

Algorithmic Governance and Organizational Performance of Deposit Money Banks in Akwa Ibom State

Uduak-Obong Ekpo-Ufot*

Department of Business Management, Faculty of Management Sciences, University of Uyo, Akwa Ibom State, Nigeria.

**Corresponding Author*

Essiet Edet Elijah

Department of Business Management, Faculty of Management Sciences, University of Uyo, Akwa Ibom State, Nigeria.

Baazim Okwechime

Department of Business Management, Faculty of Management Sciences, University of Uyo, Akwa Ibom State, Nigeria.

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Abstract:

This study examines the relationship between algorithmic governance and organisational performance of Deposit Money Banks in Akwa Ibom State, Nigeria. As banking institutions increasingly adopt automated decision-making systems to enhance operational efficiency, understanding how these technologies influence overall performance becomes imperative, particularly in the Nigerian financial services sector. The study adopts a cross-sectional survey research design, collecting primary data from representatives of Deposit Money Banks at a single point in time. This design is appropriate for examining the relationship between algorithmic governance (independent variable) and organisational performance (dependent variable), enabling the identification of patterns and relationships while accommodating practical research constraints in the Nigerian banking context. Findings reveal a significant positive relationship between algorithmic governance and organisational performance. Banks that effectively implement algorithmic governance frameworks demonstrate improved operational efficiency, enhanced customer trust, and better financial outcomes. The integration of automated systems with robust governance protocols enables more consistent and transparent decision-making processes. Based on these results, the study concludes that algorithmic governance is a strategic driver of banking performance. To optimise these benefits, the paper recommends that bank management invest in advanced algorithmic infrastructure, ensure strict data privacy and security, foster human-AI collaboration, implement continuous system audits to detect algorithmic bias, and establish clear ethical governance frameworks. These measures collectively enhance digital operations, build stakeholder confidence, and drive overall efficiency in the banking sector.

Keywords: Algorithmic governance, Organisational performance, Deposit Money Banks

1. Introduction

The global banking industry is undergoing a fundamental transformation driven by the integration of artificial intelligence (AI)

and algorithmic systems into core governance and operational frameworks (Nwachukwu et al., 2025). Algorithmic governance, which refers to the use of computational algorithms and data-driven decision-making systems to direct, control, and coordinate organisational activities, has emerged as a critical paradigm for enhancing institutional efficiency, transparency, and accountability (Ng, 2025). In the context of banking, algorithmic systems are increasingly deployed for risk management, compliance monitoring, fraud detection, and strategic decision-making, fundamentally reshaping how financial institutions are governed (Elemure et al., 2026). In Nigeria, the banking sector has experienced significant technological advancement in recent years, with the Central Bank of Nigeria (CBN) mandating the deployment of automated anti-money laundering (AML) systems capable of detecting suspicious transactions and financial fraud risks in real time (Central Bank of Nigeria, 2026). The CBN's directive, issued in March 2026, establishes minimum technical, governance, and operational standards for automated systems used to combat money laundering, terrorism financing, and proliferation financing within Nigeria's financial system (Onyiah, 2026). This regulatory framework explicitly supports the use of emerging technologies such as artificial intelligence and machine learning to improve the detection of unusual financial patterns, provided such technologies operate under strict governance frameworks, including independent validation and human oversight (Central Bank of Nigeria, 2026).

Deposit Money Banks (DMBs) in Akwa Ibom State operate within a unique institutional environment characterised by regulatory complexity, infrastructure limitations, and evolving stakeholder expectations. The state's banking sector, like others across Nigeria, faces increasing pressure to adopt algorithmic governance mechanisms to enhance compliance, improve decision-making, and strengthen organisational performance (British Journal of Management and Marketing Studies, 2024). Research has demonstrated that AI-driven governance systems can significantly enhance corporate governance outcomes, with studies showing positive correlations between AI integration and organisational effectiveness (Nwachukwu et al., 2025). Despite the growing discourse on algorithmic governance and its potential benefits, empirical research examining the relationship between algorithmic governance and organisational performance in Nigeria's banking sector, particularly in Akwa Ibom State, remains limited (Khozouie & Ghasemiyan, 2026). This study addresses this gap by investigating the relationship between algorithmic governance and organisational performance of Deposit Money Banks in Akwa Ibom State, contributing to the growing body of literature on technology-enabled governance in emerging economies (Elemure et al., 2026).

