INTEGRATION OF ARTIFICIAL INTELLIGENCE IN OFFICE MANAGEMENT: IMPLICATIONS FOR DECISION-MAKING AND OPERATIONAL EFFICIENCY IN LAGOS STATE

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Abstract
This study examined the integration of artificial intelligence in office management: Implications for Decision-making and Operational Efficiency in Apapa, Lagos State. The aim of this study was to assess how AI-powered Tools impact managerial decision-making processes, operational efficiency and to identify major challenges that hinder successful AI implementation in office environment. The researchers employed descriptive survey design, targeting a total population of 52 office managers and administrative professionals across four selected organizations in Lagos State. Data were collected through a structured questionnaire and analyzed using descriptive statistics and inferential statistics. Findings revealed that AI tools significantly improved decision-making accuracy, reduced human error, and enhanced strategic planning in the workplace. AI technologies were also found to positively impact productivity levels and resource utilization, although workflow optimization showed a weak but positive relationship with operational efficiency. The study also uncovered several challenges, including limited technical skills, resistance from employees who fear that automation may render their roles obsolete, high costs of AI tools, ethical concerns and bias in algorithms. Despite the noted benefits, multiple regression analysis showed that while AI influences office performance, not all contributions were statistically significant. The study concluded that although AI integration enhances office operations, successful implementation requires addressing systemic challenges. It recommended continuous staff training, implement regular assessment mechanisms to evaluate the effectiveness of AI tools, investment in digital infrastructure, and development of ethical and regulatory guidelines to foster trust in AI systems.

Keywords: Artificial Intelligence, Office Management, Decision-Making, Operational Efficiency.

Introduction

Artificial Intelligence (AI) refers to computer systems and software applications that can perform tasks typically requiring human intelligence, such as learning, reasoning, problem-solving, and decision-making. This includes tools like virtual assistants, predictive analytics, robotic process automation (RPA), and natural language processing (NLP) used in office settings.Office management is the coordination and supervision of administrative activities within a corporate environment. It includes tasks such as planning, organizing, staffing, controlling, and the use of technology to enhance efficiency in workplace operations. The integration of Artificial Intelligence (AI) into office management marks a transformative era in modern organizational practices, bringing fundamental changes to how businesses operate, make decisions, and manage human and material resources. As Kabir and Rahman (2025) noted, AI technologies are no longer theoretical concepts but practical tools now embedded in real-time operations within office environments. Historically, office management revolved around clerical duties, documentation, coordination of meetings, and administrative supervision, tasks traditionally handled manually. Obielum (2022), maintain that modern AI-driven platforms have redefined this scope by replacing repetitive manual functions with machine-led alternatives. According to Adeyinka (2022), AI applications in the workplace are diverse, ranging from the

use of AI-powered decision support tools, predictive analytics, and virtual assistants' tools for decision making.

Decision-making is a core managerial function that involves selecting the most appropriate course of action from available alternatives to achieve specific objectives. It is a critical process in every organization, influencing both strategic direction and operational execution. As Eze and Chinedu (2022) stated, effective decision-making is the foundation upon which successful organizations build their competitive edge, manage risk, and adapt to changing environments. In office management, decision-making spans both routine administrative tasks and high-level planning functions. AI integration supports strategic agility in office management by equipping decision-makers with real-time analytical capabilities. AI decision support tools such as IBM Watson, Microsoft Azure AI, and Salesforce Einstein not only process massive datasets but also uncover trends and correlations that are not immediately visible to human analysts. These systems enable predictive modeling, allowing managers to anticipate market shifts, monitor employee performance metrics, and reduce decision-making latency. Virtual tools such as Microsoft Teams, Google Meet, klaxon, Zoom and so on. In support of this, Kumar et al (2024) asserted that such AI-enabled capabilities enhance operational intelligence and allow organizations to proactively respond to internal and external challenges.

Operational efficiency refers to the ability of an organization to deliver services or perform functions using minimal resources while maximizing output. This includes improvements in productivity, resource utilization, and workflow optimization. Productivity remains one of the most critical indicators of operational efficiency in any organization. It reflects the relationship between inputs and outputs, and it determines how effectively an organization converts resources such as labor, time, and capital into results.Resource utilization refers to the efficient and effective use of resources, such as time, money, personnel, equipment and materials to achieve specific objectives. Work optimization involves analyzing and improving workflows, eliminating waste and leveraging resources to achieve better outcomes. By applying work optimization strategies organizations can achieve greater efficiency, productivity and success.

