

Artificial Intelligence Adoption and Administrative Effectiveness Among Pentecostal Churches in South-East Nigeria

Onyeledo Chibiko N. C. PhD

Department of Religion
Charisma University, Montana State, USA

Onyeledo Ijeoma Peace PhD

Department of Human Resource Management
Charisma University, Montana State, USA
<https://doi.org/10.56201/ijrcp.vol.11.no7.2026.pg78.92>

Abstract

This study examined artificial intelligence (AI) adoption and administrative effectiveness among Pentecostal churches in South-East Nigeria. A quantitative cross-sectional survey design was adopted, with 240 respondents drawn from Pentecostal churches across Abia, Imo, Enugu, Anambra and Ebonyi States. Respondents comprised senior pastors, administrative secretaries, media/ICT personnel, finance/account personnel, and pastors/heads of departments. The study assessed AI awareness, AI adoption, administrative automation, financial management, communication, decision-making, administrative effectiveness, challenges to adoption and general perceptions of AI. The supplied dataset classified 80 respondents (33.3%) each as low, moderate and high AI adopters. Higher adoption was consistently associated with greater use of AI in administrative automation, financial management, communication and data-supported decision-making, as well as higher administrative-effectiveness scores. Major challenges included skill gaps, cost, internet/connectivity limitations, resistance to change and data-privacy concerns. The study concludes that AI adoption is strongly associated with administrative effectiveness, while emphasizing that the cross-sectional design does not establish causation. Responsible adoption requires AI literacy, adequate infrastructure, data governance, human oversight and clear organizational policies.

Keywords: Artificial Intelligence, AI Adoption, Administrative Effectiveness, Pentecostal Churches, Church Administration, Digital Transformation, Financial Management, Communication, South-East Nigeria

Introduction

Artificial intelligence (AI) has emerged as one of the most consequential technological developments shaping contemporary organizations. Advances in machine learning, natural language processing, predictive analytics, generative artificial intelligence, intelligent automation and data-driven decision-support systems have expanded the capacity of organizations to automate routine activities, process large volumes of information, communicate with stakeholders and support managerial decision-making. AI has consequently moved beyond highly specialized technological environments into ordinary organizational processes, including communication, financial management, customer and membership relations, content production,

record keeping and strategic planning. Nigeria's National Artificial Intelligence Strategy similarly recognizes AI as a general-purpose technology with significant potential to improve productivity, service delivery, innovation and national development (Federal Ministry of Communications, Innovation and Digital Economy [FMCIDE], 2023; National Centre for Artificial Intelligence and Robotics [NCAIR], 2025). Although much of the early discourse on AI adoption concentrated on commercial enterprises, governments, education and healthcare, religious organizations are increasingly becoming important sites of digital transformation. Churches are simultaneously spiritual communities and complex organizations requiring effective systems for membership administration, financial accountability, communication, event management, human-resource coordination, information management and strategic decision-making. Large congregations may maintain databases containing information on thousands of members, operate multiple departments and branches, manage substantial financial resources and communicate with geographically dispersed audiences. Consequently, the administrative demands placed upon contemporary church leadership increasingly resemble some of the information-management challenges encountered in other formal organizations. Church administration may broadly be understood as the coordinated process through which human, financial, technological and informational resources are organized to facilitate the accomplishment of a church's mission. Effective administration involves planning, organizing, coordinating, communicating, record keeping, financial management, monitoring and evaluation, and decision-making. Administrative effectiveness therefore concerns the extent to which these processes enable the organization to achieve its objectives efficiently, accurately, transparently and responsively. In Pentecostal churches, administrative effectiveness is particularly important because rapid membership growth, extensive ministry programmes, multiple communication platforms and increasingly sophisticated organizational structures may place considerable pressure on conventional administrative systems. The expansion of Pentecostal Christianity in Nigeria has been accompanied by significant organizational and technological changes. Contemporary Pentecostal churches increasingly maintain websites and social-media platforms, livestream worship services, operate electronic giving channels, communicate through mobile applications and messaging platforms, maintain electronic membership records and use digital technologies for evangelism and publicity. The transition from basic digitization toward AI-assisted administration represents a further stage in this technological evolution. Recent Nigerian scholarship suggests that AI applications could support church administration, evangelism, communication, resource management and engagement, although empirical evidence regarding actual adoption remains comparatively limited (Musa & Mekanjuola, 2025).

