

Incorporation of Artificial Intelligence and Employee Retention in Deposit Money Banks in Akwa Ibom State, Nigeria

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Abstract

In Nigeria's rapidly changing digital banking environment, particularly in Akwa Ibom State, banks are struggling to retain experienced personnel as technological demands and expectations shift. High turnover disrupts operations and increases costs. The growing integration of artificial intelligence (AI) affects not only performance and customer satisfaction but also staff experience and retention. Hence, this study investigates the impact of artificial intelligence on employee retention in deposit money banks in Akwa Ibom State, Nigeria. The study sought to evaluate the influence of chatbots and virtual assistants, as well as fraud detection and prevention, on employee retention in deposit money banks in Akwa Ibom State, Nigeria. A survey design was employed to collect primary data from respondents in the selected deposit money banks. Using Krejcie and Morgan's formula, a sample of 286 was drawn from a population of 1,111. A structured questionnaire and simple random sampling technique ensured that data was collected reliably and objectively. The findings demonstrated a significant positive relationship between modern technologies, notably chatbots and virtual assistants, and fraud detection systems, as well as employee retention in Akwa Ibom State deposit banks. The study concluded that adopting AI technologies enhances corporate performance and fosters a stable, positive work environment, making them key to improving employee retention. It contributes theoretically by linking AI adoption to organisational behaviour, and practically by offering insights for HR professionals and policymakers, especially in developing economies, on how strategic AI use can strengthen talent management and reduce turnover, even with limited resources. Thus, it was recommended that deposit money banks in Akwa Ibom State invest in chatbot and virtual assistant technologies, as well as fraud detection and prevention systems, to improve customer service, streamline operations,

increase employee efficiency, and create a transparent work environment that fosters employee trust and retention.

Keywords: Artificial intelligence, chatbots and virtual assistants, fraud detection and prevention, employee retention, and deposit money banks.

1. Introduction

Artificial intelligence (AI) is being incorporated into various sectors, including banking and human resource management (HRM), with significant advantages for businesses, including enhanced customer satisfaction, cost savings, and risk management. AI encompasses robots or computer systems designed to replicate human intelligence in tasks such as learning, thinking, and problem-solving (Morandín-Ahuerma, 2022).

AI technologies such as machine learning, natural language processing, and predictive analytics are transforming human resource management practices by streamlining recruitment processes, allowing for more personalised approaches to talent retention, and increasing employee engagement. These capabilities help businesses improve their operational efficiency and productivity. Similarly, AI is changing the way banks operate and how employees engage with technology. For example, AI applications, including fraud detection, credit scoring, and customer care chatbots, improve decision-making and risk assessment. It also increases staff engagement by providing personalised experiences and operational efficiency by up to 30% (Mucsková, 2024; Sundari *et al.*, 2024).

As the nature of work continues to shift, people are increasingly required to be adaptive and flexible, an adjustment that, when supported by good AI technologies, can boost job satisfaction and generate a sense of empowerment (Mehndiratta *et al.*, 2023; Mucsková, 2024). By enhancing transparency, lowering administrative hassles, encouraging employee involvement, and eliminating prejudice in HR decisions, AI not only benefits individual employees but also contributes to overall organisational success (Islam, 2024; Madanchian, 2024).

Notwithstanding these benefits, adopting AI comes with a number of difficulties, such as the need for specialist technical skills, cybersecurity threats, ethical issues, and the speed at which technology is changing (Rana *et al.*, 2024; Kotyal *et al.*, 2024; Sinha *et al.*, 2024). Research highlights that, while AI can automate monotonous work, businesses must carefully manage this transition to reduce job displacement threats. Data privacy concerns, compliance with changing rules, and challenges integrating AI with older systems all add to the complexity.

In banking, key AI applications include chatbots and virtual assistants, fraud prevention and detection, risk assessment and credit scoring, process automation (RPA), regulatory compliance and reporting, and more. This study will concentrate on chatbots and virtual assistants, along with fraud prevention and detection, as important markers of AI use in banking.

Chatbots and virtual assistants are AI-powered software applications that use natural language processing (NLP) to understand and respond to user questions and engage with users via text or voice (Saraswat *et al.*, 2021). 24/7 client service, tailored interactions, and effective transaction processing are made possible by these technologies (Devan *et al.*, 2023; Mucsková, 2024).