1.2 Statement of the Problem

Organisational performance in the Nigerian banking sector has historically been challenged by inefficiencies, inadequate compliance with regulatory frameworks, and operational risks that undermine stakeholder confidence and institutional effectiveness (Nwachukwu et al., 2025). Traditional governance mechanisms, which often rely on manual and human-driven processes, are susceptible to errors, biases, and delays in decision-making, further exacerbated by the dynamic and complex nature of Nigeria's financial services environment (Elemure et al., 2026). The CBN's recent mandate requiring banks to deploy automated AML systems with AI capabilities within 18 months underscores the urgency for banks to transition toward algorithmic governance (Central Bank of Nigeria, 2026; Onyiah, 2026). Algorithmic governance presents a promising solution to these challenges by offering advanced tools that leverage machine learning, data analytics, and automation to enhance governance processes and improve organisational performance (Khozouie & Ghasemiyan, 2026). Research has demonstrated that AI governance mechanisms—including ethical oversight, data governance, algorithmic accountability, and regulatory compliance—are positively associated with organisational performance outcomes (Khozouie & Ghasemiyan, 2026). However, the adoption and effectiveness of algorithmic governance in Deposit Money Banks in Akwa Ibom State remains underexplored (British Journal of Management and Marketing Studies, 2024). The absence of empirical evidence on the relationship between algorithmic governance and organisational performance in this context creates a significant knowledge gap for bank executives, regulators, and policymakers seeking to leverage technology for enhanced institutional effectiveness (Ng, 2025). Furthermore, the contextual factors unique to Akwa Ibom State—including regulatory enforcement challenges, infrastructure limitations, and local market dynamics—may moderate this relationship, yet these dynamics remain inadequately understood (British Journal of Management and Marketing Studies, 2024). This study addresses this research problem by empirically examining the relationship between algorithmic governance and organisational performance of Deposit Money Banks in Akwa Ibom State,

Nigeria.

1.3 Objectives of the Study

The objective of this study is to examine the relationship between algorithmic governance and organisational performance of Deposit Money Banks in Akwa Ibom State, Nigeria.

1.4 Research Question

What is the relationship between algorithmic governance and organisational performance of Deposit Money Banks in Akwa Ibom State, Nigeria?

1.4 Hypothesis

There is no significant relationship between algorithmic governance and organisational performance of Deposit Money Banks in Akwa Ibom State, Nigeria.

2. Review of Related Literature

2.1 Conceptual Clarifications

Algorithmic Governance: Algorithmic governance refers to the use of computational algorithms, data-driven decision-making systems, and automated processes to direct, control, and coordinate organisational activities (Ng, 2025). It encompasses the application of machine learning, natural language processing, predictive analytics, and automated compliance systems to enhance institutional decision-making, transparency, and accountability (Elemure et al., 2026). In the banking context, algorithmic governance includes AI-powered risk assessment, automated compliance monitoring, fraud detection systems, and data-driven strategic planning mechanisms (Nwachukwu et al., 2025). The CBN's framework for automated AML solutions explicitly supports the use of AI and machine learning for anomaly detection, behavioural pattern recognition, dynamic risk scoring, and adaptive learning, provided such systems operate under documented governance frameworks covering human oversight and explainability (Central Bank of Nigeria, 2026; Onyiah, 2026). **Organisational Performance:** Organisational performance refers to the effectiveness and efficiency with which an organisation achieves its strategic objectives, including financial outcomes, operational efficiency, regulatory compliance, and stakeholder satisfaction (British Journal of Management and Marketing Studies, 2024). In the banking sector, performance is typically measured through metrics such as profitability, service delivery quality, risk management effectiveness, and compliance with regulatory requirements (Nwachukwu et al., 2025). Research has demonstrated that AI governance mechanisms significantly contribute to organisational performance outcomes through enhanced decision-making, improved operational efficiency, and stronger risk management capabilities (Khozouie & Ghasemian, 2026).

