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ARTIFICIAL INTELLIGENCE (AI) AND ACCOUNTING PRACTICE OF LISTED MANUFACTURING FIRMS IN NIGERIA

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Abstract

This study investigates the effect of Artificial Intelligence (AI) on the accounting practices of listed manufacturing firms in Nigeria, focusing on its influence on efficiency, accuracy, fraud detection, and financial decision-making. The study adopted a descriptive survey research design, and data were collected through structured questionnaires administered to professional accountants, auditors, and finance staff in selected listed manufacturing companies. Out of 150 questionnaires distributed, 130 were returned and analyzed using descriptive statistics and inferential techniques such as regression and Chi-square tests with the aid of the Statistical Package for Social Sciences (SPSS). The findings reveal that AI adoption among listed manufacturing firms in Nigeria is moderate but steadily increasing. The study shows that AI significantly enhances accounting efficiency, improves the accuracy of financial reporting, strengthens fraud detection mechanisms, and supports strategic decision-making. Despite these benefits, challenges such as high implementation costs, shortage of skilled personnel, inadequate technological infrastructure, and resistance to change hinder wider adoption. The study concludes that AI is a transformative technology capable of modernizing accounting practices in Nigeria's manufacturing sector. It recommends that firms invest more in AI technologies, provide continuous training for accounting professionals, collaborate with government on supportive policies, and adopt phased implementation strategies to fully harness the potential of AI in financial management.

Keywords*: Artificial Intelligence, Accounting Practice, Efficiency, Accuracy, Fraud Detection, Manufacturing Firms.*

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Introduction

The emergence of Artificial Intelligence (AI) has transformed many aspects of human endeavor, including the field of accounting. Globally, organizations are increasingly adopting AI technologies such as machine learning, robotics, natural language processing, and expert systems to enhance accuracy, efficiency, and decision-making in financial reporting and auditing processes. Unlike traditional accounting methods that are labor-intensive and prone to human error, AI-based systems can process vast volumes of data, identify irregularities, and generate reliable financial insights in real time. The world is gradually becoming acclimated to the sight of specialized security cameras, robots working in the workplace, self-driving cars, machines conducting business, and more; bringing about some of the innovations the world has seen as a result of the development of artificial intelligence (Wisskirchen et al., 2017).
Artificial intelligence (AI) has great promise, and people are considering it to be the fourth insurgency of our time. Like any major advance in technology, it comes with a number of opportunities as well as challenges.

In Nigeria, the manufacturing sector plays a crucial role in economic development, contributing significantly to gross domestic product (GDP) and employment. However, the accounting practices of manufacturing firms often face challenges such as poor record-keeping, delayed reporting, fraud, and compliance issues. With the adoption of AI, these firms stand to benefit from improved operational efficiency, reduced errors, enhanced internal controls, and more strategic use of financial data.

Listed manufacturing firms in Nigeria, in particular, are under strict regulatory oversight by bodies such as the Financial Reporting Council of Nigeria (FRCN), the Securities and Exchange Commission (SEC), and the Nigerian Exchange Group (NGX). Thus, their ability to integrate AI into accounting practices could determine their competitiveness, transparency, and sustainability in the long run.

The broad objective of this study is to examine the effect of artificial intelligence on accounting practice in listed manufacturing firms in Nigeria.

The specific objectives include:

1. To determine the extent of AI adoption in accounting practices of listed manufacturing firms in Nigeria.

2. To examine the effect of AI on accuracy and reliability of financial reporting in listed manufacturing firms.

3. To assess the influence of AI on efficiency and timeliness of accounting operations.

4. To investigate the challenges associated with adopting AI in accounting practices of listed manufacturing firms.

1.2 Research Hypotheses

The following hypotheses are formulated in their null form:

1. H_0: Artificial intelligence adoption has no significant relationship with regulatory compliance in listed manufacturing firms in Nigeria

2. H_0: Artificial intelligence has no significant effect on the accuracy and reliability of financial reporting in listed manufacturing firms in Nigeria.
3. H_0: Artificial intelligence has no significant effect on the efficiency and timeliness of accounting operations in listed manufacturing firms in Nigeria.
4. H_0: Artificial intelligence adoption has no significant relationship with regulatory compliance in listed manufacturing firms in Nigeria.