Fraud detection and prevention in banking involves identifying and minimising fraudulent activity that can result in financial losses for both institutions and clients (Rambola *et al.*, 2018). AI and machine learning (ML) are revolutionising this field by analysing large datasets to find abnormalities and trends that indicate fraud (Gupta, 2023; Ismaeil, 2024). Compared to traditional approaches, these technologies provide higher accuracy, lower false-positive rates, and adaptive responses to changing threats (Ismaeil, 2024; Odeyemi *et al.*, 2024).

Employee retention is a major challenge in the banking business due to the significant cost and operational disruptions that come with regular personnel turnover (Das & Banerjee, 2025). A steady workforce promotes continuity of service, builds client connections, and retains institutional expertise, making retention a critical strategic imperative.

Several factors influence retention, including professional development opportunities, a supportive organisational culture, competitive salary, open performance reviews, and well-defined career paths (Khan, 2023; Daniyal & Khan, 2015; Alzghoul & Khaddam). Flexible work arrangements also improve job satisfaction by encouraging work-life balance and transmitting trust and respect, which increases employee loyalty (Herawaty et al., 2024; Etim et al., 2024). Collectively, these qualities promote a culture of motivation and dedication, which benefits not only staff retention but also organisational stability and performance.

While extensive independent research has been done on the operational and strategic benefits of artificial intelligence (AI) in banking and human resource management (HRM), especially in areas such as fraud detection, customer service, and recruitment, there remains a significant gap in understanding how AI applications in banking environments impact employee retention. Most past research has prioritised technical skills or customer-facing outcomes, frequently overlooking the internal human capital factor (Malik et al., 2022; Dutta et al., 2022). Less emphasis has been placed on how AI-powered solutions such as chatbots, virtual assistants, and fraud detection systems impact employee experiences, job satisfaction, and retention decisions.

This study seeks to bridge that gap by examining the relationship between AI adoption in banking and its possible influence on employee retention. The purpose is to gain an understanding of how major AI applications, including chatbots and virtual assistants, as well as fraud detection and prevention systems, impact organisational culture, work dynamics, and employee engagement.

1.2 Statement of the Problem

The rapid advancement of artificial intelligence (AI) technology has fundamentally transformed corporate operations worldwide, particularly in the banking industry. AI is increasingly being used by financial institutions for critical tasks such as customer service, risk management, fraud detection, and strategic decision-making (Mithra et al., 2023; Hrabariev et al., 2024). While these advancements improve operational efficiency, they also introduce new challenges such as data security, regulatory compliance, and algorithmic bias (Panwar, 2024). Importantly, the human resource aspect of AI adoption is understudied. As banks adjust to AI-driven processes, they are concerned about job displacement, digital inequality, and changing employee expectations (Panwar, 2024). Employee retention has arisen as a critical issue, with AI altering not only how workers work but also how they view job security, career advancement, and organisational belonging (Vigneshkumar & Bagavathi, 2025). The integration of AI affects more than simply technical systems; it reshapes organisational culture, influences employee morale, and challenges conventional HR methods.

Despite the growing importance of these concerns, past research has concentrated mostly on the technical and operational elements of AI in banking, with insufficient emphasis placed on its human impact, particularly on employee retention and workplace morale. Furthermore, there is a significant paucity of region-specific research investigating how these processes play out in sub-national contexts such as Akwa Ibom State, where socioeconomic and infrastructure realities may differ from those in better-researched urban centres. Understanding the localised impact of AI on employee retention is vital for establishing successful, context-sensitive HR solutions. Without this understanding, banks risk introducing AI technologies that jeopardise workforce stability, morale, and, ultimately, organisational success.

Therefore, this study seeks to fill the existing gap in the literature by investigating the effects of AI incorporation on employee retention in Akwa Ibom State deposit money banks. By focusing on a specific region and emphasising human resource consequences such as morale, retention, and perceived career advancement, the research intends to provide actionable insights for both academics and practitioners navigating the AI transition in the banking industry.

