Application of Artificial Intelligence on Customer Satisfaction and Loyalty Among Deposit Money Banks in Ondo State

Durotimi Amos Dada [1], Adeboye Akanni Akinwunmi [2], & Charles Ayodeji Ojo [1]

[1] Department of Business Administration, Achievers University, Owo, Ondo State.

[2] Department of Finance, Achievers University, Ondo State.

Correspondence email: durodada83@gmail.com

Abstract: *This study examines the application of Artificial Intelligence (AI) in enhancing customer satisfaction and loyalty among customers of Deposit Money Banks (DMBs) in Ondo State, Nigeria. Specifically, it investigates the influence of key AI technologies chatbots, virtual assistants, and predictive analytics on customer satisfaction, and subsequently, the effect of satisfaction on customer loyalty. The research adopts a descriptive survey design, which is appropriate for gathering quantitative data from a broad population. A stratified random sampling technique was employed to select 1428 bank customers across various demographic groups, ensuring comprehensive representation in Ondo State, Nigeria. Data were collected using structured online questionnaires and analysed using relevant statistical techniques. The findings reveal that the deployment of AI tools, particularly chatbots, virtual assistants, and predictive analytics, significantly enhances customer satisfaction. Furthermore, a strong positive relationship was observed between customer satisfaction and customer loyalty. The study concludes that AI applications are effective tools for improving customer experience and loyalty in the banking sector. It recommends that DMBs in Ondo State, Nigeria should increase their investment in AI technologies and promote their strategic use to foster stronger customer relationships and competitive advantage.*

Keywords: artificial intelligence, chatbots, customer satisfaction, customer loyalty, virtual assistants, predictive analytics, deposit money banks.

INTRODUCTION

Artificial Intelligence (AI) has emerged as a transformative force in modern banking, fundamentally reshaping the delivery of financial services worldwide. In an era where digital transformation dictates competitive advantage, the integration of AI into banking operations is no longer optional but essential for operational efficiency, innovation, and sustained customer engagement (Central Bank of Nigeria (CBN), 2022). AI involves the simulation of human intelligence by machines, enabling them to perform tasks such as reasoning, learning, decision-making, and problem-solving with precision and minimal human intervention. As a data-driven tool, AI applications enhance accuracy and speed, making them valuable assets in sectors where responsiveness and personalisation are crucial especially in banking (Adeleke & Afolabi, 2021). Globally, AI technologies such as chatbots, virtual assistants, and predictive analytics are being deployed in banking to automate services, personalize customer interactions, detect fraud, and optimize decision-making. These tools improve customer experience by providing real-time responses, reducing human error, and ensuring uninterrupted service delivery. Lazo and Ebardo (2023) emphasized the evolving role of AI in streamlining financial operations and redefining traditional banking models through intelligent automation and data insights. The rise of self-learning systems and algorithm-driven decision frameworks is enabling banks to shift from reactive to proactive service models, enhancing both operational agility and customer satisfaction. Historically, the conceptual foundation of AI dates back to 1956 with the pioneering work of John McCarthy and colleagues, who proposed the possibility of machines performing tasks that require human intelligence (Shalet & Thangam, 2023). Today, AI is revolutionizing how banks interact with customers, manage data, and deliver services. The benefits of AI in banking are numerous—it reduces operational costs, boosts service accuracy, strengthens risk management, and fosters tailored customer experiences. However, these advantages come with challenges, including concerns over data privacy, ethical use of AI, integration complexity, and varying levels of digital literacy among customers.

In the Nigerian banking sector, Deposit Money Banks (DMBs) are gradually embracing AI-driven solutions to respond to rising customer expectations and enhance competitiveness. Yet, the extent to which these technologies contribute to customer satisfaction and loyalty especially in subnational contexts like Ondo State remains underexplored. Despite widespread AI adoption, many banks lack clear frameworks to evaluate the customer-centric outcomes of these tools, often implementing them without robust assessment of their effectiveness in strengthening long-term customer relationships.