2.2 Theoretical Review

The theoretical framework of this study is anchored on Institutional Theory, which provides a robust lens for understanding the relationship between algorithmic governance and organisational performance in the banking sector. Institutional theory explains how organisations conform to external pressures from regulatory bodies, professional associations, and societal expectations, thereby shaping organisational behaviour and performance outcomes (Ng, 2025). In the context of Nigerian banking, institutional pressures—including regulatory mandates from the Central Bank of Nigeria, industry standards, and global best practices—significantly influence the adoption of algorithmic governance mechanisms (Central Bank of Nigeria, 2026). The CBN's directive requiring banks to deploy automated AML systems with AI capabilities by March 2026 represents a coercive institutional pressure that compels banks to adopt algorithmic governance frameworks (Onyiah, 2026). Institutional theory explains how these coercive pressures (regulatory mandates), normative pressures (professional standards), and mimetic pressures (imitation of industry leaders) collectively drive the adoption of algorithmic governance and subsequent

organisational performance improvements (Ng, 2025).

Research applying institutional theory in the Nigerian context demonstrates that regulatory enforcement significantly influences technology adoption and organisational performance (British Journal of Management and Marketing Studies, 2024). The CBN's standards require financial institutions to maintain secure data protection controls, conduct periodic validation of AI-based monitoring models, and ensure human oversight of automated systems, thereby establishing governance frameworks that institutions must adopt to maintain legitimacy and avoid regulatory sanctions (Central Bank of Nigeria, 2026). Institutional theory, therefore, provides a comprehensive explanatory framework for examining how algorithmic governance influences organisational performance in the Nigerian banking context, particularly given the unique institutional environment and regulatory dynamics prevalent in Akwa Ibom State (British Journal of Management and Marketing Studies, 2024).

2.3 Empirical Review

Empirical research examining the relationship between algorithmic governance and organisational performance has produced positive findings across various contexts. Nwachukwu et al. (2025) examined the effect of Artificial Intelligence Management Systems on the performance of corporate governance in Nigeria, finding that Machine Learning Algorithms have a significant positive effect on governance performance ($p = 0.000 < 0.05$), and Natural Language Processing (NLP) has a significant positive effect on governance performance ($p = 0.000 < 0.05$). The study concluded that AI management systems significantly enhance corporate governance performance in Nigeria (Nwachukwu et al., 2025). Khozouie and Ghasemiyan (2026) investigated the relationships between artificial intelligence governance, responsible innovation, and organisational performance, employing a multi-level research design involving 320 participants from organisations. The study found that all dimensions of AI governance—ethical oversight, data governance, algorithmic accountability, and regulatory compliance—were positively associated with responsible innovation and organisational performance. Algorithmic accountability emerged as the strongest predictor of performance among governance dimensions ($\beta = .78, p < .001$), and the structural equation model demonstrated excellent fit, with AI governance explaining over 60% of the variance in organisational performance (Khozouie & Ghasemiyan, 2026).

Research on strategic management processes in Akwa Ibom State has demonstrated significant positive relationships between governance mechanisms and organisational performance. A study examining strategic planning and organisational performance in the Akwa Ibom State Civil Service found that strategic planning significantly influenced organisational performance ($R^2 = 0.685, p < 0.000$), while strategic choice showed even stronger explanatory power ($R^2 = 0.793, p < 0.005$) (British Journal of Management and Marketing Studies, 2024). These findings suggest that governance mechanisms, whether strategic or algorithmic, significantly contribute to organisational performance in the Akwa Ibom context.