1.3 Objectives of the study

The general objective of the study was to examine the effect of the incorporation of artificial intelligence on employee retention in deposit money banks in Akwa Ibom, Nigeria. Specifically, the objectives of the study were to:

1. Assess the impact of chatbots and virtual assistants on employee retention of deposit money banks in Akwa Ibom State, Nigeria.
2. Examine the effect of fraud detection and prevention on employee retention of banks in Akwa Ibom State, Nigeria

1.4 Hypotheses of the Study

Ho₁: The deployment of chatbots and virtual assistants does not affect employee retention in deposit money banks in Akwa Ibom State, Nigeria.

Ho₂: Fraud detection and prevention do not significantly influence employee retention in deposit money banks in Akwa Ibom State, Nigeria.

2. Review of Related Literature

2.1 Conceptual Review

2.1.1 Artificial Intelligence

Artificial intelligence (AI) is becoming more widely used across a variety of industries and is frequently hailed as a catalyst for innovation, efficiency, and transformation. In healthcare, for instance, AI-powered diagnostic technologies are expected to improve accuracy and allow for personalised treatment regimens, ostensibly resulting in better patient outcomes (Talati, 2023). Machine learning algorithms capable of processing vast amounts of medical imaging and patient data are commonly claimed to facilitate earlier disease identification, which is presented as unambiguously positive. AI systems in finance improve risk assessments and fraud detection, enabling organisations to make more logical decisions (Ranković et al., 2023).

In the business sector, AI is portrayed as a strategic asset, credited with optimising processes, expediting decision-making, and increasing competitiveness in fields such as marketing, manufacturing, customer service, and human resource management. Advocates believe that AI allows businesses to use real-time analytics, recognise trends at scale, and adapt consumer interactions, all of which are expected to generate superior commercial value (Abousaber & Abdalla, 2023; Sadiku et al., 2020). The efficiency advantages and cost savings associated with these capabilities are frequently used to justify their widespread adoption. However, this growth narrative is not without its critics.

Moreover, the opaque nature of many AI models calls into question existing accountability and transparency requirements, especially when such systems are used in high-stakes environments such as healthcare or criminal justice. There is also an inherent tension between innovation and regulation. While some scholars support strong governance frameworks that prioritise privacy, interpretability, and robustness (Saenz et al., 2024), others caution that excessive regulation may limit AI's creative potential and hamper technological innovation. This dispute reflects a broader ambivalence about AI's trajectory: is it primarily a tool for societal benefit, or a mechanism for perpetuating existing power disparities under the

pretext of efficiency? The discussion extends to the socioeconomic ramifications of AI integration.

Some researchers highlight its potential to displace labour, worsen unemployment, and widen digital disparities, especially in countries already disadvantaged by global technological flows (Pandey, 2023; Ikumapayi & Oladokun, 2023). Others argue that AI will create new types of jobs, boost economic growth, and democratise access to services; however, such promises are frequently based on speculative or unevenly distributed outcomes.

In summary, there is widespread scholarly dispute about AI's overall impact. While the technology has the potential to reshape businesses and improve decision-making capabilities, its development is fraught with unresolved ethical quandaries, debated economic repercussions, and competing visions of social progress. As Babu (2024) argues, the future of AI will be defined not only by technical innovation but also by the normative frameworks within which such innovation is interpreted, debated, and managed. Striking a sustainable balance between such innovation and ethical integrity is one of the most serious challenges in navigating the rapidly changing world of artificial intelligence.

2.1.2 Chatbots and Virtual Assistants

Chatbots and virtual assistants are rapidly transforming customer interactions and operational frameworks across a wide range of businesses. These AI-powered solutions enable organisations to deliver immediate assistance, improving user experience, engagement, and service efficiency (ProfileTree, 2023). Chatbots serve as virtual teaching assistants in the education sector, reducing administrative demands on instructors while promoting student learning and engagement (Kumar *et al.*, 2023). Similarly, in the banking industry, the use of chatbot technology has improved customer service procedures, providing 24-hour support, automating routine transactions, and strengthening client relationships (Convin, 2025; Boost. AI, 2025). Chatbot integration not only boosts customer satisfaction but also helps to significantly reduce costs (PMC, 2025). Natural language processing (NLP) developments have greatly expanded these systems' capabilities, allowing for a more precise understanding of and responses to customer enquiries (Faster Capital, 2023). According to Smutek *et al.* (2024) and Uzoka *et al.* (2024), companies that use AI-powered chatbots for customer service experience faster response times and lower operating costs, which eventually result in higher levels of customer satisfaction.

