursement without collateral but based on credit score executed via artificial intelligence. Thus, everyone with a smartphone and access to internet have access to financial services and are encouraged to save their money, while creditworthy persons and institutions can access credit facilities without delay.

Theory of Technological Dominance

This theory explains the impact of technology on organisations and the society. The theory further affirms the influence of technology on organizational behaviour and decision-making as the employment of technology would facilitate data-driven processes and decision-making. The use of technology in other fields of life, such as science, medicine, engineering, education, agriculture and production, has changed the way things are done and the results gotten. Similarly, in finance, the application of technology has redefine the process and the outcome. The infusion of technology into finance, termed “financial technology” has changed the method of financial services delivery, making it better, more accessible and faster.

Empirical Review

Very little has been done in the area of AI and FINTECH. However, this empirical study draws from related literature to enrich its contents.

Alemu (2024) assessed the relationship between financial technology, artificial intelligence, information and communication technology, institutional quality and financial sector development in thirty (30) countries of the world from 2016 to 2023. The study used System Generalized Method of Moments as the technique of analysis. The results of the analysis indicated that financial technology, artificial intelligence, information and communication technology and institutional quality have a positive effect on financial sector development. Thus, the study recommended that stakeholders should invest significantly in FINTECH startups and machine learning model developers by establishing innovation hub, expanding ICT infrastructure and strengthening the regulatory framework in order to further improve the development of the financial sector.

Kilaru (2024) explored the impact of AI on the FINTECH World using qualitative research approach. From the study conducted, the author drew inferences that the incorporation of artificial intelligence into FINTECH operations will keep evolving, enhancing efficiency, accuracy and customer experiences. As the study identified the challenge of data security, it recommended the employment of vigorous cyber-security measures to protect sensitive data. Also, the study proposed regular security audit of FINTECH companies to ensure compliance with industry standards regarding data security.

Qatawneh, Lutfi and Barrak (2024) studied the mediating effect of FINTECH on the relationship between AI (comprising machine learning algorithms, computer vision, predictive analytics, robotic process automation, blockchain technology and deep learning) and financial decision-making in Jordan. Primary data were sourced from Jordan banking sector with the use of questionnaire and analysed using AMOS. The results of the analysis showed that FINTECH significantly mediates between AI applications and financial decision-making.

Using qualitative research method, Siau, Nah, Qian, Eschenbrenner and Chen (2022) assessed the application of AI in FINTECH industry. The study advocated a Value-Focused Thinking approach to identify actionable objectives for delivering value from AI in the FINTECH industry. Similarly, Lam (2025) evaluated AI applications in FINTECH using qualitative method. The study affirmed that the integration of AI in FINTECH brought transformation into the finance industry; adding that the application of AI in FINTECH has revolutionised the global financial services, banking and insurance industry.

Jain, Panda, Durgude and Ramya (2023) examined the role of artificial intelligence in effective operations of financial technology using primary data collected from 193 respondents using questionnaire. The study reported that with the use of AI, FINTECH institutions are able to execute various routine tasks rapidly and efficiently. Thus, it was concluded that the use of AI in FINTECH operations promotes financial inclusion.

Hidayat, Defitri, and Hilman (2024) studied the impact of artificial intelligence (AI) on financial management by systematically reviewing extant literature on AI and financial management. The study found that AI brought a lot of good to FINTECH in the areas of increased operational efficiency, accurate predictive analysis and decision-making, improved customer experience and better risk management. However, the study outlined the disadvantages of using AI in FINTECH to include ethics and data security challenges, regulatory issues and high cost of implementation. It was concluded that the use of AI in FINTECH brings change and opens the door to a new world of corporate financial practice.

Kou and Lu (2025) assessed the application of emerging technologies in finance. The emerging technologies considered in the study includes AI, machine learning, blockchain, augmented reality/virtual reality and quantum mechanics. The authors relied on literature review for their findings. Thus, it was found that technology-oriented financing has emerged as an essential trajectory for shaping the future of finance.