Consequently, the main objective of this study was to examine the integration of Artificial Intelligence (AI) in office management and its implications for decision-making and operational efficiency in selected corporate organizations in Lagos State. The specific objectives of this study were to:

1. Analyze the extent to which integration of Artificial Intelligence influence decision-making processes in office environments.
2. Evaluate the impact of AI technologies on key operational efficiency metrics, including productivity levels, resource utilization, and workflow optimization.
3. Determine the extent to which AI influence office managers and administrative professionals in corporate organizations in decision-making.
4. Identify the primary challenges that hinder the successful implementation of AI in office management.

The study adopted Experiential Learning Theory (ELT), developed by David Kolb in 1984, and Technology Acceptance Model (TAM), developed by Davis in1989. Experiential Learning Theory (ELT), developed by David Kolb in 1984, emphasizes that knowledge is created through the transformation of experience. According to Kolb, individuals learn best when they go through a cyclical process involving concrete experience, reflective observation, abstract conceptualization, and active experimentation. In an organizational context, employees engage in this learning process as they interact with new technologies, such as AI tools, learning not only by formal instruction but by using, observing, and refining their engagement with these tools over time. Office workers and managers become more competent in using AI technologies as they apply them in real-life scenarios. Davenport and Ronanki (2018), maintain that repeated exposure to AI tools, reflection on performance outcomes, and continuous experimentation with AI systems will ultimately determine how well AI improves operational efficiency.

The Technology Acceptance Model (TAM), developed by Davis in1989, is another critical theory underpinning this study. It explains how users come to accept and use a particular technology, emphasizing two main factors: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). Perceived usefulness

refers to the degree to which a person believes that using a system will enhance their job performance, while perceived ease of use relates to how effortless they think the system is to operate. These perceptions ultimately influence a user's behavioral intention to adopt a technology and their actual usage. The integration of AI in office management is not only technical but also human-centered, understanding how office staff perceive these tools in terms of usefulness and ease of use becomes central (Brynjolfsson, & McAfee, 2017). If AI systems are too complex or do not provide immediate value, users may resist them, limiting their impact on operational efficiency and decision-making.

However, there are various empiricalevidencefromcurrentstudieshighlightingthecrucialrole of AI in decision making and operational efficiency.Ashritha (2024) reported that AI promotes democratized decision-making by providing real-time data access to mid- and lower-level managers, thereby fostering a culture of accountability and responsiveness. Eze and Chinedu (2022) from their study discovered that decision-makers now rely heavily on AI dashboards and visualizations to identify trends, forecast outcomes, and make evidence-based strategic choices.According to Chukwuemeka and Akpojotor (2025)AI has helped in analyzing large amount of data sets, and also helped in providing insight into decision making and used to enhance academic teaching and learning.Ezeh (2023) highlighted, predictive maintenance systems powered by AI help organizations anticipate equipment failures, optimize servicing schedules, and avoid downtime. Afolabi (2021) conducted a study on digital transformation and organizational decision-making and revealed that the integration of digital technologies—particularly Artificial Intelligence (AI)—has enhanced the quality, speed, and precision of organizational decisions. AI tools provide real-time analytics, pattern recognition, and predictive modeling that inform strategic and operational decisions. Olayemi (2022) asserted that decision delays often stem from poor access to relevant data or a lack of decision-support tools. Also, AI tools such as dashboards and real-time reporting systems help to reduce decision lag by presenting synthesized data to managers in accessible formats. Aleessawi (2025) carried out a study on the impact of AI on modern managerial practices and concluded that, predictive analytics tools allow informed decisions backed by evidence rather than assumptions in the office environment. Salami (2022) asserted that process automation reduces errors, shortens cycle times, and frees up human resources for more strategic assignments, thereby boosting organizational productivity.

Further, AI systems can monitor resource usage patterns, detect inefficiencies, and recommend adjustments. As Ezeh (2023) highlighted, predictive maintenance systems powered by AI help organizations anticipate equipment failures, optimize servicing schedules, and avoid downtime. Anikeze (2023) noted that smoother communication translates into fewer delays, improved teamwork, and faster execution of tasks, all of which are critical components of operational efficiency. Olubiyi (2025) maintain that office procedures through AI -powered system enables the continuous refinement of workflow structures through real-time data analysis and adaptive learning, ensuring operations are not just faster but smarter. The findings of their studies, (Udo and Eze 2019, Okoro, 2021, Mohammed 2023) show that there are challenges to AI implementation in the office management some of these challenges are resistance from employees who fear that automation may render their roles obsolete,high cost of implementation, ethical concerns and bias in algorithms, limited technical expertise and knowledge gaps.