2.1.4 Fraud Detection and Prevention

Artificial intelligence (AI) has emerged as an essential tool for detecting and preventing fraud in a wide range of businesses, including banking. AI analyses large databases, discovers complex patterns, and detects irregularities that suggest fraudulent activity in real time (Ellahi *et al.*, 2024). These contemporary methods are more accurate, faster, and more adaptable than traditional procedures (Gafarov, 2024). To increase the security and operational efficiency of financial institutions, AI-powered fraud detection systems can perform transactional analysis, user authentication, and predictive modelling (Gafarov, 2024). However, deploying AI in fraud detection presents various challenges, including data privacy, algorithmic bias, and regulatory compliance (Ellahi *et al.*, 2024; Gafarov, 2024). Despite these challenges, AI's potential to save costs and minimise risk makes it an essential tool for organisations dealing with increasing fraud threats (Islam *et al.*, 2024).

2.1.5 Employee Retention

Employee retention, which refers to an organisation's ability to retain its employees while reducing turnover, can be significantly influenced by the use of artificial intelligence (AI). High retention is often linked to job satisfaction, competitive pay, opportunities for professional

advancement, and a pleasant work environment. AI-powered data now allows organisations to better understand employee needs, customise career development programmes, and foresee future turnover threats. Effective retention strategies assist businesses in maintaining consistency, lowering recruitment expenses, and increasing productivity. Retaining experienced personnel is especially critical in the banking industry, which relies on trust, competence, and strong client relationships. AI systems may improve HR decision-making, optimise training programmes, and automate administrative operations, enhancing employee engagement and satisfaction. High turnover can disrupt customer service, raise operational risk, and drive up training expenses. As a result, banks often invest in professional development, performance-based incentives, and work-life balance efforts to retain top talent and maintain a competitive advantage (Daniyal & Khan, 2024; Herawaty et al., 2024).

2.2 Theoretical Framework

Machine learning (ML) theory

This study is based on machine learning (ML) theory, which was developed by Arthur Samuel in the 1950s and elaborated upon by Tom Mitchell in 1997. The theory has a substantial impact on the science of artificial intelligence. It establishes the framework for the creation of intelligent systems capable of learning from data independently. Machine learning (ML) is fundamentally made up of algorithms that enable machines to recognise patterns, make predictions, and improve through experience without the need for explicit programming.

Machine learning has three key theoretical underpinnings: supervised learning, unsupervised learning, and reinforcement learning (Saraswat & Raj, 2021). Supervised learning trains computers to correctly identify input and predict outcomes using labelled datasets. It employs input-output pairs to construct a function that converts inputs to outputs. Unsupervised learning, on the other hand, investigates unlabelled datasets in order to find latent patterns or groups without human intervention. Reinforcement learning (RL) is the process by which agents learn by interacting with their surroundings and receiving rewards or punishments for their decisions. RL has applications in robotics, healthcare, and autonomous systems.

Furthermore, probabilistic models and optimisation techniques are part of the theoretical foundation of machine learning. Bayesian networks use probability theory to reduce uncertainty and enable interpretable AI (Ghahramani, 2015; Mihaljević et al., 2021). Mihaljević et al. (2021) discovered that these models aid in classification, grouping, and anomaly detection by modelling joint probability distributions compactly. Integrating probabilistic models with optimisation methods creates a solid foundation for machine learning and artificial intelligence. These diverse learning paradigms enable the creation of adaptive AI systems capable of operating in complicated contexts and performing advanced tasks like natural language processing and autonomous decision-making.

In this context, machine learning theory serves as a conceptual and analytical lens for understanding bank employee retention. ML offers excellent tools for diagnosing and addressing retention difficulties by employing supervised learning to estimate employee turnover based on historical workforce data and unsupervised learning to identify hidden patterns in employee behaviour and satisfaction measurements. Reinforcement learning also helps by modelling dynamic HR policy interventions and determining the optimal approaches for retaining talent over time. Thus, ML theory not only supports the technical capabilities of predictive models but also offers a theory-driven approach to managing human capital in the banking industry, where data-driven insights are increasingly vital for strategic decision-making.