This study seeks to bridge that gap by empirically examining the impact of AI applications specifically chatbots, virtual assistants, and predictive analytics on customer satisfaction and loyalty in selected DMBs operating in Ondo State. The objectives of the study are to:
i. examine the impact of chatbot usage, virtual assistants, and predictive analytics on customer satisfaction among DMBs in Ondo State, Nigeria; and

Publication of the European Centre for Research Training and Development -UK

ii. assess the mediating effect of customer satisfaction on the relationship between AI utilization and customer loyalty among DMBs in Ondo State.

To address these objectives, the study formulated research questions and hypotheses aligned with the key constructs of AI application, satisfaction, and loyalty.The focus on First Bank and Wema Bank as case studies provides a comparative perspective: First Bank, a long-established institution with a broad customer base, contrasts with Wema Bank, a regionally strong but relatively younger bank known for its digital banking innovations. This selection allows for a richer understanding of AI effectiveness across different customer segments and institutional capacities.

Finally, the choice of Ondo State as the geographical scope is both practical and relevant, given the researcher's residence and familiarity with the local banking environment. The study contributes to the growing body of knowledge on AI in developing economies, offering actionable insights for bank managers, policymakers, and technology providers seeking to enhance customer engagement through intelligent banking solutions.

LITERATURE REVIEW

Customer Satisfaction in the Age of Artificial Intelligence

Customer satisfaction has become a critical benchmark for evaluating service quality and competitiveness in the modern banking industry. It refers to the degree to which customers' expectations of a product or service are met or exceeded. Kotler (2011) defines customer satisfaction as a person's feeling of pleasure or disappointment resulting from comparing a product's perceived performance with expectations. In today's dynamic financial landscape, characterized by rapid technological advancements and evolving customer expectations, customer satisfaction is not only a measure of service quality but a strategic imperative for sustaining customer relationships and institutional performance (Adeleke & Afolabi, 2021).

Artificial Intelligence (AI) is increasingly influencing the way banks interact with customers, offering advanced tools to enhance customer satisfaction through improved service speed, personalization, and security. The use of AI technologies such as chatbots, virtual assistants, and predictive analytics enables banks to deliver more efficient and responsive services. These technologies help reduce wait times, automate responses to routine queries, and ensure customers have real-time access to banking services and information (Patil & Dhamdhere, 2022). Raza and Hanif (2021) affirm that AI has significantly improved the customer journey in banking by creating seamless experiences that boost satisfaction and encourage repeat usage.

AI also plays a crucial role in personalizing the customer experience. Through the analysis of customer behavior, transaction history, and preferences, banks can tailor recommendations and financial products that match individual customer profiles. This targeted approach not only enhances customer engagement but also builds stronger emotional connections between the

customer and the bank (Deepthi et al., 2022). Personalization makes customers feel recognized and valued, which is a key determinant of their satisfaction and long-term loyalty.

In addition to personalization, AI significantly contributes to strengthening banking security, a fundamental element of customer satisfaction. Advanced AI-powered fraud detection systems continuously monitor transactions and detect irregularities in real time, thereby reducing the risk of unauthorized access and financial losses. The ability of AI to provide proactive security measures instills trust in customers and enhances their confidence in digital banking services (Sheth et al., 2022). In an era where data breaches and cyber threats are prevalent, AI's role in safeguarding customer data has become a critical differentiator for banks striving to maintain high satisfaction levels.

Customer Referrals as an Indicator of Satisfaction
Customer referrals serve as a practical and measurable indicator of customer satisfaction. A referral occurs when satisfied customers voluntarily recommend a bank's services or products to their peers, often driven by positive experiences. According to Luo and Zhang (2020), referrals reflect a customer's willingness to endorse a brand based on the perceived value and service quality received. In banking, referral behavior is a signal of trust and satisfaction, often translating into new customer acquisition and organic brand growth. Encouraging referrals through loyalty programs and customer engagement initiatives can further reinforce satisfaction and extend brand reach.

Customer Loyalty and Artificial Intelligence
Customer loyalty, defined as a customer's consistent preference for a brand over competitors, is essential for ensuring long-term profitability in the banking sector. Loyal customers are more likely to purchase additional products, refer others, and remain committed to the bank even in the face of competitive alternatives. AI is proving to be a powerful enabler of customer loyalty by offering tailored experiences, enhancing trust through secure transactions, and streamlining service delivery (Sheth et al., 2022).