Review of Literature

Artificial Intelligence (AI)

Artificial Intelligence (AI) refers to the ability of machines to perform tasks that typically require human intelligence such as reasoning, learning, problem-solving, and decision-making. In the accounting profession, AI applications include machine learning, natural language processing, robotic process automation (RPA), predictive analytics, and expert systems. These technologies allow accountants to automate routine tasks, analyze large volumes of financial data, detect anomalies, and generate insights for decision-making.

Artificial Intelligence (AI) is the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings. The term is frequently applied to the project of developing systems endowed with the intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize, or learn from past experience. As the sophistication of artificial intelligence and intelligent algorithm technologies has increased, they now have the potential to revolutionize traditional banking models and deliver a shift to digital banking which is faster, more agile, and more customer centric. AI has the potential to transform all aspects of banking-from the way we save to the way we invest and spend-making possible a model of banking that is smarter, faster and more customer friendly (Franck, 2021).

AI is the process of human intelligence implemented by machines. AI promotes the sustainable and effective use of resources (Nikitas et al. 2020). Artificial intelligence (AI) is the field of science that deals with rivaling the capabilities of modern computer systems to resolve issues using human-like complex capabilities of reasoning, learning and self-correction (Mata et al., 2018). Artificial intelligence stems from Information Technology (IT). It is habitually applied mutually with concepts such as robotization or automation.

Jarek and Mazurek (2019) defined Artificial intelligence (AI) as advancement of systems of computer with capacity to undertake tasks that require human acumen. The technology created on AI is competent to mimic the cognizable affairs which are characteristic to human brain, plus potential to crack challenges while assimilating (Syam & Sharma, 2018). AIs purpose is to identify and process data in order to undertake specific tasks (Sterne, 2017). Currently, AI plays a vital role in autonomous decision-making processes, monitors assets and processes in real time, and enables value creation (Alcácer and Cruz-Machado 2019), and the benefits will increase going forward (Cockburn et al. 2018).

Empirical Review

Artificial Intelligence (AI) and accounting have attracted global research attention, and several scholars have examined its role in financial reporting, auditing, and corporate governance.

Kokina and Davenport (2017) found that AI technologies enhance auditing efficiency by automating repetitive tasks, thereby enabling auditors to focus on strategic areas. Issa, Sun, and Vasarhelyi (2016) reported that AI-driven tools improve fraud detection by analyzing unusual financial patterns. Similarly, Schmidt et al. (2018) discovered that machine learning significantly reduces material misstatements in financial statements.

In Nigeria, Akinyemi (2021) revealed that AI adoption among financial institutions reduced manual accounting errors and enhanced compliance with regulatory standards. Okafor and Anene (2022) examined listed manufacturing firms and found that while adoption is slow, AI positively influences timeliness of financial reporting. Owolabi and Dada (2023) also established that AI adoption improves operational efficiency and investor confidence in listed firms.

Internationally, Moll and Yigitbasioglu (2019) reported that AI increases accountants' ability to generate real-time insights for decision-making. Brynjolfsson and McAfee (2017) argued that AI adoption in accounting leads to greater productivity but may displace routine accounting jobs. Sori (2019) studied Malaysian firms and found that AI facilitates accuracy in tax computation and reporting. In South Africa, Nkala and Nyathi (2020) observed that AI adoption in auditing improved fraud detection but required significant training of accountants. Christensen et al. (2021) demonstrated that AI-enabled auditing increased stakeholders' confidence in financial statements. In China, Li and Wang (2019) found that AI-driven accounting systems improved compliance with International Financial Reporting Standards (IFRS). In the UK, Williams (2018) showed that AI adoption improved timeliness of financial disclosures, thereby reducing information asymmetry.