2.3 Empirical Review

Vebrianti et al. (2025) evaluated how four major chatbot attributes - response speed, information quality, perceived usefulness (PU), and perceived ease of use (PEOU) - affected consumer happiness and loyalty in West Java's e-commerce sector. Using Structural Equation Modelling (SEM) and data from 400 respondents, the study discovered that all four traits significantly boosted consumer satisfaction, which led to increased loyalty. The authors suggested increasing chatbot customisation and responsiveness while preserving accuracy, as well as incorporating user feedback to improve chatbot performance. In contrast, Godwin (2025) took a system-level approach, investigating the function of AI and RPA in financial fraud detection. Based on a literature review and supported by case studies and industry reports, the study emphasised AI's potential to detect adaptive fraud and RPA's role in improving compliance. Unlike Vebrianti et al. (2025), who focused on end-user satisfaction, Godwin (2025) addressed broader institutional challenges such as regulatory compliance, systemic risk, and ethical governance. This approach widened the subject of AI from individual interaction to organisational resilience.

While Godwin (2025) stressed institutional benefits, Molla (2024) concentrated on the human elements of AI adoption, namely, employees in Bangladesh's banking industry. The study's mixed methods approach revealed a strong correlation between employee training and decreased worry over AI-driven job displacement. This presents a crucial counterpoint to Godwin's (2025) optimistic story: while AI can improve systemic functions, it may also create uncertainty among human workers. Molla's (2024) more human-centred perspective highlights the need for worker preparedness in addition to technological readiness.

By examining the application of computer vision and RPA in Nigerian deposit money institutions, Anzor et al. (2024) carried out a more focused, context-specific analysis, expanding on the topic of AI in fraud prevention. Using data from 284 respondents and Z tests, the study showed how effective these technologies are at reducing card-related and insider fraud. They carried out a micro-level analysis within a single nation setting, in contrast to Godwin's more comprehensive, cross-industry analysis, even though their findings corroborate Godwin's (2025) conclusions regarding AI's potential for fraud reduction.

Mishra (2024), concentrating on the e-commerce sector, examined the effects of chatbot integration, engagement, and response time on customer loyalty. In contrast to Vebrianti et al. (2025), the author's mixed methods research revealed a subtle contradiction: even if chatbot involvement positively increased loyalty, faster reaction times shockingly had a negative effect. One explanation for this can be hurried communication or perceptions of inauthenticity. The effectiveness of chatbot features is context-dependent, meaning that factors that raise employee happiness in one situation may lower it in another. These findings highlight the need for a more thorough, user-contextual examination.

3.0 Methodology

A survey research design was used in the study. This technique is useful for collecting data from a large number of respondents in a short period, boosting the findings' generalisability and relevance to the larger population. The target population included 1,111 employees from Akwa Ibom State's selected deposit money banks (Table 3.1). These included First Bank of Nigeria, United Bank for Africa, Zenith Bank, Access Bank, and Guarantee Trust Bank. These banks were selected because they are among the top five main participants in the banking business, with the greatest client base, the highest employment capacity, and a strong market presence in Akwa Ibom State and throughout Nigeria. A sample size of 286 respondents was determined using Krejcie and Morgan's formula:

$$S = \frac{X^2 \cdot N \cdot P(1-P)}{d^2 \cdot (N-1) + X^2 \cdot P(1-P)}$$

Where:

S = Required sample size

N = Population Size

P = Population proportion (assumed to be 0.5 for maximum variability)

d = Degree of accuracy (commonly 0.05 for $\pm 5\%$ margin of error)

X^2 = The table value of chi-square for 1 degree of freedom at the desired confidence level (commonly 3.841 for 95% confidence).

$$S = \frac{3.841.1111 \cdot 0.5 \cdot (1-0.5)}{0.05^2 \cdot (1111-) + 3.841 \cdot 0.5 \cdot (1-0.5)}$$

$$S = \frac{3.841 \cdot 1111 \cdot 0.5 \cdot (1-0.5)}{0.0025 \cdot 1110 + 3.841 \cdot 0.25}$$

$$S = \frac{1067.32775}{2.775+0.96025} = S = \frac{1067.32775}{3.73525} = 286$$

Required sample size = 286

Data were collected from both primary and secondary sources. To collect primary data, a standardised questionnaire was distributed to a chosen group of respondents. The major data collection method was a questionnaire designed using a modified Likert scale ranging from 5 (Strongly Agree) to 1 (Strongly Disagree). It aimed to elicit respondents' perspectives on artificial intelligence and staff retention. The questionnaire items were based on relevant empirical literature and were in line with the study's main variables. To ensure the instrument's reliability, the test-retest method was utilised to evaluate its stability over time. A pilot survey was conducted with 20 respondents from selected banks using the identical questionnaire on two separate occasions. Certain items were modified based on pilot results to improve internal consistency.