One of the key ways AI fosters loyalty is through personalization. AI-powered tools analyze large volumes of customer data to provide insights into spending behavior, saving habits, and financial goals. This enables banks to proactively offer products such as loans, insurance, and investment options that align with individual needs (Raza & Hanif, 2021). When customers perceive that their financial institution understands and anticipates their needs, their emotional attachment and commitment to the brand increase.

AI also enhances customer loyalty by ensuring transaction security one of the top concerns in digital banking. Real-time fraud monitoring and anomaly detection systems reassure customers that their financial data and assets are protected, which strengthens trust and long-term relationships (Deepthi et al., 2022). In a digital-first environment, secure platforms are not just a regulatory necessity but a value proposition that can influence retention and customer loyalty.

Moreover, the use of AI-driven chatbots and virtual assistants significantly improves the responsiveness and accessibility of banking services. These tools provide 24/7 support, address common inquiries, and resolve issues without the need for human intervention. According to Olayinka and Adewuyi (2021), customers value the speed and convenience of chatbot-enabled services, which positively impacts their satisfaction and willingness to continue using the bank's services. As AI continues to evolve, its potential to deliver hyper-personalized, secure, and efficient customer experiences will become increasingly critical in driving loyalty and competitive differentiation in the banking industry.
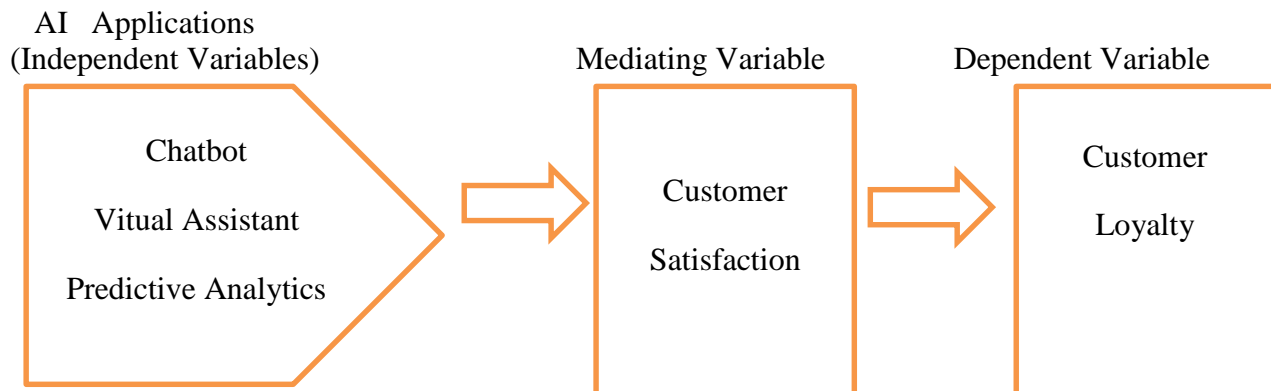
AI Applications
(Independent Variables)   Mediating Variable   Dependent Variable

Chatbot
Vitual Assistant
Predictive Analytics   Customer Satisfaction   Customer Loyalty

Figure 1: Conceptual Framework

Theoretical Review

Technology Acceptance Model (TAM)
The Technology Acceptance Model (TAM), developed by Davis (1989), is one of the most influential theories used to explain the adoption of information technology. The model posits that two primary beliefs Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) predict an individual's intention to use a technology. *Perceived usefulness* refers to the degree to which a user believes that a technology will enhance their performance, while *perceived ease of use* refers to the degree to which using the technology is free from effort.

In the context of this study, TAM is highly relevant to understanding customer behavior toward artificial intelligence (AI) applications in the banking sector. AI tools such as chatbots, virtual assistants, and predictive analytics must be perceived as both useful and user-friendly by customers to drive adoption and positive user experience. When customers perceive AI services as enhancing the speed, accuracy, and convenience of banking operations and if they are easy to interact with they are more likely to accept and use them (Davis, 1989).