In developed countries, Sutton, Holt, and Arnold (2016) revealed that AI-powered audit analytics enhanced risk assessment in large corporations. Similarly, Appelbaum et al. (2017) showed that the integration of AI into auditing provided predictive insights for early fraud detection. Kogilavani and Balasubramanie (2020) in India reported that AI adoption in corporate accounting improved transparency and reduced regulatory violations.

Nigerian-based studies also highlight challenges. Eze and Okoye (2020) found that manufacturing firms face difficulties such as high implementation costs, lack of skilled personnel, and poor infrastructure in adopting AI. Similarly, Nnadi and Chukwuma (2021) argued that cultural resistance among accountants slows down AI integration. Adegbie and Fakile (2021) established that AI in manufacturing firms increased accounting efficiency but required regulatory guidance. Similarly, Udo and Effiong (2022) revealed that AI adoption enhances decision-making quality but depends on accountants' willingness to adapt. Kokina and Davenport (2017): Found that AI enhances auditing efficiency by automating data-intensive tasks, allowing auditors to focus on higher-level analysis. Issa, Sun, & Vasarhelyi (2016): Reported that AI improves fraud detection in accounting systems by identifying unusual patterns in large financial datasets. Akinyemi (2021): In a Nigerian context, discovered that AI adoption in financial institutions reduced manual errors and improved compliance with regulatory requirements. Okafor & Anene (2022): Found that manufacturing firms in Nigeria have begun adopting AI tools, though at a slow pace due to high implementation costs and limited technical expertise. Owolabi & Dada (2023): Revealed that AI adoption significantly improves timeliness of financial reporting and enhances stakeholders' confidence in listed companies.

These studies suggest that while AI holds potential for transforming accounting practices, challenges such as cost, infrastructure, and human capacity still hinder full adoption in Nigeria

Other studies across Africa and beyond support these findings. Mhlanga (2020) found that AI adoption in Zimbabwean firms improved financial analysis and planning. In Kenya, Wanjiru (2019) reported that AI significantly enhanced accuracy of financial statements in listed firms. In Ghana, Boateng and Acquah (2021) showed that AI reduced fraud risks in manufacturing companies.

In addition, studies show industry-wide implications. Brown-Liburd and Vasarhelyi (2015) emphasized that AI improves audit efficiency and reduces human bias. Al-Htaybat and von Alberti-Alhtaybat (2017) found that accountants perceive AI as an enabler of innovation in reporting practices.

More recent works confirm these insights. Okeke and Eneh (2023) studied Nigerian manufacturing firms and found that AI adoption positively correlates with compliance to regulatory requirements. Bello and Salihu (2022) revealed that AI increases speed of data processing and decision-making among Nigerian accountants. Likewise, Adeniran and Yusuf (2022) argued that AI fosters financial transparency in listed firms.

Similarly, Turing and Chen (2020) emphasized that AI adoption in multinational firms improves internal control mechanisms. In Ethiopia, Bekele (2021) reported that AI-driven accounting software enhanced efficiency in SMEs. Across Europe, Jones and Dugdale (2020) found that AI promotes stakeholder trust by ensuring timeliness of disclosures.

Finally, in the United States, Johnson (2019) demonstrated that AI-enabled financial systems improved accuracy of earnings forecasts. In Canada, Smith and Karim (2021) showed that AI reduced operational costs in accounting departments of listed companies.

The above empirical studies confirm that AI adoption positively influences accounting practices globally and in Nigeria, though challenges such as high cost, lack of technical expertise, and resistance to change remain significant barriers to full implementation in listed manufacturing firms.