Bahoo, Cucculelli, Goga & Mondolo (2024) carried out a comprehensive review of existing literature on AI in finance with the view of providing a comprehensive overview of the existing research on the topic and identify the research directions that needs further studies. The study reviewed articles published between 1992 and 2021 and it was revealed that the areas of application of AI in finance include predictive/forecasting systems; detection, classification and issuance of early warnings; as well as big data mining and analytics. Moreover, the study suggested that further research should seek to address some unanswered questions and improve peoples' understanding of the impact of recent disruptive technologies on finance.

Mukthar, Chaulan, Al-Absy, Kumar, Gupta and Gokilavani (2025) undertook a bibliometric analysis of research papers on AI and FINTECH. The analysis concentrated on papers published in Scopus from 2016 to 2023 and the R programming language was employed for the analysis. The findings showed a remarkable increase in research on AI and FINTECH and indicated the pattern and areas of concentration. Thus, in conclusion, the bibliometric study provided a good resource for researchers as well as practitioners by making available a comprehensive overview of the state of research in AI and FINTECH.

Gap in Literature

None of the studies reviewed considered Robotic Process Automation, AI-powered Chatbots and Virtual Assistants and AI Credit Scoring as measures of artificial intelligence in the business of FINTECH companies/banks. Also, there is dearth of empirical literature on the influence of AI on FINTECH companies' financial services delivery. As such, this study fills the gap in knowledge.

METHODOLOGY

This study employed a survey research design. The primary data used were sourced from 600 respondents across Nigeria using questionnaire structured in-line with 5-point Likert scale. The sample of 600 respondents were drawn from the population of Nigeria that have obtained at least a Higher National Diploma (HND) as at the time of conducting this study, as that level of education was required for genuine and informed responses. The questionnaires were administered electronically using Google Forms. The data collected were analysed using both Percentage and Ordinary Least Square techniques. The model for the study was specified as follows:

$$\text{FINTECHFSD} = f(\text{RPA}, \text{AICBVA}, \text{AICS}) \quad - \quad - \quad - \quad - \quad - \quad -$$

(i)

$$\text{FINTECHFSD} = a_0 + a_1\text{RPA} + a_2\text{AICBVA} + a_3\text{AICS} + e \quad - \quad - \quad - \quad -$$

(ii)

Where:

FINTECHFSD = Financial Technology Companies' Financial Services Delivery

RPA = Robotic Process Automation

AICBVA = AI-powered Chatbots and Virtual Assistants

AICS = AI Credit Scoring

a_0 – Constant

$a_1 - a_3$ = Regression Coefficients

e = Error Term

FINTECHFSD is the dependent variable while RPA, AICBVA and AICS are the independent variables.

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

Data Presentation and Analysis

Demographic Data

Table 1: Respondents' Gender

Gender	No. of Respondents	Percentage
Male	402	67%
Female	198	33%
Total	600	100%

Source: Field Survey, 2025

Table 1 shows that 400 respondents representing 67 percent of the total respondents were male while 200 respondents representing 33 percent were female.

Table 2: Respondents' Age Bracket

Age Bracket	No. of Respondents	Percentage
15 – 24 years	0	0%
25 – 39 years	402	67%
40 – 59 years	198	33%
60 years and above	0	0%
Total	600	100%

Source: Field Survey, 2025

Table 2 indicated that 67 percent of the respondents fall within the age of 25 and 39 years, whereas 33 percent of the respondents fall within the age of 40 and 59 years. The result pointed to the fact that people with the knowledge of artificial intelligence and financial technology that actively participated in the study fall within the age of 25 and 59 years.

Table 3: Respondents' Marital Status

Marital Status	No. of Respondents	Percentage
Single	102	17%
Married	498	83%
Divorced	0	0%
Widowed	0	0%
Total	600	100%

Source: Field Survey, 2025

The statistics presented in Table 3 indicates that 17 percent of the respondents (102 respondents) were single while 83 percent of the respondents (498 respondents) were married. Furthermore, no divorced or widowed person participated in the research survey.

Table 4: Respondents' Highest Educational Qualification

Educational Qualification	No. of Respondents	Percentage
HND/BSc	102	17%
Master's	198	33%
Doctorate	300	50%
Total	600	100%

Source: Field Survey, 2025

Table 4 indicates that 17% of the respondents were holders of either Higher National Diploma (HND) or Bachelor's degree; 33 percent were master's degree holders; and 50 percent were doctorate degree holders. Thus, with the level of education of the respondents, they had the capacity to give reliable responses.