This model offers a valuable framework for examining how AI implementation influences customer satisfaction and loyalty. If AI services provided by Deposit Money Banks (DMBs) in

Ondo State are seen as effective and easy to navigate, this would positively affect user satisfaction. Higher satisfaction, in turn, can foster long-term customer loyalty, making TAM a foundational theory for interpreting the dynamics between AI utilization, customer perceptions, and loyalty behavior in this study.

Expectation-Confirmation Theory (ECT)

Expectation-Confirmation Theory (ECT), developed by Oliver (1980), explains customer satisfaction as a function of the gap between expectations and actual performance. The theory asserts that satisfaction occurs when the perceived performance of a product or service confirms or exceeds initial expectations (positive disconfirmation), while dissatisfaction results from performance falling short of expectations (negative disconfirmation). Satisfaction then influences post-purchase behavior, such as repurchase intentions and loyalty.

The ECT framework is especially relevant in evaluating how AI services meet or exceed customer expectations in banking. In this study, AI applications such as predictive analytics and AI-enabled virtual assistants are assessed based on the degree to which they align with customers' service expectations. For instance, if a bank customer expects fast and accurate service from a chatbot and that expectation is confirmed or surpassed during interaction, satisfaction is likely to result, strengthening customer trust and loyalty.

In the case of Deposit Money Banks in Ondo State, this theory provides a lens to assess how the delivery of AI-based services influences customer satisfaction and, ultimately, their loyalty to the bank. If AI tools consistently meet customer expectations regarding responsiveness, security, and personalized banking, it enhances their likelihood of remaining loyal to the bank. Thus, ECT offers a critical theoretical foundation for linking AI service performance to customer satisfaction and retention.

This study leverages TAM to explore how the perceived usefulness and ease of AI applications affect customer satisfaction, while ECT is applied to understand how the confirmation of service expectations through AI tools contributes to customer loyalty. Both theories jointly offer a comprehensive explanation of how technology-driven experiences influence customer perceptions, satisfaction, and behavioral intentions in the Nigerian banking landscape.

Empirical Review

Ayinaddis, Taye and Yirsaw (2023) examine the relationship between electronic banking service quality, customer satisfaction, and loyalty in Ethiopia's banking sector. Their research confirms that responsiveness, reliability, security, privacy and speed significantly affect customer satisfaction and loyalty. This study highlights the transformative potential of AI in electronic banking, emphasizing the need for banks to focus on key service quality factors to maximize customer satisfaction and loyalty.

Patil and Dhamdhere (2022) investigated AI-driven voice-based systems in banking and the use of chatbots for personalized customer service. Their study highlighted that AI applications can

improve operational efficiency and customer engagement, though challenges like data security and customer trust must be addressed for successful implementation in emerging markets like Nigeria. Sheth et al. (2022) conducted research on AI in banking services, finding that AI-mediated customer interactions, such as personalized recommendations, increased customer satisfaction in emerging markets. They emphasized that effective AI integration requires balancing human intervention with AI automation, especially in regions with specific infrastructure limitations.

Raza and Hanif (2021) examined the impact of AI on customer loyalty in the banking sector through automated service responses, revealing that improved responsiveness and personalized recommendations significantly enhanced customer retention and satisfaction levels. The study further showed a positive relationship between AI-driven customer support and loyalty. Deepthi et al. (2022) explored how AI adoption influences customer satisfaction by gathering perspectives from employees in Indian financial institutions. The study found that despite challenges in AI adoption rates, AI-powered applications substantially improved customer satisfaction by streamlining service processes and minimizing costs.

 Olayinka and Adewuyi (2021) focused on the Nigerian banking sector, analyzing the impact of AI-driven technology on customer satisfaction. Their findings indicate that AI-enhanced service delivery, such as through fintech applications, improved transaction efficiency and customer experience, thus fostering higher satisfaction and loyalty.Ansari (2018) examined barriers and benefits of AI in banking, particularly in developing countries. Their study pointed out that customer satisfaction relies heavily on banks' ability to address concerns like data security and reliability in AI systems. The study concluded that overcoming these barriers is key to fostering customer trust and loyalty in digital banking contexts.