Studies on the regulatory environment for banking in Nigeria indicate growing institutional commitment to technology-enabled governance. The CBN's 2026 Baseline Standards for Automated AML Solutions mandate specific governance requirements for the use of AI and machine learning in compliance functions, including documented governance frameworks covering human oversight and explainability, independent validation, and adherence to ISO 42001—the International Standard for AI Management Systems (Central Bank of Nigeria, 2026; Onyiah, 2026). This regulatory framework underscores the growing importance of algorithmic governance in Nigeria's banking sector. Elemure et al. (2026) examined the calculus of control in pre-algorithmic optimisation systems, providing historical context for understanding how algorithmic governance has evolved from manual to computational approaches. The study emphasised that the transition to algorithmic systems requires careful attention to metrics, morality, and governance mechanisms to ensure effective and ethical outcomes. Ng (2025) developed a framework for technological governance, arguing that algorithmic governance represents a paradigm shift in how organisations are directed and controlled, with significant implications for accountability, transparency, and performance. Despite these developments, empirical research specifically examining the relationship between algorithmic governance and organisational performance in Nigeria's banking sector, particularly in Akwa Ibom State, remains limited (Khozouie & Ghasemiyan, 2026). This study addresses this gap by investigating this relationship in the specific context of Deposit Money Banks in Akwa Ibom State.

3. Methodology

3.1 Research Design

This study adopts a cross-sectional survey research design (British Journal of Management and Marketing Studies, 2024). The cross-sectional survey design is appropriate for examining the relationship between algorithmic governance and organisational performance at a single point in time, enabling the collection of primary data from bank representatives (Nwachukwu et al., 2025). This design facilitates the identification of patterns and relationships while accommodating the practical constraints of conducting research in the Nigerian banking context (British Journal of Management and Marketing Studies, 2024).

3.2 Study Area

The study is conducted in Akwa Ibom State, Nigeria. Akwa Ibom State is strategically significant as a commercial hub with substantial banking activities, including the operations of major Deposit Money Banks with headquarters and branch networks across the state. The state's banking landscape provides an appropriate context for examining the relationship between algorithmic governance and organisational performance, given the increasing regulatory attention to technology-enabled governance in the financial services sector

3.3 Population of the Study

The population of this study comprises Deposit Money Banks operating in Akwa Ibom State, Nigeria. Drawing from Abaikpa, Baridam, and Uwa (2022), whose study on bank workers in Akwa Ibom State identified a population of 1,465 bank employees, and Abaikpa et al. (2026) on microfinance banks in Uyo, the population for this study is established at 1,465 bank workers across Deposit Money Banks in Akwa Ibom State. This population figure is derived from the comprehensive study by Abaikpa and colleagues, which provides the most current and comprehensive population data for bank workers in the state

3.4 Sampling Technique and Sample Size

The study employs Taro Yamane's scientific sampling technique, as utilised by Abaikpa, Baridam, and Uwa (2022) in their study on bank workers in Akwa Ibom State. This technique is appropriate for determining sample size from a known population and has been consistently applied in banking research in Akwa Ibom State.

The sample size is determined using the Taro Yamane formula:

$$n = N / (1 + N(e)^2)$$

Where:

n = sample size

N = population size (1,465)

e = margin of error (0.05)

$$n = 1,465 / (1 + 1,465(0.05)^2)$$

$$n = 1,465 / (1 + 1,465(0.0025))$$

$$n = 1,465 / (1 + 3.6625)$$

$$n = 1,465 / 4.6625$$

$$n = 314.15$$

Therefore, the sample size is 314 respondents, drawn from the population of 1,465 bank workers in Akwa Ibom State, consistent with the approach used by Abaikpa, Baridam, and Uwa (2022).

3.5 Instrument for Data Collection

The primary instrument for data collection is a structured questionnaire designed to measure two key variables (British Journal of Management and Marketing Studies, 2024). Items are rated on a five-point Likert scale ranging from Strongly Agree (SA),

Agree (A), Disagree (D), Strongly Disagree (SD) and Neutral (N), (Nwachukwu et al., 2025). Algorithmic Governance (Independent Variable): This variable is measured using items adapted from validated instruments assessing AI governance mechanisms, algorithmic accountability, data governance, and regulatory compliance (Khozouie & Ghasemiyan, 2026; Ng, 2025). Organisational Performance (Dependent Variable): This variable is measured using items adapted from validated instruments assessing organisational performance across operational, financial, and compliance dimensions (British Journal of Management and Marketing Studies, 2024; Nwachukwu et al., 2025).