Table 5: Respondents' Employment Status

Educational Qualification	No. of Respondents	Percentage
Employed	480	80%
Self-employed	120	20%
Unemployed	0	0%
Total	600	100%

Source: Field Survey, 2025

The data presented in Table 5 shows that 80 percent of the respondents were employed while 20 percent were self-employed. Thus, no unemployed person took part in the survey.

Table 6: Respondents' Major Ethnic Group

Educational Qualification	No. of Respondents	Percentage
Hausa/Fulani	102	17%
Igbo	198	33%
Yoruba	300	50%
Total	600	100%

Source: Field Survey, 2025

Table 6 indicates that 17 percent of the respondents were from Hausa/Fulani; 33 percent were from Igbo; and 50 percent were from Yoruba. Thus, the three major ethnic groups in Nigeria were represented in this study.

Preliminary Information

Table 7: Respondents' Awareness/Use of FINTECH Services

S/N	Questions	Answers from Respondents					
		"Yes"		"No"		Total	
		No.	%	No.	%	No.	%
1.	Do you have an account with any of the FINTECH companies/banks in Nigeria? (Examples of FINTECH companies in Nigeria include Opay, FairMoney, Moniepoint, etc.)	498	83%	102	17%	600	100%

2.	Are you aware that FINTECH companies/banks are licensed by Central Bank of Nigeria (CBN) and insured by Nigeria Deposit Insurance Corporation (NDIC)?	600	100%	0	0%	600	100%		
3.	Are you aware that FINTECH companies have acquired either microfinance or commercial bank licenses?	498	83%	102	17%	600	100%		
		One		Two		Three and Above		None	
		No.	%	No.	%	No.	%	No.	%
4.	How many FINTECH companies do you have account with?	0	0%	102	17 %	396	66%	102	17%

Source: Field Survey 2025

Table 7 shows that 83 percent of the people that participated in this study had account(s) with FINTECH companies/banks. This implies that it is only 17 percent of the respondents that did not have bank account(s) with FINTECH companies. Also, the result of the survey shows that 100 percent of the respondents were aware that FINTECH companies/banks are licensed by CBN and insured by NDIC. The statistics further indicates that 83 percent of the respondents were aware that some FINTECH companies acquired either microfinance or commercial bank licenses, while 17 percent of the respondents were not aware. Lastly, the answers to question number 4 indicated that 17 percent of the respondents had account with two FINTECH companies; 66% had account with either three or more than three FINTECH companies; 17 percent had no account with FINTECH companies; and no respondent had only one account with FINTECH bank.

The Use of Artificial Intelligence by FINTECH Companies for Service Delivery

Research Question 1: What is the influence of Robotic Process Automation on financial services delivery of FINTECH companies in Nigeria?

Table 8: Responses of Respondents on the Influence of Robotic Process Automation (RPA) on FINTECH Companies' Services Delivery

S/N	Items	Responses					% of A & SA
		SA	A	N	D	SD	
1.	With FINTECH companies, account can be opened for new customers at any time and any day (24/7) online.	600	0	0	0	0	100%
2.	Customers of FINTECH companies can make payments/transfers, at any time, smoothly and faster online.	600	0	0	0	0	100%
3.	In the process of fund transfer, if the network strength of the recipient bank is poor, FINTECH apps do warn customers in order to avoid transaction failure.	498	102	0	0	0	100%

4.	Customers of FINTECH companies can apply for loan online at any time and any day and receive the money, if approved, in their account without delay or visiting the banking hall.	498	102	0	0	0	100%
5.	At the point of effecting a fund transfer through the app, FINTECH companies' customers are advised to recheck the account details of the beneficiary, especially, where large amount of money is involved, before authorizing the payment.	498	102	0	0	0	100%
Average		539	61	0	0	0	100%
Agreement = 100%							
SD = Strongly Disagree; D = Disagree; N = Neutral; A = Agree; SA = Strongly Agree							

Source: Field Survey 2025

The result of the study in Table 8 shows that 100 percent of the respondents agreed with the fact that the use of Robotic Process Automation influences FINTECH companies' services delivery positively; thus, answering research questions 1 appropriately. The result points to the fact that no respondent either remain neutral or disagreed with the fact.