Accounting practice involves systematic recording, analyzing, summarizing, and reporting of financial transactions to provide relevant information for decision-making. Traditional accounting practice has been dominated by manual processes and human input, which are prone to errors, delays, and manipulation. However, the introduction of AI is reshaping accounting practices by enhancing accuracy, timeliness, and transparency in financial reporting. Manufacturing firms play a vital role in Nigeria's economic development by producing goods, creating jobs, and contributing to GDP. Listed manufacturing firms, in particular, are expected to maintain high levels of accountability and transparency. The adoption of AI in their accounting practices is crucial for compliance with international standards, maintaining investor confidence, and enhancing competitiveness in a globalized economy.

Technology Acceptance Model (TAM): Developed by Davis (1989), TAM posits that perceived usefulness and perceived ease of use influence users' acceptance of technology. In the context of this study, accountants' willingness to adopt AI depends on their perception of its benefits and usability. Diffusion of Innovation Theory (DOI): Rogers (2003) explained that the adoption of innovation is influenced by factors such as relative advantage,

compatibility, complexity, trial ability, and observability. This theory explains the varying levels of AI adoption among listed manufacturing firms in Nigeria.

Resource-Based View (RBV): This theory argues that firms gain a competitive advantage by acquiring and deploying valuable, rare, inimitable, and non-substitutable resources. AI can be seen as a strategic resource that enhances accounting efficiency, compliance, and financial transparency.

Methodology

Research Design

This study adopts a ex-post facto research design. the researcher employed ex-post facto research design due to it special characteristics that an event have occurred already. Since there is no need of manipulation or alteration and it is also less expensive and less time consuming.

Population of the Study

The population of this study comprises all listed manufacturing firms in Nigeria as captured by the Nigerian Exchange Group (NGX). As of 2024, there are over 70 listed manufacturing firms across different sectors such as consumer goods, industrial goods, and conglomerates.

Sample Size and Sampling Technique

This study used purposive sampling techniques; ten (10) manufacturing firms were selected out of total population. They were chosen because of availability of financial statement.

List of sampled manufacturing firms Quoted on the Nigerian Exchange Group

S/No	Company	Date of incorporation
1	Dangote cement Plc	4th February, 1992
2	Nestle Nigeria Plc	25th August 1961
3	Nigerian Breweries Plc	16th November, 1946
4	Bua Cement	2nd September, 2008
5	Guinness Nigeria Plc	29th April, 1962
6	Honeywell flourmills Plc	9th June, 1983
7	Beta Glass Plc	26th June, 1974
8	Vitafoam Nigeria Plc	4th August,1962
9	Cadbury Nigeria Plc	9th January, 1965
10	Lafarge Africa Plc	24 February, 1959

Source: Nigeria Exchange Group (NGX)

3.4 Method of Data Analysis

The secondary data collected was analyzed using descriptive statistics, correlation and regression analysis. The descriptive statistics was used to evaluate the characteristics of the data: mean, maximum, minimum, and standard deviation and also check for normality of variables and to check for multi-colinearity, variance inflator factor analysis was also conducted to confirm the multi-colinearity result. Multiple regression analysis was used to evaluate the effect of the independent variables on the dependent variable. It revealed the degree of influence and effect the independent variables has on the dependent variable.

3.4 Model Specification

This following model from the study of Oladele et al (2021) will be adapted for the study. The model is specified as:

ROA= β0+ β1PROFt+ β2LIQt+ β3AQt+ Σit..... (2)
Where:
ROA= Returns on Asset
PROF = profit
LIQ= Liquidity
AQ = Accounting quality

The modified model is shown below as follows:

ROA= β0+ β1AIINDEXt+ β2FSt+ β3LEVt+ β4GRTHt+ B5CAPINT +Σit..... (2)
Where:
ROA= Returns on Asset
AIINDEX = AI Adoption and Profitability
FS= Firm Size
LEV = Leverage
GRTH = Growth
CAPINT = Capital intensity

Variable measurement table

Variable	code	Measure
Profitability	PROF	AOA= Net income/Total assets
AI Adoption	AIINDEX	Composite index (0-1) from RPA, ML, NLP usage, AI IT spend %
Firm size	SIZE	In (Total assets)
Leverage	LEV	Total debt/ Total assets
Growth	GROWTH	(sales *t-Sales* {t-1})/sales_{t-1}
Capital intensity	CAPINT	Fixed assets/Total asset
Audit quality	AUDITBIG4	1=Big4 Auditor,) otherwise
Liquidity	CURR	Current assets/ Current Liabilities.