Cronbach's Alpha was also employed to evaluate the questionnaire's reliability and its underlying constructs, providing a coefficient greater than 0.7, indicating an adequate level of internal consistency. Secondary data were acquired via the internet, peer-reviewed articles, and selected banks' annual reports. As the population was collected from numerous organisations, proportional allocation was used to ensure equal representation of each stratum based on its size within the overall population. This approach was used to distribute the sample size across the selected banks using the following formula:

$$n_i = \left(\frac{N_i}{N}\right) \times n$$

Where:

N_i = population of each bank

N = total population = 1,111

n = total sample size = 286

n_i = allocated sample size for each bank

$$\text{First Bank of Nigeria (241): } n = \left(\frac{241}{1111}\right) \times 286 = 62.05 = 62$$

$$\text{United Bank of Africa (232): } n = \left(\frac{232}{1111}\right) \times 286 = 59.74 = 60$$

$$\text{Zenith Bank (226): } n = \left(\frac{226}{1111}\right) \times 286 = 58.19 = 58$$

Access Bank (271): $n = \left(\frac{271}{1111}\right) \times 286 = 69.85 = 70$

GTBank (141): $n = \left(\frac{141}{1111}\right) \times 286 = 36.30 = 36$

Table 3.1: Distribution of Banks Employees and Sample

S/N	Banks	Population of Employees	Allocated Sample
1.	First Bank of Nigeria	241	62
2.	United Bank of Africa	232	60
3.	Zenith Bank	226	58
4.	Access Bank	271	70
5.	GT Bank	141	36
	Total	1,111	286

Source: Researchers' compilation (2025)

Following the proportionate allocation of sample size across banks, respondents were selected using a simple random sampling procedure. The data were analysed using simple linear regression to evaluate the study's hypotheses and determine the predicted correlations between the dependent and independent variables. This method is useful because it allows for the assessment of how predictors influence a single outcome variable, providing insights into the strength and direction of these interactions. Simple linear regression was chosen over alternative methods of analysis because of its simplicity, smaller sample size requirements, and the study's emphasis on prediction rather than verifying complex latent variable associations. A total of 286 copies of the study instrument were distributed, with 261 returned, yielding a response rate of 91.26%. Before the regression analyses, key assumptions were tested to ensure the validity of the results: linearity was assessed using scatterplots, residual normality was examined using Q-Q plots and the Shapiro-Wilk test, multicollinearity was checked using Variance Inflation Factor (VIF) values, and homoscedasticity was evaluated using residual plots. These diagnostic tests confirmed that the data met the assumptions required to perform effective regression analyses. The results are provided in the table.

3.1 Model Specification

The Models were developed in line with the variables used in the study

$$ER = f(CVA) \dots\dots\dots (1)$$

$$ER = \beta_0 + \beta_1 CVA + e \dots\dots\dots (2)$$

$$ER = f(FDP) \dots\dots\dots (3)$$

$$ER = \beta_0 + \beta_2 FDP + e \dots\dots\dots (4)$$

Where:

ER = Employee Retention

CVA = Chatbots and Virtual Assistants

FDP = Fraud Detection and Prevention

e = Error term

β_0 = Intercept

β_1 - β_2 = coefficients of the independent variables

4.0 Test of Hypothesis

4.1 H₀₁: The deployment of chatbots and virtual assistants does not affect employee retention in deposit money banks in Akwa Ibom State, Nigeria.