METHODOLOGY

This study employed a descriptive survey research design, which is appropriate for systematically gathering data from a defined population to describe and interpret current conditions, attitudes, and practices. The design facilitated the collection of quantitative data from a cross-section of customers of Deposit Money Banks (DMBs) in Ondo State, allowing the researcher to investigate the impact of Artificial Intelligence (AI) applications on customer satisfaction and loyalty.

The target population for this study comprised all customers of DMBs operating in Ondo State who actively utilize banking services, particularly those engaging with AI-powered platforms such as chatbots, virtual assistants, and predictive analytics tools. Due to the unavailability of a comprehensive database on the total number of bank customers in the state, the study adopted a statistical approach to determine a representative sample size.

Given the indeterminate nature of the population, Cochran's formula (1977) for sample size determination was adopted. Based on the parameters, a sample size of 1,428 respondents was determined. A stratified random sampling technique was employed to ensure representatives across different banks, age groups, and digital literacy levels. This approach increased the generalizability and validity of the findings. A structured questionnaire was the primary instrument for data collection. The questionnaire consisted of closed-ended items measured on a five-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree *(5)*. The instrument was designed to capture three major constructs: AI applications (Chatbots, Virtual Assistants, Predictive Analytics), Customer Satisfaction, Customer Loyalty.

The questionnaire was reviewed for content validity by academic experts in information systems and marketing, and a pilot test was conducted to assess reliability. The reliability coefficient (Cronbach's alpha) for each construct was above 0.70, indicating acceptable internal consistency. Data were collected electronically via online surveys distributed through emails and social media platforms to customers of selected banks. The data collection spanned four weeks to ensure adequate response rates.

The study employed both descriptive and inferential statistical techniques for data analysis, using SPSS version 25.0. Descriptive statistics (means, standard deviations, frequencies, and percentages) were used to summarize respondents' demographic characteristics and overall responses.Inferential analysis involved was the use of pearson correlation to assess the relationships between AI applications and customer satisfaction; Univariate Ordinary Least Squares (OLS) regression to test the impact of AI features on customer satisfaction and the mediating role of satisfaction on loyalty.

Two regression models were formulated:
Model 1: Examining the influence of Chatbots, Virtual Assistants, and Predictive Analytics on

Customer Satisfaction.
Model 2: Assessing the mediating effect of Customer Satisfaction on the relationship between AI utilization and Customer Loyalty.

The significance level was set at $p < 0.05$ for all hypotheses tests.
Model one
This expresses customer satisfaction as a function of AI tools
$$CS = f (AI\ tools) \tag{1}$$
$$CS = f(CB,\ VA, PA) \tag{2}$$
$$CS= \gamma_0+\gamma_1 CB+\gamma_2\ VA +\gamma_3 PA+\nu \tag{3}$$
Where:
CS = Customer Satisfaction

γ_0: Constant term

CB = Chatbots

VA= Virtual Assistant

PA = Predictive Analytics

$\gamma1, \gamma2, \gamma3$ are regression parameters that measure the impacts of AI tools (chabots, virtual assistant and predictive analytics) on customer satisfaction.
ν = Error term
A-priori Expectation
The effect of AI is expected to have a positive effect on customer satisfaction in money deposit banks in Ondo State. This is mathematically stated as: $\gamma1 > 0$, $\gamma2$ and $\gamma3 < 0$.

Model 2
This measures the impact of customer satisfaction on customer loyalty. The model is specified as follow:
$$CS = \gamma0 + \gamma1CB + +\nu \qquad\qquad (5)$$
Where:
CL = Customer Loyalty

$\gamma0$: Constant term

CS = Customer Satisfaction

$\gamma1$, is regression parameter that measures the impacts of customer satisfaction on customer loyalty.
ν = Error term

DATA PRESENTATION AND ANALYSIS

Data Presentation
This section contains the analysis of the responses of the interviewees to the research questions. A total of 1428 questionnaire were retrieved through online distribution among various customers of DMBs. The data collected were summarized using descriptive statistics (Mean and standard deviation) while regression analysis was use to answer research questions and test hypotheses.