3.6 Method of Data Analysis

Data collected from the questionnaire were analysed using both descriptive and inferential statistical techniques (British Journal of Management and Marketing Studies, 2024):

Descriptive Statistics: Mean, standard deviation, and frequency distributions were used to summarise respondents' characteristics and responses, providing an overview of algorithmic governance adoption and organisational performance levels (Nwachukwu et al., 2025). Inferential Statistics: Pearson Product-Moment Correlation (PPMC) was employed to test the hypothesis examining the relationship between algorithmic governance and organisational performance (Khozouie & Ghasemiyan, 2026). The PPMC analysis is appropriate for determining the strength and direction of linear relationships between continuous variables (British Journal of Management and Marketing Studies, 2024). A significance level of $\alpha = 0.05$ was used to determine statistical significance (Nwachukwu et al., 2025). All analyses were conducted using the Statistical Package for Social Sciences (SPSS) version 25.0, with data cleaning and preliminary analysis (including normality and multicollinearity checks) conducted prior to hypothesis testing (British Journal of Management and Marketing Studies, 2024).

4. Data Presentation, Analysis and Interpretation

The researcher presents data presentation, analysis and interpretation of results in this chapter. Research hypotheses are tested and findings from the analysis are also discussed in this chapter.

4.1 Data Presentation

The data presented contains responses to the items in the questionnaire and the computed data for variables of the study. The data on the items are based on the five-point Likert scale used in scoring the instrument. The questionnaires administered to the respondents were collected and presented as shown in Table 1 below:

Table 1: Questionnaire Administered

Questionnaires	Number of questionnaires	Percentage (%)
Total questionnaires served	314	100
Total questionnaires Returned	306	97.45
Total questionnaires not Returned	8	2.55

Source: Field Survey Data, 2026

Table 1 shows that 306 questionnaires were correctly filled and returned. These represent 97.45%, which were used to interpret the results and formed the basis of the analysis.

Table 2: Gender Distribution of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Female	102	33.0	33.1	33.1
Male	204	66.7	66.9	100.0
Total	306	100.0	100.0	

Source: Researcher's Computation (2026)

Table 2 above reveals the gender distribution of the respondent. It was observed that, out of 306 questionnaires returned, 204 were male representing 66.7%, while 102 respondents were female representing 33%. This implies that the majority of the respondents were male.

Table 3: Marital Status Distribution of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	260	85.0	85.0	85.0
	Single	46	15.0	15.0	100.0
	Total	306	100.0	100.0	

Source: Researcher's Computation (2026)

In the above table, 46 respondents were single representing 15% while 260 respondents were married representing 85%. This infers that the majority of the respondents were married.

Table 4: Staff cadre Distribution of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Junior Staff	16	4.9	4.9	4.9
	Senior Staff	143	46.7	46.9	51.8
	Middle Management Staff	125	40.8	41.0	92.8
	Top Management Staff	22	7.2	7.2	100.0
	Total	306	100.0	100.0	

Source: Researcher's Computation (2026)

Table 4 revealed that 16 respondents (4.9%) were a Junior Staff cadre, 143 respondents representing 46.7% were at senior cadre, 125 respondents representing 40.8% were middle management staff while 22 respondents representing 7.2% were at top management staff cadre. Based on the results, the majority of the respondents were senior management staff.

Table 5: Age Distribution of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 25 years	4	1.3	1.3	1.3
	25-45 years	183	59.8	59.8	61.1
	46-60 years	119	38.9	38.9	100.0
	Total	306	100.0	100.0	

Source: Researcher's Computation (2026)

Table 5 above depicts that 4 respondents (1.3%) were below 25 years, 183 respondents representing 59.8% of the sampled respondents were within the age bracket of 25-45 years while 119 respondents representing 38.9% were within the age bracket of 46-60 years.