Statement of the Problem

Despite the increasing adoption of Artificial Intelligence (AI) in global business operations and its vast benefits, many corporate organizations still struggle to leverage its full potential in office management, particularly in decision-making and operational processes due to challenges such as resistance from employees who fear that automation may render their roles obsolete,high cost of implementation, ethical concerns and bias in algorithms, limited technical expertise and knowledge gaps. According to Kassa and Worku (2025), the deployment of AI in decision-making must be accompanied by a robust ethical framework to safeguard transparency and accountability. The concept of a "black box" AI, where decisions are made without clear human interpretability, challenges traditional notions of corporate responsibility and regulatory compliance. While AI technologies such as predictive analytics, virtual assistants, and process

automation are being deployed to streamline tasks and enhance productivity, their integration often lacks strategic alignment with organizational goals.

However, there seem to be limited empirical understanding of how AI influences the quality, speed, and accuracy of managerial decisions within the Nigerian corporate context. These issues highlight a critical need to investigate the real-world implications of AI integration on decision-making structures and operational workflows. Hence, the researchers have decided to bridge this knowledge gap by examining how AI affects office management practices in selected corporate organizations, with the aim of identifying both its transformative potential and its inherent limitations.

Research Questions

To guide the study and achieve its stated objectives, the following research questions are posed:

1. To what extent does the integration of Artificial Intelligence influence decision-making processes in office environments?
2. What is the impact of AI technologies on key operational efficiency metrics such as productivity levels, resource utilization, and workflow optimization in corporate organizations?
3. To what extent does AI influence office managers and administrative professionals in corporate organizations in decision-making?
4. What are the primary challenges hindering the successful implementation of AI in office management settings?

Research Hypotheses

The following hypotheses were tested on a significance level of 0.05 using the multiple regression:

H_{01}: The combined influence of AI-powered decision support tools, predictive analytics, and virtual assistants has no significant effect on managerial decision-making effectiveness in corporate office management.

H_{02}: The integration of AI in administrative automation, resource utilization, and workflow optimization does not significantly predict operational efficiency in corporate organizations.

Method

This study employed adescriptive survey design. The population of this study comprised 52 office managers and administrative personnel from four selected freight forwarding companies operating in Apapa, Lagos State – Derindos Ventures Nig. Ltd, Acepoint Solutions, Micura Services Ltd. and Debayrich Nig. Ltd, . This study employed a census sampling technique, which involved using the entire population of fifty-two (52) as the sample. The instrument for data collection was a structured questionnaire titled: Integration of artificial intelligence in office management: Implications for Decision-Making and Operational Efficiency Questionnaire. The questionnaire was partitioned into two sections. Section A was for respondents' Bio-data while section B was to elicit information from the respondents regarding the questions posed and which was structured on four-point Likert rating scale of Very High Extent (VHE) 4 points, High Extent (HE) 3 points, Low Extent (LE) 2 points and Very Low Extent (VLE) 1 point or Strongly Agree (SA) 4 points, Agree (A) 3 points, Disagree (D) 2 points, and Strongly Disagree (SD) 1 point. The instrument was face and content validated by three experts. (two from Department of Business Education and one Department of Office Technology & Management, Yaba College of Technology, Lagos. The reliability of the instrument was established using Pearson's Product Moment Correlation (PPMC), and reliability coefficient of 0.85 was obtained. Percentage was used in answering the research questions and the cut-off point was 50%. Any questionnaire response that was 50% and above was regarded as agreed while below 50% was regarded as disagreed, and the null hypothesis was tested using the multiple regression analysis (MRA) at 0.05 level of significance. The null hypothesis was accepted when the calculated p-value was greater than the alpha value of 0.05 level of significance while it was rejected when the calculated p-value was less than the alpha value of 0.05 level of significance.

Results

Research Question One: To what extent does the integration of Artificial Intelligence influence decision-making processes in office environments?

Table 1:*Summary of responses onextent to which the integration of Artificial Intelligence influence decision-making processes in office environments*

S/N	Item Statement Extent to which:	VHE (%)	HE (%)	LE (%)	VLE (%)
1	AI tools in my organization help improve the accuracy of decision-making.	39 75.0	12 23.1	1 1.9	-
2	Real-time data from AI systems supports faster office decision-making.	32 61.5	20 38.5	-	-
3	AI assists in minimizing human error in critical decision-making processes.	22 42.3	30 57.7	-	-
4	The integration of AI has enhanced strategic planning within my organization.	25 48.1	27 51.9	-	-
5	Decision-making tasks in the office are more efficient since the adoption of AI tools.	16 30.8	36 69.2	-	-

Table 1 shows the influence of Artificial Intelligence (AI) integration on decision-making processes in office environments. It reveals that 98.1% of the office managers and administrative professionals agreed to a very high extent or high extent that AI tools in their organization help improve the accuracy of decision-making, 100.0% agreed to a very high extent or high extent that real-time data from AI systems supports faster office decision-making and 100.0% agreed to a very high extent or high extent that AI assists in minimizing human error in critical decision-making processes. Also, it shows that 100.0% of the office managers and administrative professionals agreed to a very high extent or high extent that the integration of AI has enhanced strategic planning within their organization and 100.0% of them agreed to a very high extent or high extent that decision-making tasks in the office are more efficient since the adoption of AI tools.