Regression Analysis (Model One)

Table 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.932ª	.869	.867	.44598
a. Predictors: (Constant), Chatbot, Virtual Assistant, Predictive Analytics				

Table 6 shows the R-Square of the model. The R-Square (0.869) shows that 86.9 percent variation in customer satisfaction explained by AI variables (Chatbot, Virtual Assistant, Predictive Analytics) while the remaining 13.1 Percent is variation due to other factors affecting customer satisfaction that were omitted in the model.

Table 2: Regression Coefficients (Model One)

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.083	.092		.909	.364
	Chatbot	2.041	.858	2.036	2.378	.041
	Virtual Assistant	1.033	.056	.981	18.363	.000
	Predictive Analytics	.129	.030	.126	4.300	.035
a. Dependent Variable: Customer Satisfaction						

The standardized beta coefficient of chatbot as shown in Table 7 (2.041) is positive, indicating that utilization of chatbot have positive effect on customer satisfaction among deposit money banks in Ondo. The standardized beta coefficient of virtual assistant in Table 7 is (0.981). This coefficient has positive sign. This shows that the use of virtual assistant affect customer satisfaction positively. The effect of Predictive Analytics is positive. This is indicated by standardize beta coefficient (0.126). This signifies that predictive analytics have negative effect on customer satisfaction among deposit money banks in Ondo.

Table 3: **Model Summary (Model Two)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.058ª	.535	.522	1.09982
a. Predictors: (Constant), Customer satisfaction				

Source: SPSS output, 2024

The R-Squared (0.535) shows that 53.5% variation in customer loyalty is attributed to customer satisfaction while the remaining 46.5% variation is due to other determinants of customer loyalty that were omitted in the model. Judging from the R-squared, the model has an overall goodness of fit since the value of R-Squared is greater than 50%.

Table 4: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	P-value
		B	Std. Error	Beta		
1	(Constant)	3.440	.420		8.191	.000
	Customer Satisfaction	.582	.099	.558	5.879	.041
a. Dependent Variable: Customer Loyalty						

Source: SPSS output, 2024

The standardized beta coefficient (0.558) shows that customer satisfaction has positive effect on customer loyalty among DMBs in Ondo State. This means that customer satisfaction leads to increase in customer loyalty.

DISCUSSION OF THE FINDINGS

This study examined the effect of Artificial Intelligence (AI) applications specifically chatbots, virtual assistants, and predictive analytics on customer satisfaction and loyalty among Deposit Money Banks (DMBs) in Ondo State, Nigeria. The findings reveal several important insights relevant to both academic theory and practical banking operations.

AI Chatbots and Customer Satisfaction
The analysis indicates that AI-powered chatbots have a statistically significant and positive effect on customer satisfaction. This suggests that chatbots, by enabling instant responses to customer inquiries, complaints, and service requests, contribute meaningfully to a more responsive and engaging customer experience. These findings align with the Technology Acceptance Model (TAM) proposed by Davis (1989), which emphasizes that perceived usefulness and ease of use are critical determinants of technology adoption and user satisfaction. Customers find chatbots both useful and easy to interact with, which encourages frequent usage and fosters satisfaction.

This finding corroborates the empirical results of Nwachukwu (2021), who found that AI tools significantly enhanced customer experience and satisfaction in the telecommunications industry in Port Harcourt. Therefore, the application of chatbots in banking can be seen as a transferable and scalable strategy for enhancing service quality in digitally transforming economies.

Virtual Assistants and Customer Satisfaction
The study also revealed that virtual assistants have a significant positive effect on customer satisfaction among DMBs in Ondo State. Virtual assistants provide customers with a user-friendly, real-time interface for accessing information, performing routine banking operations, and receiving support—often at lower operational costs for the banks.These findings are again consistent with TAM, as virtual assistants are perceived as intuitive and helpful technologies that facilitate task completion with minimal effort. The results support the broader argument that digital interaction tools contribute to higher customer satisfaction when designed to be accessible and

responsive. Similar to chatbot applications, this finding aligns with Nwachukwu's (2021) conclusion that AI adoption significantly improves customer experience in service industries.