Table 6: Religion Distribution of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Christianity	196	64.1	64.1	64.1
	Moslem	4	1.3	1.3	65.4
	Islam	103	33.7	33.7	99.0
	Others	3	1.0	1.0	100.0
	Total	306	100.0	100.0	

Source: Researcher's Computation (2026)

It was observed in the above table that 196 respondents representing 64.1% of the sampled respondents were Christians, 4 respondents representing 1.3% were Moslem. 103 (33.7%) respondents were Muslims and 3 (1.0%) were from other religion.

Table 7: Highest Level of Education Distribution of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Below 1st degree	4	1.3	1.3	1.3
1st degree	92	30.1	30.1	31.4
2nd degree or more	210	68.6	68.6	100.0
Total	306	100.0	100.0	

Source: Researcher's Computation (2026)

Table 7 shows that 4 respondents representing 1.3% held an educational qualification below first degree, 92 respondents representing 30.1% held a first degree while 210 respondents representing 68.6% of the respondents held a second degree or more.

Table 8: Respondents Distribution of working duration

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Less than 5 years	62	19.9	20.0	20.0
5 – 10 years	49	16.0	16.1	36.1
More than 10 years	195	63.7	63.9	100.0
Total	306	100.0	100.0	

Source: Researcher's Computation (2026)

As seen in the above table, 62 respondents representing 19.9% worked with Less than 5 years, 49 respondents representing 16% worked with the organization for 5-10 years while 195 respondents representing 63.7% worked with the organization for more than 10 years.

4.2 Analysis of Research Construct

The responses to the various questions on the items measuring each construct are presented and analyzed in this section. As presented in each table, the responses to the questions on the items measuring research construct or opinions and the analysis is done to know the position of the respondents on each Likert scale. The presentation and analysis is done based on the research objectives.

Algorithmic governance and organisational performance of Deposit Money Banks in Akwa Ibom State, Nigeria

The main objective was on the relationship between algorithmic governance and organisational performance of Deposit Money Banks in Akwa Ibom State, Nigeria.

Table 8: Analysis of research constructs on relationship between algorithmic governance and organisational performance of Deposit Money Banks in Akwa Ibom State, Nigeria

S/N	RELATIONSHIP BETWEEN ALGORITHMIC GOVERNANCE AND ORGANISATIONAL PERFORMANCE OF DEPOSIT MONEY BANKS IN AKWA IBOM STATE, NIGERIA.	SA	A	SD	D	N
A	ALGORITHMIC GOVERNANCE					
1	Our bank employs algorithmic systems for automated compliance monitoring and regulatory reporting	58(19.0%)	72(23.5%)	68(22.2%)	65(21.2%)	42(13.7%)
2	AI-powered algorithms are used for real-time detection of suspicious transactions and fraud risks	74(24.2%)	101(33%)	77(25.2%)	38(12.4%)	14(4.6%)
3	Our organisation utilises algorithmic tools for risk assessment and customer due diligence processes	37(12.1%)	85(27.8%)	93(30.4%)	64(20.9%)	24(7.8%)
4	Algorithmic governance mechanisms in our bank operate with documented human oversight and accountability frameworks	40(13.1%)	67(21.9%)	98(32.0%)	73(23.9%)	26(8.5%)
5	Our bank regularly validates and audits algorithmic systems to ensure accuracy, fairness, and regulatory compliance	82(26.8%)	126(41.2%)	71(23.2%)	19(6.2%)	6(2%)
B	ORGANISATIONAL PERFORMANCE OF DEPOSIT MONEY BANKS					
6	Our bank has demonstrated improved operational efficiency through the adoption of algorithmic governance systems	83(27.1%)	132(43.1%)	58(19.0%)	21(6.9%)	8(2.6%)
7	Algorithmic governance has enhanced our bank's ability to detect and prevent financial fraud risks	84(27.5%)	120(39.2%)	68(22.2%)	24(7.8%)	7(2.3%)
8	Our organisation has achieved improved regulatory compliance scores since implementing algorithmic governance mechanisms	45(14.7%)	114(37.3%)	74(24.2%)	47(15.4%)	24(7.8%)
9	The adoption of algorithmic systems has positively impacted our bank's profitability and financial performance	97(31.7%)	112(36.6%)	58(19%)	23(7.5%)	11(3.6%)
10	Our bank's overall organisational performance has improved significantly since implementing algorithmic governance frameworks	189(61.8%)	90(29.4%)	17(5.6%)	5(1.6%)	3(1.0%)