Table 4.1 Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.820 ^a	.672	.670	.28743	1.845

a. Predictors: (Constant), chatbots and virtual assistants

b. Dependent Variable: employee retention

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	30.156	1	30.156	365.024	.000 ^b
	Residual	14.705	285	.083		
	Total	44.862	286			

a. Dependent Variable: employee retention

b. Predictors: (Constant), chatbots and virtual assistants

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.234	.154		1.521	.130
	chatbots and virtual assistants	.952	.050	.820	19.106	.000

a. Dependent Variable: _ employee retention

Source: Researchers' Computation (2025)

Table 4.1 presents the model summary, which has an R-value of 0.820, demonstrating a substantial positive relationship between the use of chatbots and virtual assistants and employee retention in deposit money institutions in Akwa Ibom, Nigeria. Furthermore, the R-squared value of 0.672 indicates that a one-unit increase in chatbot and virtual assistant usage explains 67.2% of the variation in staff retention. The ANOVA test findings support the model's significance, with an F-statistic of 365.024 and a corresponding p-value of 0.000, which is well below the conventional threshold of 0.05. This illustrates that the regression model can accurately predict the dependent variable, employee retention.

Furthermore, the unstandardized regression coefficient (B) of 0.952 suggests that, when all other variables are held constant, a one-unit increase in efficacy, or the use of chatbots and virtual assistants, correlates with a 0.952-unit increase in employee retention. This indicates that chatbots and virtual assistants have a statistically significant and positive impact on staff retention at deposit money banks in Akwa Ibom State.

4.2 Ho₂: Fraud detection and prevention do not significantly influence employee retention in deposit money banks in Akwa Ibom State, Nigeria.

Table 4.2 Regression analysis showing the result for fraud detection on employee retention

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.725 ^a	.526	.523	.34567	1.473

a. Predictors: (Constant), fraud detection

b. Dependent Variable: employee retention

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	23.593	1	23.593	197.456	.000 ^b
	Residual	21.269	285	.119		
	Total	44.862	286			

a. Dependent Variable: employee retention

b. Predictors: (Constant), fraud detection

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	.009	.225		.039	.969
	fraud detection	1.015	.072	.725	14.052	.000

a. Dependent Variable: employee retention

Source: Researchers Computation (2025)

Table 4.2 shows the model summary, which has an R-value of 0.725. This indicates a strong positive association between fraud detection and employee retention in Akwa Ibom State deposit money banks. In other words, as fraud detection technology advances, so will employee retention. The model's R-squared (R^2) value of 0.526 explains around 52.6% of the variation in employee retention through fraud detection. This implies that enhancements in fraud detection could account for more than half of the observed increases in worker retention. The regression model's statistical significance is supported by the ANOVA table, which shows an F-statistic of 197.456 and a p-value of 0.000 ($p < 0.05$). This demonstrates that the entire model accurately predicts employee retention, and fraud detection has a significant impact on the dependent variable. According to the unstandardised regression coefficient (B), which is 1.015, employee retention is also expected to rise by 1.015 units for every unit increase in fraud detection (all other variables held constant). This large positive effect highlights the significance of fraud detection systems in influencing worker retention. The statistical analysis shows that fraud detection has a significant and beneficial impact on staff retention. The robust model explains a significant percentage of the variance in the dependent variable. These findings indicate that upgrading banks' fraud detection systems may result in enhanced employee retention, most likely due to improved organisational stability, working conditions, and trust.

4.3 Discussion of Findings

The results of hypothesis one demonstrate a robust and statistically significant relationship between worker retention at deposit money institutions in Nigeria's Akwa Ibom State and the deployment of chatbots and virtual assistants. Staff retention variance is 57.1% explained by AI-enabled tools (R -value = 0.725, $R^2 = 0.672$). This illustrates the considerable impact that digital transformation, particularly through chatbots and virtual assistants, has on the stability of banking staff. These conclusions are supported by earlier empirical research. According to Vebrianti et al. (2025), chatbot attributes, including perceived utility, reaction time, information quality, and ease of use, increase customer satisfaction and loyalty in the e-commerce sector. Although their research focused on external users (customers), the same principles apply to employees who interact with chatbots and virtual assistants on a daily basis. When digital technologies are perceived as valuable and easy to use, they raise productivity, reduce frustration, and improve overall job satisfaction. This has the potential to increase employee loyalty and reduce turnover, which is consistent with the study's findings. Similarly, Godwin's (2025) research supports similar conclusions by examining the use of AI and Robotic Process Automation (RPA) to tackle financial crime. The study revealed how artificial intelligence improves operational efficiency by automating repetitive processes and enhancing accuracy in procedures like fraud detection. These innovations reduce cognitive and operational stress on personnel, allowing them to focus on more valuable and satisfying activities. This reduction in task overload and improved workflow directly correlates to higher job satisfaction and retention, which is consistent with the positive correlation and explanatory power found in the current study.