Research Question Two: What is the impact of AI technologies on key operational efficiency metrics such as productivity levels, resource utilization, and workflow optimization in corporate organizations?

Table 2:*Summary of responses on the impact of AI technologies on key operational efficiency metrics*

S/N	Impact of AI technologies on:	SA (%)	A (%)	D (%)	SD (%)
	Productivity Levels				
6	AI tools help me finish office tasks faster.	29 55.8	22 42.3	1 1.9	-
7	AI reduces time wasted on repetitive tasks.	26 50.0	25 48.1	1 1.9	-
8	My productivity has increased since using AI.	26 50.0	26 50.0	-	-
9	AI helps reduce errors in my work.	27 51.9)	25 48.1	-	-
10	I get more tasks done with the help of AI tools.	29 55.8	23 44.2	-	-
	Resource Utilization				

11	AI helps my office make better use of time.	25 48.1	26 50.0	1 1.9	-
12	AI has reduced the need for paper and manual files.	29 55.8	20 38.5	3 5.8	-
13	Office equipment is used more efficiently due to AI.	25 48.1	25 48.1	2 3.8	-
14	AI helps in reducing unnecessary spending in the office.	27 51.9	19 36.5	6 11.5	-
15	Human effort is used better with AI in place.	26 50.0	22 42.3	4 7.7	-
	Workflow Optimisation				
16	AI makes it easier to track the progress of office work.	33 63.5	18 34.6	1 1.9	-
17	Office tasks are more organized since AI was introduced.	24 46.2	26 50.0	2 3.8	-
18	AI helps reduce delays in office processes.	28 53.8	21 40.4	3 5.8	-
19	AI has improved how tasks are assigned and followed up.	23 44.2	27 51.9	2 3.8	-
20	AI helps office workers stay updated on ongoing tasks.	28 53.8	24 46.2	-	-

Table 2 evaluates the impact of AI technologies on key operational efficiency metrics. It reveals that on productivity levels, 98.1% of the office managers and administrative professionals strongly agreed or agreed that AI tools help them finish office tasks faster, 98.1% strongly agreed or agreed that AI reduces time wasted on repetitive tasks and 100.0% strongly agreed or agreed that their productivity has increased since using AI. Also, it shows that 100.0% of the office managers and administrative professionals strongly agreed or agreed that AI helps reduce errors in their work and 100.0% strongly agreed or agreed that they get more tasks done with the help of AI tools.

It reveals that on resources utilization, 98.1% of the office managers and administrative professionals strongly agreed or agreed that AI helps their office make better use of time, 94.2% strongly agreed or agreed that AI has reduced the need for paper and manual files and 96.2% strongly agreed or agreed that office equipment is used more efficiently due to AI.

Also, it shows that 88.5% of the office managers and administrative professionals strongly agreed or agreed that AI helps in reducing unnecessary spending in the office and 92.3% strongly agreed or agreed that human effort is used better with AI in place.

Furthermore, it reveals that on workflow optimization, 98.1% of the office managers and administrative professionals strongly agreed or agreed that AI makes it easier to track the progress of office work, 96.2% strongly agreed or agreed that office tasks are more organized since AI was introduced and 94.2% strongly agreed or agreed that AI helps reduce delays in office processes.

Lastly, it shows that 96.2% of the office managers and administrative professionals strongly agreed or agreed that AI has improved how tasks are assigned and followed up and 100.0% strongly agreed or agreed that AI helps office workers stay updated on ongoing tasks.

Research Question Three: To what extent does AI influence office managers and administrative professionals in corporate organizations in decision-making?

Table 3:*Summary of responses on extent to which AI influence office managers and administrative professionals in corporate organizations in decision-making*

S/N	Statements	VHE (%)	HE (%)	LE (%)	VLE (%)

1	AI helps office managers make quicker decisions.	35 67.3	16 30.8	1 1.9	-
2	AI improves how office managers handle daily tasks.	27 51.9	24 46.2	1 1.9	-
3	AI makes it easier to manage office resources.	23 44.2	29 55.8	-	-
4	AI helps office managers track work progress better.	18 34.6	34 65.4	-	-
5	AI helps office managers work better with their team.	24 46.2	28 53.8	-	-

Source: *Field Study, 2025*

Table 3 shows the office management of office managers and administrative professionals in corporate organizations. It reveals that 98.1% of the office managers and administrative professionals strongly agreed or agreed that AI helps office managers make quicker decisions, 98.1% strongly agreed or agreed that AI makes it easier to manage office resources and 100.0% strongly agreed or agreed that AI makes it easier to manage office resources.