Predictive Analytics and Customer Satisfaction

The findings further show that predictive analytics has a positive and statistically significant effect on customer satisfaction. Predictive analytics enables banks to analyze historical customer data, anticipate future needs, and deliver personalized products or services—such as targeted loan offers or savings plans at the right time.

This result reinforces the relevance of Expectation-Confirmation Theory (ECT) (Oliver, 1980), which posits that when customer expectations are met or exceeded through tailored service delivery, satisfaction increases. The ability of predictive analytics to anticipate preferences and streamline decision-making processes (in loan approvals) enhances perceived service quality, thereby boosting satisfaction.

The study's findings also resonate with earlier studies in AI and financial services (Deepthi et al., 2022; Raza & Hanif, 2021) that demonstrate how predictive capabilities create a proactive service culture, improving customer trust and satisfaction.

Customer Satisfaction and Customer Loyalty

Finally, the study found that customer satisfaction has a strong and significant positive effect on customer loyalty. Satisfied customers are more likely to remain with their current banks, recommend services to others, and increase their lifetime value to the bank through repeated usage of its products and services.This finding aligns with existing literature, which consistently shows that customer satisfaction is a key predictor of loyalty in service industries. It also supports the confirmation pathway of ECT, where satisfaction derived from fulfilled expectations leads to repeat patronage, positive word-of-mouth, and reduced switching behavior. The implication for bank managers is clear: investing in AI technologies that enhance satisfaction also serves as a strategic pathway to building long-term customer loyalty.

CONCLUSION AND RECOMMENDATIONS

This study investigated the application of Artificial Intelligence (AI) technologies and their influence on customer satisfaction and loyalty among Deposit Money Banks (DMBs) in Ondo State, Nigeria. Specifically, the study evaluated the individual effects of AI-powered tools chatbots, virtual assistants, and predictive analytics on customer satisfaction, and examined whether enhanced satisfaction translated into increased customer loyalty.

The findings revealed that all three AI applications examined have a statistically significant and positive effect on customer satisfaction. Furthermore, increased customer satisfaction was shown to significantly enhance customer loyalty, demonstrating the strategic value of AI in improving customer experience and retention. These results validate the Technology Acceptance Model

(TAM) and Expectation-Confirmation Theory (ECT), suggesting that when AI tools are perceived as useful and easy to use, and when they meet or exceed customer expectations, they lead to higher satisfaction and sustained loyalty.

In summary, the study concludes that AI applications are vital tools for advancing service delivery in the banking sector. The effective adoption of chatbots, virtual assistants, and predictive analytics not only improves operational efficiency but also builds stronger customer relationships, thereby fostering loyalty and long-term engagement. This implies that increased acceptance and strategic deployment of AI technologies can help banks exceed customer expectations and remain competitive in an increasingly digital and customer-driven financial landscape.In light of the study's findings and conclusion, the following actionable recommendations are proposed:

i. Deposit Money Banks in Ondo State should increase their investment in AI-powered chatbots to handle customer inquiries, complaints, and basic service needs more efficiently. In addition, banks should organize awareness campaigns and educational initiatives to familiarize customers with the use and benefits of chatbot technologies.
ii. Banks should expand the deployment of virtual assistants to provide 24/7 support and ensure real-time responsiveness. These tools should be integrated into multiple service channels, including mobile apps and websites, to facilitate seamless interactions and reduce customer service costs.
iii. To further enhance customer satisfaction, banks should invest in robust predictive analytics systems capable of analyzing customer data to anticipate preferences and needs. This will enable proactive service delivery, including faster loan processing, targeted marketing, and customized product recommendations.
iv. The management of DMBs should ensure regular maintenance, updates, and monitoring of AI systems to guarantee reliability, relevance, and efficiency. User feedback should be incorporated into the continuous improvement cycle to align AI performance with evolving customer expectations.
v. AI tools should be strategically integrated into the banks' broader customer relationship management systems to support data-driven decision-making and long-term customer engagement strategies.

By implementing these recommendations, Deposit Money Banks in Ondo State and potentially other regions can strengthen their competitive advantage, increase customer satisfaction, and foster sustainable loyalty in the digital banking era.