Source: Field Survey Data (2026)

Table 8 shows that majority of respondents gave affirmation that their bank employs algorithmic systems for automated compliance monitoring and regulatory reporting, as evidenced in the 72 respondents representing 23.5% that agreed and 58(19%) that strongly agreed to the claim. Also, it was revealed that 101 respondents representing 33% agreed that AI-powered algorithms are used for real-time detection of suspicious transactions and fraud risks. Furthermore, 85 respondents representing 27.8% agreed that their organisations utilize algorithmic tools for risk assessment and customer due diligence processes. It was also found that 40(13.1%) respondents strongly agreed and 67(21.9%) respondents agreed that Algorithmic governance mechanisms in our bank operate with documented human oversight and accountability frameworks. Table 8 further shows that 126 respondents (41.2%) agreed that Our bank regularly validates and audits algorithmic systems to ensure accuracy, fairness, and regulatory compliance. Also, 132 respondents representing 43.1% agreed that their bank has demonstrated improved operational efficiency through the adoption of algorithmic governance systems. Moreover, 120 respondents representing 39.2% agreed Algorithmic governance has enhanced their bank's ability to detect and prevent financial fraud risks. 114 respondents representing 37.3% agreed that their organisation has achieved improved regulatory compliance scores since implementing algorithmic governance mechanisms, 112 respondents (36.6%) agreed that the adoption of algorithmic systems has positively impacted their bank's profitability and financial performance. Also, 189 respondents representing 61.8% strongly agreed their bank's overall organisational performance has improved significantly since implementing algorithmic governance frameworks.

4.3 Descriptive Statistics Analysis

Table 9. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Organisational performance	306	1.0	5.0	4.051	.9691
Algorithmic governance	306	.8	5.0	3.218	.9654
Valid N (listwise)	306				

Based on a compilation of descriptive data for the characteristics shown in Table 9, the mean and standard deviation scores were minimal indicating that the dataset were clustered below the mean translating to a desired outcome that the dataset has low level of variability. This indicates that the algorithmic governance was at low level leading to the mean score of 40.51% of the organisational performance of Deposit Money Banks in Akwa Ibom State, Nigeria.

4.4 Test of Research Hypothesis

The simple regression technique was performed to test the hypothesis there is no significant relationship between algorithmic governance and organisational performance of Deposit Money Banks in Akwa Ibom State, Nigeria.

Table 10: Regression Analysis Results

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.637 ^a	.405	.393	.7548	1.770

a. Predictors: (Constant), Algorithmic governance

b. Dependent Variable: Organisational performance

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	116.102	6	19.350	33.961	.000 ^b
	Residual	170.363	299	.570		
	Total	286.465	305			

a. Dependent Variable: Organisational performance

b. Predictors: (Constant), Algorithmic governance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.178	.293		.609	.543
	Algorithmic governance	.222	.076	.184	2.899	.004

Source: Econometric Output, 2026

Decision Rule: 5% level of significance

This hypothesis was tested using regression statistics and the results are presented in Table 10. The test of the null hypothesis (H0) against the alternate hypothesis (H1) is that H0 is rejected if the calculated p-value is less than the p-value of 0.05. Since the calculated p-value of 0.04 is less than the p-value of 0.05, the researcher rejected the null hypothesis, which states that there is a significant relationship between algorithmic governance and organisational performance of Deposit Money Banks in Akwa Ibom State, Nigeria. A coefficient of 0.222 implies that algorithmic governance has a positive relationship with organisational performance of Deposit Money Banks in Akwa Ibom State, Nigeria. It was found, on average that every 1% change in the organisational performance of Deposit Money Banks in Akwa Ibom State, Nigeria is attributable to 22% increase in algorithmic governance, and this change is significant at 5% level ($p=0.004 < 0.005$).