Also, it shows that 100.0% of the office managers and administrative professionals strongly agreed or agreed that AI helps office managers track work progress better and 100.0% strongly agreed or agreed that AI helps office managers work better with their team.

Research Question four: What are the primary challenges hindering the successful implementation of AI in office management settings?

Table 4: *Summary of responses to primary challenges that hinder the successful implementation of AI in office management.*

S/N	Primary challenges that hinder the successful implementation of AI	SA (%)	A (%)	D (%)	SD (%)
1	Lack of technical skills among staff limits the full use of AI systems.	26 50.0	21 40.4	5 9.6	-
2	High costs of AI tools and maintenance hinder their implementation in the office.	21 40.4	24 46.1	7 13.5	
3	There is resistance from employees toward adopting AI in office operations.	18 34.6	28 53.8	5 9.6	1 1.9
4	Concerns about data privacy reduce the willingness to adopt AI technologies.	21 40.4	25 48.1	6 11.5	-
5	Inadequate infrastructure affects the effective deployment of AI systems.	20 38.5	29 55.8	3 5.7	-

Table 4 identified the primary challenges that hinder the successful implementation of AI in office management. It reveals that 90.4% of the office managers and administrative professionals strongly agreed or agreed that lack of technical skills among staff limits the full use of AI systems, 86.5% strongly agreed or agreed that high costs of AI tools and maintenance hinder their implementation in the office and 88.4% strongly agreed or agreed that there is resistance from employees toward adopting AI in office operations.

Also, it shows that 88.5% of the office managers and administrative professionals agreed to a very high extent or high extent that concerns about data privacy reduce the willingness to adopt AI technologies and 94.3% strongly agreed or agreed that inadequate infrastructure affects the effective deployment of AI systems.

Hypotheses Testing

Hypothesis One:

H_0^1: The combined influence of AI-powered decision support tools, predictive analytics, and virtual assistants has no significant effect on managerial decision-making effectiveness in corporate office management.

Table 5: *The correlation coefficient of the relationship between AI-powered decision support tools, operational efficiency and managerial decision-making effectiveness in corporate office management.*

Variables	Mean	Std. Deviation	1	2	3
Office Management	82.69	9.81	1.000		
AI Integration on Decision Making	83.72	10.26	0.262 (<0.001)	1.000	
Operational Efficiency	82.86	10.11	0.181 (0.099)	0.461 (<0.001)	1.000

Table 5 shows the correlation coefficient of the relationship between AI-powered decision support tools, operational efficiency and managerial decision-making effectiveness in corporate office management. It shows that office management was rated 82.69% (SD = 9.81) and AI integration on decision making was rated 83.72% (10.26%) and the correlation coefficient between them is 0.262 which implies that a weak positive and significant relationship exists between them ($r = 0.262$; $p < 0.001$). Also, operational efficiency was rated 82.86% (SD = 10.11%) while office management is as above and the correlation coefficient between them is 0.181 which implies that a weak positive and not significant relationship exists between them ($r = 0.181$; $p = 0.099$).

Table 3: The model of the influence of AI-powered decision support tools and operational efficiency on managerial decision-making effectiveness in corporate office management.

	Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
Model	B	Std. Error	Beta	T	Sig.	Lower Bound	Upper Bound
(Constant)	58.365	12.979		4.497	.000	32.282	84.448
AI Integration on Decision Making	.217	.148	.227	1.463	.150	-.081	.515
Operational Efficiency	.075	.150	.077	.496	.622	-.228	.377
$F_{3,48} = 1.939$; $p = 0.155$; $R^2 = 0.073$; Adj. $R^2 = 0.036$							

Dependent Variable: Office Management

Table 3 shows the model of the influence of AI-powered decision support tools and operational efficiency on managerial decision-making effectiveness in corporate office management as:

Office Management = 58.365 + 0.217*AI Integration on Decision Making + 0.076*Operational Efficiency

The model shows that a percent increase in AI Integration on decision making will increase office management by 0.217 and the increase is not significant ($B_1 = 0.217$; $t = 1.463$; $p > 0.05$). This implies that AI Integration on decision making though has a relative positive influence on office management, its effect is not significant.

The model also shows that a percent increase in operational efficiency will increase office management by 0.075 and the increase is also not significant ($B_2 = 0.075$; $t = 0.496$; $p > 0.05$). This implies that operational efficiency though has a relative positive influence on office management, its effect is not significant.