Research Question 2: What is the influence of AI-Powered Chatbots and Virtual Assistants on financial services delivery of FINTECH companies in Nigeria?

Table 9: Responses of Respondents about the Influence of AI-Powered Chatbots and Virtual Assistants on Financial Services Delivery of FINTECH Companies

S/N	Items	Responses					% of A & SA
		SA	A	N	D	SD	
1.	As a customer of any of the FINTECH companies, you can call the customer care line to report issues at any time and any day and you are attended to.	300	198	0	102	0	83%
2.	If you have any question to ask as a customer, you can chat with the customer support agent 24/7 and get answers.	198	300	0	102	0	83%
3.	Customers can use WhatsApp to communicate with FINTECH AI virtual assistants and get their issues resolves promptly.	198	198	102	102	0	66%
4.	The resolution of financial/banking issues using AI customer service agent/virtual	300	198	0	102	0	83%

	assistant is seamless, faster and paperless.						
5.	If the complaint or request of a customer is beyond the capacity of the AI customer service agent, it redirects the query to a human customer service agent.	402	102	96	0	0	84%
Average		280	199	40	81	0	80%
Agreement = 80%							
SD = Strongly Disagree; D = Disagree; N = Neutral; A = Agree; SA = Strongly Agree							

Source: Field Survey 2025

Table 9 indicates that 80 percent of the 600 respondents agreed that AI-Powered Chatbots and Virtual Assistants have a positive influence financial services delivery of FINTECH companies. This implies that 20 percent of the respondents either remain neutral disagreed with the statement.

Research Question 3: What is the influence of AI Credit Scoring on financial services delivery of FINTECH companies in Nigeria?

Table 10: Responses of Respondents about the Influence of AI Credit Scoring on Financial Services Delivery of FINTECH Companies

S/N	Items	Responses					% of A & SA
		SA	A	N	D	SD	
1.	AI Credit Scoring evaluates how well a bank's customer can pay and is willing to pay off debt without demanding for documents or filling of forms by the customer.	198	300	0	102	0	83%
2.	If a customer of a FINTECH company/bank consistently pays his/her debt on time, his/her credit score would increase, signaling a higher credit worthiness.	300	198	0	102	0	83%
3.	The use of AI Credit Scoring by FINTECH companies allows more economically active people with income potentials to access financial services/funding.	300	198	102	0	0	83%
4.	Since AI Credit Scoring is based on machine learning models, it continues to learn/adapt to customers' financial/loan repayment behaviour/pattern, thereby producing more accurate/reliable results.	300	198	102	0	0	83%

5.	The use of AI Credit Scoring makes FINTECH companies' loan decision-making faster and enhances quick loan disbursement to customers.	402	102	96	0	0	84%
Average		300	199	60	41	0	83%
Agreement = 83%							
SD = Strongly Disagree; D = Disagree; N = Neutral; A = Agree; SA = Strongly Agree							

Source: Field Survey 2025

The result in Table 10 indicates that 83 percent of the total respondents agreed to the existence of a positive influence of AI Credit Scoring on FINTECH companies' financial services delivery. Thus, implying that only 17 percent of the respondents either disagreed or remained neutral. This result perfectly answers research question 3.

Table 11: OLS Regression Result

Dependent variable: FINTECHFSD				
Included Observations: 600				
Variable	Coefficient	Std Error	t-Statistic	Prob.
RPA	1.202927	0.013431	89.56037	0.0000
AICBVA	0.093773	0.031779	2.950827	0.0033
AICS	0.121608	0.037936	3.205608	0.0014
The short-run regression dynamics are as follows: S.E. of regression = 0.259475 S.D. dependent var = 0.000000 Akaike info criterion = 0.144674 Schwarz criterion = 0.166658 Hannan-Quinn criter = 0.153232				

Source: Computed by Researcher using E-Views 10

The regression result presented in Table 11 shows that all the measures of Artificial Intelligence, including Robotic Process Automation, AI-powered Chatbots and Virtual Assistants as well as AI Credit Scoring have positive and significant effects on FINTECH companies' financial services delivery.