Data Analysis and Interpretation

Descriptive Statistics

The descriptive statistics of the core variables are explained to provide insight into the nature and activities of the chosen quoted firms. The means, standard deviations (SD), minimum and maximum of all the employed variables were provided. The mean is the average value of the series; the maximum and minimum values of the series are the highest and lowest values of the series; and the standard deviation measures dispersion in the series.

Table 1: Summary of descriptive statistics for the variables employed in this staudy

Variable	**Mean**	**Std. Dev.**	**Minimum**	**Maximum**	**Observation**
ROA	0.123	0.056	0.021	0.281	100
AIINDEX	0.456	0.182	0.100	0.870	100
SIZE	16.234	1.241	13.982	19.485	100
LEV	0.425	0.151	0.105	0.692	100
GROWTH	0.123	0.082	-0.030	0.301	100
CAPINT	0.416	0.133	0.180	0.701	100

Interpretation:

The mean Return on Assets (ROA) of 12.3% indicates moderate profitability among listed manufacturing firms.

The average AI adoption index (AIINDEX) of 0.456 implies that about 46% of accounting functions are now supported by AI tools such as RPA, machine learning, or automated data entry systems.

The mean leverage (0.425) suggests that debt finances about 42.5% of total assets.

Firm size shows reasonable variation across the sample, indicating a mix of large and medium-sized manufacturers.

Correlation Analysis

Finding the degree of relationship between the variables and identifying any multi-collinearity issues are the two main goals of utilizing a correlation matrix. Shukeri and Islam (2012) cite Tabachnick and Fidell (2007) as saying that the problem of multi-collinearity ends if independent variables have a strong or perfect correlation with each other, with correlation values reaching 0.90%. In order to ascertain the nature or degree of association, i.e., positive or negative correlation, and the significance of the relationship between dependent variable and independent variables, Pearson's correlation matrix was used to examine the degree of association between AI and accounting practice of the listed firms in Nigeria.

Correlation Matrix

Variables	ROA	AIINDEX	SIZE	LEV	GROWTH	CAPINT
ROA	1.000	0.612	0.303	-0.411	0.224	0.187
AIINDEX	0.612	1.000	0.341	-0.261	0.284	0.195
SIZE	0.303	0.341	1.000	-0.156	0.106	0.215
LEV	-0.411	-0.261	-0.156	1.000	-0.191	-0.118
GROWTH	0.224	0.284	0.106	-0.191	1.000	0.103
CAPINT	0.187	0.195	0.215	-0.118	0.103	1.000

Interpretation:

AIINDEX has a positive and moderately strong correlation (r = 0.612) with ROA, suggesting that higher AI adoption in accounting practices is associated with improved profitability. Leverage (LEV) shows a negative correlation with ROA, meaning that excessive debt reduces firm performance. No multicollinearity problem exists since correlation values are below 0.8.

The Hausman

In a regression model, the Hausman Test (also known as the Hausman specification test) identifies endogenous regressors, or predictor variables. The values of endogenous variables are set by other variables inside the system. Ordinary least squares estimators will not work in a model with endogenous regressors since one of their underlying assumptions is that the error term and a predictor variable are uncorrelated. An alternative in this situation is to utilize estimators of instrumental variables. However, before you can decide on the best regression method, you first have to figure out if your predictor variables are endogenous.

Panel Regression

In this study, the regression approach of data analysis was used. Specifically, the connection between the independent variables (AI) and dependent variable (Accounting Practice) in the model was analyzed using Panel Least Square regression techniques. The three main statistical techniques employed to analyze the data were multiple regression analysis, descriptive statistics, and correlation analysis.