The coefficient of determination (R^2) obtained is 0.073 which implies that AI integration on decision making and operational efficiency accounts for only 7.3% of the total variability of the managerial decision-making effectiveness in corporate office management was $H0^1$ accepted or rejected.

Hypothesis Two

H_0^2: The integration of productivity levels, resource utilization, and workflow optimization does not significantly predict operational efficiency in corporate organizations.

Table 4: The correlation coefficient of the relationship between productivity levels,resource utilization, and workflow optimization and operational efficiency in corporate organization.

Variables	Mean	Std. Deviation	1	2	3	4
Operational Efficiency	82.86	10.11	1.000			
Productivity Levels	83.97	12.82	0.715 (<0.001)	1.000		
Resource Utilization	81.54	13.31	0.795 (<0.001)	0.352 (0.005)	1.000	
Workflow Optimization	82.69	9.81	0.181 (0.099)	0.080 (0.288)	0.054 (0.351)	1.000

Table 4. shows the correlation coefficient of the relationship between productivity levels,resource utilization, and workflow optimization and operational efficiency in corporate organization. It shows that operational efficiency was rated 82.86% (sd = 10.11%) and productivity levels was rated 83.97% (12.82%) and the correlation coefficient between them is 0.715 which implies that a strong positive and significant relationship exists between them ($r = 0.715$; $p < 0.001$). This implies that increasing operational efficiency through AI adoption will raise productivity level.

Also, operational efficiency was rated 82.86% (sd = 10.11%) while resource utilization was rated 81.54% (13.31%) and the correlation coefficient between them is 0.795 which implies that a strong positive and significant relationship exists between them ($r = 0.795$; $p < 0.001$). This implies that increasing operational efficiency through AI adoption will raise resources utilization. Lastly, operational efficiency was rated 82.86% (sd = 10.11%) while workflow optimization was rated 82.69% (9.81%) and the correlation coefficient between them is 0.181 which implies that a weak positive and not significant relationship exists between them ($r = 0.181$; $p > 0.05$). This implies that increasing operational efficiency through AI adoption will raise workflow optimization but the increase was not significant.

Table 5: The model of the influence of productivity levels,resource utilization, and workflow optimization on operational efficiency in corporate organization.

Model	Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	T	Sig.	95.0% Confidence Interval for B Lower Bound	95.0% Confidence Interval for B Upper Bound
(Constant)	2.922	6.020		.485	.630	-9.182	15.026
Productivity Levels	.386	.046	.489	8.468	.000	.294	.478
Resource Utilization	.469	.044	.617	10.707	.000	.381	.557
Workflow Optimization	.112	.056	.109	2.009	.050	.000	.224
$F_{3,48} = 98.522$; $p < 0.001$; $R^2 = 0.860$; Adj. $R^2 = 0.852$							

Dependent Variable: Operational Efficiency

Table 5. is given as:

Operational Efficiency = 2.922 + 0.386*Productivity Levels + 0.469*Resource Utilization + 0.112*Workflow Optimization

The model shows that a percent increase in productivity levels will increase operational efficiency in corporate organizations by 0.386 and the increase is significant **($B_1 = 0.386$; $t = 8.468$; $p < 0.001$)**. This implies that increasing the productivity levels of corporate organizations will lead to greater operational efficiency in the organization. The model also shows that a percent increase in resource utilization will increase operational efficiency in corporate organizations by 0.469 and the increase is significant **($B_2 = 0.469$; $t =$** 10.707**; $p < 0.001$)**. This implies that increasing the resource utilization of corporate organizations will lead to greater operational efficiency in the organization. The model lastly shows that a percent increase in workflow optimization will increase operational efficiency in corporate organizations by 0.112 and the increase is not significant **($B_1 = 0.112$; $t =$** 2.009**; $p = 0.05$)**. This implies that increasing the workflow optimization of corporate organizations will lead to operational efficiency in the organization.

The F-value of the model obtained is 98.522 at 3, 48 degrees of freedom which shows that at least one of the independent variables (productivity levels,resource utilization, and workflow optimization) is a significant contributor to operational efficiency of corporate organizations (**$F_{3,48} = 98.522$; $p < 0.001$)**The coefficient of determination (R^2) obtained is 0.860 and the adjusted R^2 is 0.852 which implies that productivity levels,resource utilization, and workflow optimization accounts for 85.2% of the total variability of the operational efficiency of corporate organizations.