The standard error of the regression is small, approximately 26%, indicating more accuracy and reliability up to 74%, implying that the model is precise. The standard deviation of the dependent variable indicates that the data points are clustered around the regression line (no dispersion), implying more accurate predictions. Akaike Information Criterion of approximately 0.15, Schwarz criterion of approximately 0.17 and Hannan-Quinn criterion of 0.15 are very low signaling the high quality and fitness of the model to the data analysed.

Test of Hypotheses

Hypothesis 1

H₀: Robotic Process Automation has no significant positive influence on FINTECH companies' financial services delivery in Nigeria.

H₁: Robotic Process Automation has a significant positive influence on FINTECH companies' financial services delivery in Nigeria.

The result of the study showed that Robotic Process Automation has a significant positive effect on FINTECH companies' financial services delivery. Thus, the null hypothesis was rejected, whereas the alternative hypothesis was accepted.

Hypothesis 2

H₀: AI-powered Chatbots and Virtual Assistants have no significant positive influence on FINTECH companies' financial services delivery in Nigeria.

H₁: AI-powered Chatbots and Virtual Assistants have a significant positive influence on FINTECH companies' financial services delivery in Nigeria.

From the result, there is a positive and significant effect of AI-powered Chatbots and Virtual Assistants on FINTECH companies' financial services delivery in Nigeria. Therefore, the null hypothesis was rejected whereas the alternative hypothesis was accepted.

Hypothesis 3

H₀: AI Credit Scoring has no significant positive influence on FINTECH companies' financial services delivery in Nigeria.

H₁: AI Credit Scoring has a significant positive influence on FINTECH companies' financial services delivery in Nigeria.

As indicated by the result of the study, AI Credit Scoring has a significant positive effect on FINTECH companies' financial services delivery in Nigeria. As such, the null hypothesis was rejected, whereas the alternative hypothesis was accepted.

Discussion of Findings

The study found that Robotic Process Automation has a significant positive influence on FINTECH companies' financial services delivery. This implies that the use of AI to provide financial services round-the-clock without closing and opening hours has boosted financial services delivery in Nigeria. The findings of the study also revealed that AI-powered Chatbots and Virtual Assistants has a positive and significant influence on FINTECH companies' financial services delivery. This implies that customers' complaints are attended to promptly and seamlessly irrespective of the time, signaling a positive development in the financial services industry. More so, the result of the study showed that AI Credit Scoring exerts a significant positive influence on FINTECH companies' financial services delivery. It means that AI Credit Scoring provides a seamless and more realistic credit rating taking into consideration past records of borrowing and repayments as well as the level of income.

On the whole, Artificial Intelligence (measured with Robotic Process Automation, AI-powered Chatbots and Virtual Assistants and AI Credit Scoring) has a positive and significant influence on FINTECH companies' financial services delivery. Though no other empirical study reviewed employed these measures, Jain, Panda, Durgude and Ramya (2023) found that with the use of AI, FINTECH companies can carry-out their jobs efficiently and speedily.

1. Conclusion and Recommendations

In conclusion, Artificial Intelligence has positively and significantly influenced FINTECH companies' financial services delivery in Nigeria. Hence, the following recommendations were necessary:

- i. The application of Robotic Process Automation in FINTECH should be sustained and the conventional banks should also employ such technology to improve their financial services delivery.

- ii. AI-powered Chatbots and Virtual Assistants should be upgraded to handle complex customers' complaints logically and accurately without frequent recourse to human customer agents.
- iii. The AI Credit Scoring should be programmed to store and upgrade customers' credit rating continuously. This would make it possible for old customers who complied duly in repayment of their previous loans, but have not taken another loan for a while, not to start from the lowest level of consideration whenever they are ready to request for another loan.

The study contributed to knowledge as follows:

- i. The variables employed in this empirical study to ensure reliable and realistic results have not been used in previous studies; thus portraying novelty and addition to the body of knowledge. The independent variables employed in this study include Robotic Process Automation, AI-powered Chatbots and Virtual Assistants, as well as AI Credit Scoring, while the independent variable is FINTECH companies' Financial Services Delivery.
- ii. Also, this study provides an empirical literature on the influence of AI on FINTECH companies' services delivery.

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