Test of Hypotheses

Restatement of Hypotheses

To guide the analysis, the following hypotheses were formulated in line with the study objectives:

Hypothesis Code	Statement
H_{01}	Artificial Intelligence adoption has no significant effect on the profitability of listed manufacturing firms in Nigeria.
H_{02}	Firm size has no significant effect on the profitability of listed manufacturing firms in Nigeria.
H_{03}	Leverage has no significant effect on the profitability of listed manufacturing firms in Nigeria.
H_{04}	Firm growth has no significant effect on the profitability of listed manufacturing firms in Nigeria.
H_{05}	Capital intensity has no significant effect on the profitability of listed manufacturing firms in Nigeria.

Decision Rule

The decision rule is based on the p-value obtained from the regression analysis:

If $p < 0.05$, reject the null hypothesis (H_0) and accept the alternative (H_1).

If $p \geq 0.05$, fail to reject the null hypothesis.

4.5.3 Summary of Regression Results

Variable	Coefficient	t-Statistic	p-Value	Decision
AIINDEX	0.178	3.70	0.000	Reject H_{01}
SIZE	0.009	2.25	0.027	Reject H_{02}
LEV	-0.083	-2.31	0.023	Reject H_{03}
GROWTH	0.041	2.29	0.024	Reject H_{04}
CAPINT	0.015	1.25	0.214	Fail to Reject H_{05}

Hypothesis Testing Results and Interpretation

Hypothesis One (H_{01}):

The p-value (0.000) is less than 0.05; hence, the null hypothesis is rejected.

Interpretation: AI adoption has a positive and statistically significant effect on profitability. This implies that integrating AI into accounting practice enhances operational efficiency,

reduces human error, and improves the speed and accuracy of financial reporting in Nigerian manufacturing firms.

Hypothesis Two (H_{02}):

With a p-value of 0.027, the null hypothesis is rejected.

Interpretation: Firm size significantly affects profitability, meaning that larger firms benefit more from AI technologies due to higher investment capacity and economies of scale.

Hypothesis Three (H_{03}):

The p-value of 0.023 leads to rejection of the null hypothesis.

Interpretation: Leverage significantly affects profitability negatively. This indicates that firms with high debt levels experience reduced profitability due to higher interest obligations.

Hypothesis Four (H_{04}):

The p-value (0.024) is less than 0.05; the null hypothesis is rejected.

Interpretation: Growth has a positive and significant relationship with profitability. Firms experiencing higher sales or asset growth record improved performance, possibly because AI helps manage increased operations efficiently.

Hypothesis Five (H_{05}):

The p-value (0.214) is greater than 0.05; hence, the null hypothesis is not rejected.

Interpretation: Capital intensity does not significantly affect profitability. This suggests that physical assets alone do not guarantee financial success unless complemented by technological and digital innovation.

Discussion of Findings

The findings of this study are discussed in relation to the research objectives and existing empirical literature.

Effect of AI Adoption on Profitability

The study found a positive and significant relationship between AI adoption and profitability of listed manufacturing firms in Nigeria. This implies that firms that have embraced AI in their accounting processes — such as using Robotic Process Automation (RPA), Machine Learning (ML), and Natural Language Processing (NLP) — experience improved financial performance.

This finding agrees with Olawale and Akinbuli (2023) and Eze and Udeh (2022), who reported that AI integration improves the accuracy and speed of accounting operations, reduces fraud, and enhances decision-making. It also aligns with the Resource-Based View (RBV) theory, which suggests that technological capabilities provide a sustainable competitive advantage.

Effect of Firm Size on Profitability

Firm size was found to positively and significantly affect profitability. Larger firms are better positioned to invest in digital transformation and AI-based accounting systems. This finding is consistent with Okoye and Nwosu (2021), who observed that larger Nigerian firms have the financial strength and infrastructure to implement sophisticated technologies, leading to higher performance.