REFERENCES

Adeleke, A., & Afolabi, O. (2021). The impact of artificial intelligence on customer satisfaction in Nigerian banks. *Journal of Financial Innovation, 9*(2), 112–127.

Al-Shoteri, A. (2022). The role of methods and applications of artificial intelligence tools in the field of medicine to diagnose and discover various diseases. *Journal of Applied Data Science, 3*(1), 1–14.

Ansari, Z. (2018). Challenges and prospects of AI adoption in banking. *IPASJ International Journal of Information Technology, 4*(3). https://doi.org/10.2139/ssrn.2513479

Ayinaddis, S. G., Taye, B. A., & Yirsaw, B. G. (2023). Examining the effect of electronic banking service quality on customer satisfaction and loyalty: An implication for technological innovation. *Journal of Innovation and Entrepreneurship, 12*(1), 22. https://doi.org/10.1186/s13731-023-00299-4

Copeland, B. J. (2023). Artificial intelligence. *Journal of Business and Management (IOSR-JBM), 2*(5), 64–79.

Da Costa, R. L., Gupta, V., & Gonçalves, R. (2022). Artificial intelligence and cognitive computing in companies in Portugal: An outcome of partial least squares—structural equations modeling. *Mathematics, 10*(22), 4358. https://doi.org/10.3390/math10224358

Deepthi, M., & Victor, J. (2022). Employee perspectives on AI adoption and customer satisfaction in Indian banking. *AI & Society, 16*(1), 71–81.

Deepthi, M., Ranjitha, R., & Naveen, B. (2022). AI and customer satisfaction in Indian banks: A study on personalization and security. *Journal of Retail and Consumer Services, 65*, 102493. https://doi.org/10.1016/j.jretconser.2021.102493

Elegunde, A. F., & Shotunde, O. I. (2020). Effects of artificial intelligence on business performance in the banking industry: A study of Access Bank Plc and United Bank for Africa (UBA). *Journal of Business and Management (IOSR-JBM), 22*(5), 41–49.

Kotler, P. (2011). Reinventing marketing to manage the environmental imperative. *Journal of Marketing, 75*(4), 132–135. https://doi.org/10.1509/jmkg.75.4.132

Lazo, M., & Ebardo, R. (2023). Artificial intelligence adoption in the banking industry: Current state and future prospect. *Journal of Innovation Management, 11*(3), 54–74.

Luo, X., & Zhang, J. (2020). Customer referrals and firm performance: Evidence from the banking sector. *Journal of Service Research, 23*(3), 331–347. https://doi.org/10.1177/1094670519890482

Olayinka, T., & Adewuyi, B. (2021). The role of AI in enhancing customer satisfaction in Nigerian banks. In *Perspectives from emerging economies* (pp. 253–263). Emerald Publishing.

Patil, P., & Dhamdhere, S. (2022). Artificial intelligence and customer experience in digital banking: An Indian perspective. *International Journal of Financial Services Management, 13*(3), 234–248.

Patil, S., & Dhamdhere, S. (2022). Implementing AI in banking for enhanced customer satisfaction. *International Journal of Science and Research Archive*, 371–381.

Raza, S., & Hanif, R. (2021). Customer experience and loyalty in digital banking: The mediating role of trust. *Journal of Financial Services Marketing, 26*(4), 197–209. https://doi.org/10.1057/s41264-021-00101-3

Reichheld, F. F. (2021). *The loyalty effect: The hidden force behind growth, profits, and lasting value*. Harvard Business Review Press.

Shalet, M. A., & Thangam, D. M. V. (2023). A study on awareness and user acceptance of neo banks in Kerala. In *Strategic business decisions for sustainable development* (pp. 55–67). Springer.

Sheth, J., Sharma, A., & Sharma, A. (2022). Customer trust and AI adoption in financial services. *Journal of Business Research, 144*, 153–161. https://doi.org/10.1016/j.jbusres.2022.01.031

Suhel, S. F., Shukla, V. K., Vyas, S., & Mishra, V. P. (2020). Conversation to automation in banking through chatbot using artificial machine intelligence language. In *International Conference on Reliability, Infocom Technologies and Optimization (Trends and Future Directions)* (pp. 355–360). IEEE.