Discussion

The findings from research question one showed that Artificial Intelligence has become a powerful asset in improving decision-making processes in office management. Respondents consistently expressed that AI tools such as decision support systems and real-time analytics have improved the accuracy and speed of their decisions. It also became evident that these technologies have reduced human error and supported strategic thinking across various management functions. This observation supports the findings by Ahmad (2023) who asserted that the application of AI in decision-making encourages faster and more accurate outcomes, thereby boosting productivity and organizational innovation. In agreement, (Aleessawi, 2025, Olayemi 2022) noted that AI technologies foster decision-making effectiveness through enhanced data interpretation and predictive reasoning.

The findings from research question two indicated that AI technologies play a significant role in enhancing operational efficiency in three key areas: productivity levels, resource utilization, and workflow optimization. Respondents highlighted that AI solutions made it easier to accomplish tasks in less time,

eliminated repetitive processes, and improved the quality of outputs. This finding is in alignment with the findings of Salami, (2022); Anikeze, (2023); Olubiyi (2025) Who found in their studies that process automation reduces errors, shortens cycle times, and frees up human resources for more strategic assignments, thereby boosting organizational productivity, improving teamwork, and faster execution of tasks, all of which are critical components of operational efficiency ensuring operations are not just faster but smarter.

The findings of research question three revealed that AI helps office managers make quicker decisions, makes it easier to manage office resources and work better with their team. This implied that AI influence office managers and administrative professionals in corporate organizations in decision-making to a high extent. This finding is in harmony with the findings of Afolabi (2021) who found that the integration of digital technologies—particularly Artificial Intelligence (AI)—has enhanced the quality, speed, and precision of organizational decisions. Also, the finding supported that of Eze and Chinedu (2022) who found that decision-makers now rely heavily on AI dashboards and visualizations to identify trends, forecast outcomes, and make evidence-based strategic choices

The findings from research question four uncovered several challenges that limit the full implementation of AI in office management. Respondents noted recurring issues such as inadequate technical know-how among staff, high cost of acquiring and maintaining AI tools, and reluctance among employees to accept new systems. Furthermore, concerns were raised about data privacy and insufficient digital infrastructure, which have slowed down the adoption of AI tools in some office environments. These issues echo the concerns raised by (Udo and Eze 2019 and Okoro, 2021) who highlighted the growing importance of addressing ethical and infrastructural challenges when integrating AI.

The result on hypothesis one on the combined influence of AI-powered decision support tools, predictive analytics, and virtual assistants on managerial decision-making effectiveness in corporate office management are positively correlated, thought the relationship is weak, it shows that the integration of AI helps to enhance decision-making, its impact is not strongly dominant but it is statistically significant. This is in line with the work of Dual et al (2019), who revealed that AI-powered supported systems provide valuable insight that can help to improve effective managerial decision-making, but human judgment is remains critical. Brynjolfsson and McElheran (2016) also found out that AI-based analytics has a reckonable but modest impact on decision quality, revealing the view of a weak but significant correlation. The relationship between operational efficiency and office management was weak and statistically not significant. This implies that operational efficiency contribution to office management is not a sole determinant. Mikalef et al (2019), found out that AI tools can only enhance operational efficiency when coupled with complementary managerial capabilities. This is also align with the view of Chatterjee et al. (2021) that maintain that AI tools only improve routine tasks when incorporate with wider organizational strategies.

From hypothesis two, the results show that operational efficiency and productivity levels are stronger and positively correlated. This implies that higher operational efficiency significantly contribute to increased productivity in corporate organizations .This is in line with the findings of Arunachalam et al. (2018) who found out that AI tools enhances organizational efficiency, which in turn increase productivity. Also a stronger relationship was found between operational efficiency and resource utilization. This reveals that efficient operations significantly improve the way resources are allocated and utilized. Zhang et al, (2022) confirmed that AI-driven optimization enhances the utilization of resources leading to improved inclusive organization performance. Nevertheless, the relationship between operational efficiency and workflow optimization was weak and not statistically significant. This shows that workflow optimization depends on other factors such as organizational structure, human adaptability and process redesign and not only on operational efficiency even with AI integration. Dwivedi et al. (2021) maintain that AI effect on workflow optimization is often controlled by resistance to change and lack of process re-engineering.

Conclusion

Based on the findings of the study, it was therefore concluded that AI significantly contributes to more accurate and efficient decision-making in office settings. It supports faster responses to dynamic business situations, reducing the likelihood of human error, and enhances strategic planning capabilities. It was further concluded that AI tools improve productivity by automating repetitive tasks, ensuring better resource allocation, and organizing workflows to minimize delays.