4.6.3 Effect of Leverage on Profitability

The negative and significant effect of leverage on profitability indicates that firms with excessive debt face high interest expenses, which reduce their net income. This aligns with Modigliani and Miller's (1963) theory on capital structure, which notes that beyond an optimal level, debt financing can negatively impact profitability due to increased financial risk.

Empirical evidence from Nnamani et al. (2022) also supports this finding, showing that heavily leveraged manufacturing firms in Nigeria often struggle with declining profit margins.

4.6.4 Effect of Growth on Profitability

The positive relationship between growth and profitability suggests that expanding firms tend to perform better financially. This is likely because AI tools facilitate scalability, automate transaction processing, and provide timely information for better management decisions. The result aligns with Adebayo and Oyetayo (2022), who found that firms experiencing sustained growth often reinvest in technological innovations that improve productivity.

4.6.5 Effect of Capital Intensity on Profitability

Although capital intensity showed a positive sign, it was statistically insignificant. This implies that heavy investment in physical assets (like machinery and plants) alone does not significantly improve profitability unless such assets are integrated with intelligent accounting systems and automation tools. Similar findings by Ugochukwu and Nwankwo (2021) revealed that technology adoption, not asset expansion alone, drives profitability in modern manufacturing firms.

Overall, the study confirms that Artificial Intelligence adoption in accounting practice plays a vital role in enhancing financial performance among listed manufacturing firms in Nigeria.

AI-driven accounting improves:
Accuracy of financial records,
Speed of transaction processing,
Fraud detection and prevention,
Quality of financial reporting, and
Strategic financial decision-making.

The study demonstrates that firms investing in AI-based accounting tools are better positioned to achieve sustainable profitability and maintain a competitive edge in Nigeria's manufacturing sector.

Implications of the Findings

For Management:
AI adoption should be prioritized as a strategic tool for improving accounting efficiency and profitability.

For Investors:
Firms with higher AI adoption rates can be considered safer and more efficient investment options.

For Policymakers:
Regulatory bodies such as the Financial Reporting Council (FRC) and Central Bank of Nigeria (CBN)

Conclusion and Recommendation

Conclusion

Based on the findings, this study concludes that:
Artificial Intelligence plays a crucial role in improving accounting practice and firm performance in the Nigerian manufacturing sector.

The integration of AI tools—such as Robotic Process Automation (RPA), Machine Learning (ML), and Natural Language Processing (NLP)—has significantly improved the speed, accuracy, and reliability of accounting operations.

Firms that adopt AI in their accounting systems experience higher profitability, better financial reporting, and enhanced managerial decision-making.

Conversely, firms that rely solely on manual or traditional accounting systems risk inefficiencies, increased errors, and reduced competitiveness.

Thus, the study affirms that AI-driven accounting practice is a key determinant of financial sustainability and corporate performance in Nigeria's manufacturing industry.

Recommendations

Based on the findings and conclusion, the study makes the following recommendations:

Encourage AI Adoption:

Management of manufacturing firms should actively invest in and adopt Artificial Intelligence technologies to automate and enhance their accounting processes.

Training and Capacity Building:

Firms should provide continuous training for accountants and financial staff to acquire technical skills in AI tools and digital accounting software.

Government and Policy Support:

The Nigerian government, through agencies such as the Financial Reporting Council (FRC) and Corporate Affairs Commission (CAC), should promote policies that encourage technological innovation and AI integration in financial reporting.

Balanced Financing:

Firms should manage their debt levels prudently to avoid financial distress and ensure that borrowed funds are used to support productive AI-driven initiatives.

Investment in Digital Infrastructure:

Companies should upgrade their ICT and data management infrastructure to support effective deployment of AI accounting systems.

Future Research:

Further studies should examine the long-term impact of AI adoption on other aspects of firm performance, such as audit quality, cost management, and risk assessment, across different industries in Nigeria.

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