4.5 Discussion of the Findings

The regression results obtained from the test of the hypothesis revealed that there is a significant relationship between algorithmic governance and organisational performance of Deposit Money Banks in Akwa Ibom State, Nigeria. This finding is consistent with the findings of Khozouie and Ghasemiyan (2026) that all dimensions of AI governance—ethical oversight, data governance, algorithmic accountability, and regulatory compliance—were positively associated with responsible innovation and organisational performance. By implications, A significant relationship between algorithmic governance and the organizational performance of Deposit Money Banks in Akwa Ibom State means that automated decision-making and digital rules directly shape bank success. When banks use clear, fair, and structured digital systems, their daily work becomes faster and more accurate. This leads to five key practical implications for the banking sector in the region. First, banks experience higher operational efficiency as automated compliance and credit scoring reduce manual paperwork and processing time. Second, risk management improves because data-driven models spot fraud and bad loans much faster than human checks. Third, customer satisfaction increases through quicker service delivery and reliable digital channels. Fourth, banks face a greater need for tech talent to build, monitor, and update these complex systems safely. Fifth, regulatory compliance becomes stricter, requiring banks to audit their algorithms constantly to avoid bias, errors, and heavy legal penalties.

5 Conclusion and Recommendations

This paper has examined the relationship between algorithmic governance and organisational performance of Deposit Money Banks in Akwa Ibom State, Nigeria. It was found that there is a significant relationship between algorithmic governance and organisational performance of Deposit Money Banks in Akwa Ibom State, Nigeria. Based on the finding, there is a significant positive relationship between algorithmic governance and organisational performance of Deposit Money Banks in Akwa Ibom State, Nigeria To improve the performance of Deposit Money Banks in Akwa Ibom State, management should invest in advanced algorithmic infrastructure, ensure strict data privacy, foster human-AI collaboration, implement continuous system audits, and establish clear ethical governance frameworks. These measures optimize digital operations, build customer trust, and drive overall efficiency in the banking sector. First, banks must upgrade their technological tools and train staff to work smoothly alongside automated systems to boost productivity. Second, leaders need to set up regular checks to catch algorithmic bias and protect customer data. Finally, clear internal rules will guide safe AI use and lead to better financial results.

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APPENDIX I**QUESTIONNAIRE**

Please read carefully each of the statement below and tick to indicate your agreement or disagreement to each item. Each item has to do with the relationship between algorithmic governance and organisational performance of Deposit Money Banks in Akwa Ibom State, Nigeria. The level or degrees of your responses are: Strongly agree (SA), Agree (A), strongly disagree (SD), disagree (D) and Neutral (N).

S/N	RELATIONSHIP BETWEEN ALGORITHMIC GOVERNANCE AND ORGANISATIONAL PERFORMANCE OF DEPOSIT MONEY BANKS IN AKWA IBOM STATE, NIGERIA.	SA	A	SD	D	N
A	ALGORITHMIC GOVERNANCE					
1	Our bank employs algorithmic systems for automated compliance monitoring and regulatory reporting					
2	AI-powered algorithms are used for real-time detection of suspicious transactions and fraud risks					
3	Our organisation utilises algorithmic tools for risk assessment and customer due diligence processes					
4	Algorithmic governance mechanisms in our bank operate with documented human oversight and accountability frameworks					
5	Our bank regularly validates and audits algorithmic systems to ensure accuracy, fairness, and regulatory compliance					
B	ORGANISATIONAL PERFORMANCE OF DEPOSIT MONEY BANKS					
6	Our bank has demonstrated improved operational efficiency through the adoption of algorithmic governance systems					
7	Algorithmic governance has enhanced our bank's ability to detect and prevent financial fraud risks					
8	Our organisation has achieved improved regulatory compliance scores since implementing algorithmic governance mechanisms					
9	The adoption of algorithmic systems has positively impacted our bank's profitability and financial performance					
10	Our bank's overall organisational performance has improved significantly since implementing algorithmic governance frameworks					