Also, the findings of hypothesis two show a favourable and statistically significant relationship between staff retention and fraud detection in deposit money institutions in Akwa Ibom State, Nigeria. With an R -value of 0.752, the model summary shows a strong positive association. Furthermore, the R -squared value of 0.551 suggests that the level of fraud detection used accounts for 52.6% of the variation in staff retention. These results show the importance of strong fraud detection methods in providing a safe and trusted workplace, which encourages staff members to continue with the business. This finding is strongly reinforced by Godwin's (2025) research, which discovered that robotic process automation (RPA) and artificial intelligence (AI) have a revolutionary impact on financial institution fraud detection. The study found that artificial intelligence (AI) improves fraud detection accuracy, lowers false positives, and adapts to changing threat conditions. On the other hand, robotic process automation reduces complexity and improves compliance. These developments in technology not only help banks identify and lessen fraud but they also foster an environment of trust and operational effectiveness that encourages staff retention and satisfaction. Similarly, Anzor et al. (2024) provide real-world data from Southeast Nigeria that show how sophisticated fraud detection technologies enhance internal security and, as a result, staff stability. According to their findings, robots effectively monitor card-related fraud, whereas AI-based technologies, such as computer vision, considerably improve the detection of insider fraud. These traits promote a workplace culture in which employees sense a high level of organisational attentiveness and honesty. Such perspectives on safety and accountability might increase employees' psychological security, making them more willing to stay with the business.

5.0 Conclusion, Recommendations, Study Limitations and Suggestions for Future Research

5.1 Conclusion

This study demonstrates that artificial intelligence, such as chatbots, virtual assistants, and fraud detection systems, has a significant positive impact on staff retention in deposit money institutions in Akwa Ibom State. By enhancing productivity, reducing workplace frustration,

and increasing job satisfaction, AI technologies contribute to a more stable and loyal workforce. Additionally, robust fraud detection systems foster a secure and trustworthy work environment, further strengthening employee commitment.

These findings have important implications for HR policy. To fully leverage the benefits of AI, organisations need to engage in reskilling and upskilling initiatives that will provide personnel with the skills required to work alongside intelligent technologies. AI literacy and training programmes can help reduce resistance to new technologies, increase employee engagement, and foster a culture of continual learning. Furthermore, effective change management methods will be required to support the human aspect of digital transformation, ensuring that technological adoption is inclusive, transparent, and responsive to employee demands. Integrating these HR techniques can help organisations preserve AI's beneficial effects on staff retention and workplace satisfaction.

Overall, AI technologies are important assets for increasing employee retention in contemporary HRM since they not only improve business performance but also create a stable and happy work environment. Although these findings are unique to Akwa Ibom State's deposit money banks, they might have broader implications for the country's banking industry.

5.2 Recommendations

Based on the findings of this study, it was recommended that:

- i. Deposit money banks in Akwa Ibom State should invest in chatbot and virtual assistant technology to boost operational efficiency and provide greater support to staff. To guarantee successful adoption, these organisations provide AI training programs that prepare personnel to operate effectively with these tools. When employees regard chatbots as helpful resources rather than threats, it boosts productivity, job satisfaction, and retention. Human resource managers play an important role in this shift by connecting AI integration to reskilling initiatives, fostering open communication, and encouraging employee involvement. This integrated approach allows personnel to confidently adjust to technological change.
- ii. Deposit money banks in Akwa Ibom State should prioritise the development and institutionalisation of a robust fraud detection culture as a strategic tool to enhance employee retention and organisational stability. This involves not only deploying advanced fraud detection technologies and conducting regular forensic audits, but also actively involving employees in the fraud prevention process. Promoting a culture of integrity and accountability through regular ethics training and recognition programs for employees who demonstrate ethical behaviour can further reinforce positive conduct.

5.3 Study Limitations and Suggestions for Future Research

This study was limited to specific deposit money banks in Akwa Ibom State and focused solely on chatbots and virtual assistants, as well as fraud detection. Future research could examine other AI applications, such as predictive analytics and robotic process automation, and extend the findings to other parts of Nigeria for greater generalisability.

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