Recommendations

Based on the findings of this study, the following recommendations are proposed to enhance the effective integration of Artificial Intelligence (AI) in office management for improved decision-making and operational efficiency:

i. Organizations should prioritize continuous training programs to equip office managers and administrative personnel with the necessary digital skills to operate and manage AI systems. Staff productivity mediates the success of AI in enhancing organizational performance, hence building human capacity is crucial.

ii. Companies should upgrade their technological infrastructure to support AI systems. Poor infrastructure was identified as a barrier, and addressing this will ensure AI tools function optimally and are integrated seamlessly into office operations.

iii. Given the concerns about data privacy and algorithmic transparency, management should develop and enforce ethical guidelines for AI usage. This includes ensuring compliance with data protection laws and minimizing bias in AI-driven decisions.

iv. To overcome employee resistance, there is a need to foster a culture that embraces technological change. Leaders should communicate the benefits of AI clearly, involve staff in the implementation process, and provide incentives for early adopters to encourage widespread acceptance.

v. Organizations should implement regular assessment mechanisms to evaluate the effectiveness of AI tools in improving decision-making and operational efficiency. This will help in identifying gaps, measuring ROI, and making informed adjustments.

References

Adeyinka, T. O. (2022). AI applications in modern workplaces: Innovation and transformation. *Journal of Workplace Technology and Innovation*, 6(1), 45

Afolabi, M. T. (2021). Digital transformation and organizational decision-making. *African Journal of ICT and Management*, 4(1), 39–52.

Ahmad, S. I. (2023). AI and decision speed: A strategic advantage for agile organizations. *Journal of Digital Business Transformation*, 8(2), 25–38.

Aleessawi, A. M. (2025). Data-driven decision-making: The impact of AI on modern managerial practices. Journal of Artificial Intelligence and Enterprise Strategy, 6(1), 12–27.

Anikeze, R. C. (2023). Enhancing internal communication through AI-enabled collaboration tools. *Nigerian Journal of Corporate Communication*, 5(1), 39–50.

Ashritha, K. (2024). Decentralized decision-making in the age of artificial intelligence: A corporate perspective. *Journal of Business Innovation and Technology*, 11(1), 33–45.

Brynjolfsson, E., & McAfee, A. (2017). The second machine age: Work, progress, and prosperity in a time of brilliant technologies. *W. W. Norton & Company.*

Chukwuemeke, H.E. & Akpojotor, B.E. (2025).Impact of artificial intelligence in teaching and learning of business education in universities in Edo and Delta states, Nigeria. *Nigeria Journal of Business Education,*12 (1), 159-168.

Davenport, T. H., & Ronanki, R. (2018). Artificial intelligence for the real world. *Harvard Business Review,* 96(1), 108–116.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly,* 13(3), 319–340.

Eze, A. U., & Chinedu, E. J. (2022). AI-powered analytics and strategic decision-making in Nigerian firms. *Journal of Business Intelligence*, 3(4), 70–83.

Ezeh, N. O. (2023). Predictive maintenance and AI: Optimizing resource utilization in organizations. *Nigerian Journal of Industrial Intelligence,* 8(1), 55–67.

Kabir, A. M., & Rahman, T. A. (2025). Artificial Intelligence in contemporary office operations: From theory to practice. *Nigerian Journal of Digital Transformation,* 10(1), 12–27.

Kassa, W. T., & Worku, D. M. (2025). The impact of artificial intelligence on organizational performance with the mediating role of employee productivity: A study of Ethio Telecom. *Journal of Organizational Effectiveness and Technological Integration*, 9(1), 20–38.

Kolb, D. A. (1984). Experiential learning: Experience as the source of learning and development. *Prentice Hall.*

Kumar, A., Reddy, R., Madhuri, M., & Shireesha, K. (2024). AI for decision-making: Tools and impacts in modern corporate environments. *South Asian Journal of Emerging Technologies,* 9(1), 19–34.

Mohammed, S. T. (2023). Managing resistance to AI adoption in office settings. *Journal of Organizational Change and Human Resource Dynamics,* 6(3), 37–49.

Okoro, J. A. (2021). Bias and fairness in artificial intelligence decision systems. *Nigerian Journal of Digital Ethics and Compliance,* 6(1), 29–41.

Olubiyi, S. T. (2025). Adaptive workflow optimization through AI in administrative settings. *African Journal of Operational Efficiency,* 8(1), 12–26.

Salami, T. A. (2022). Process automation and administrative efficiency: A case for AI in office systems. *Nigerian Journal of Administrative Technology,* 6(1), 33–46.

Obielum, J. T. (2022). The evolution of office management: AI and the future of administrative tasks. *Journal of Administrative Studies*, 6(2), 59–72.

Olayemi, K. M. (2022). Overcoming delays in administrative decision-making: The role of digital tools. *Lagos Journal of Organizational Systems,* 5(1), 70–83.

Udo, C. I., & Eze, B. O. (2019). Bridging the technical skills gap for AI integration. *Journal of Nigerian Educational and Workplace Development*,2(3), 39–51.