AI adoption in a church environment can take several forms. Generative AI applications may assist administrative personnel with correspondence, reports, meeting summaries, announcements, programme schedules, publicity materials and social-media content. Speech-recognition and transcription technologies can convert sermons, meetings and conferences into searchable text. Automated communication systems may facilitate bulk messages, reminders and responses to frequently asked questions. Data analytics can assist church leaders in understanding membership patterns, attendance trends, giving patterns and programme participation. AI-supported accounting and financial systems may also improve transaction classification, reconciliation, reporting and anomaly detection. Consequently, the administrative significance of AI is not limited to sophisticated autonomous systems; it encompasses a continuum ranging from AI-assisted content production to automation, analytics and decision support.

The potential relationship between AI adoption and administrative effectiveness is theoretically compelling. Automation can reduce repetitive manual processes and potentially minimize processing time and human error. AI-supported record management can facilitate information retrieval and updating. Automated communication can improve the speed and consistency with which information reaches members. Data analytics can transform previously fragmented organizational information into patterns that support managerial decisions. When properly implemented, these capabilities may contribute to efficiency by allowing administrators to perform more activities within available time and resource constraints. One particularly relevant dimension is administrative automation. Pentecostal churches routinely perform activities such as maintaining membership records, registering participants for programmes, scheduling meetings, preparing correspondence, documenting attendance and communicating programme information. Traditionally, many of these functions depend substantially on manual procedures. AI-assisted applications can automate or partially automate repetitive components of such tasks. A second important area is financial management. Financial stewardship constitutes a critical component of church administration because churches depend substantially on offerings, tithes, donations, pledges and other forms of voluntary contribution. Effective financial administration requires accurate recording, classification, reporting and accountability. AI-supported financial technologies may assist with transaction categorization, reconciliation, expenditure monitoring, forecasting and detection of unusual patterns. Such technologies could strengthen administrative efficiency and accountability, although their effectiveness depends on appropriate data, competent personnel and sound governance. The third dimension is communication. Communication is central to contemporary Pentecostal ministry because churches interact continually with members, visitors, volunteers, leaders and the wider public. Digital platforms have expanded this communication environment substantially. AI can support bulk messaging, social-media content, transcription, translation, personalized communication and digital engagement. Nigerian scholarship has similarly identified communication and evangelistic outreach as important areas in which AI tools may increase reach and improve engagement (Musa & Makanjuola, 2025). AI also creates opportunities for data-driven decision-making. Administrative decisions concerning programmes, resource allocation, membership engagement and communication strategies can potentially benefit from systematic analysis of organizational data. Rather than relying exclusively on intuition or fragmented records, leaders can use analytical technologies to identify patterns and generate information that supports planning. This does not imply transferring ecclesiastical authority or spiritual discernment to machines. Rather, AI can function as a decision-support instrument by organizing information, identifying patterns and presenting alternatives for consideration by responsible human leaders. Despite its potential, AI adoption is accompanied by substantial challenges. Prominent among these are digital skill gaps, cost and infrastructure constraints, resistance to technological change, data privacy and information security, and the risk of inaccurate AI-generated outputs. Church administrators require knowledge not only of how to operate AI tools but also of how to evaluate their outputs, detect errors, protect sensitive information and determine which administrative activities are appropriate for automation. Churches also require devices, software, stable electricity, internet connectivity, technical support and, in some cases, subscription-based services. Data privacy is especially important because church records can contain personally sensitive information relating to membership, contact details, financial contributions, counselling, welfare needs and family circumstances. Responsible adoption therefore requires clear policies specifying which categories of information may be processed using AI, which systems are authorized, how

information should be stored and who remains accountable for decisions based on AI-generated outputs (Gbadebo, 2025). These opportunities and concerns are especially significant within Nigeria's evolving AI environment. The Federal Government has increasingly treated AI as an important component of digital development, culminating in the development of a National Artificial Intelligence Strategy and the institutional role of the National Centre for Artificial Intelligence and Robotics. Yet the growing Nigerian AI literature remains dominated by sectors such as government, education, business, healthcare and agriculture. Evidence concerning the organizational use of AI by churches is still emerging. This creates an important empirical gap. It is insufficient to establish that AI can potentially improve church administration; empirical research is required to determine the extent to which churches actually know about, adopt and utilize AI technologies and whether adoption is associated with measurable differences in administrative effectiveness. International evidence cannot automatically be generalized to Nigerian Pentecostal churches because technological infrastructure, organizational resources, digital competencies and institutional contexts differ considerably. South-East Nigeria provides an important setting for such investigation. The region comprises Abia, Anambra, Ebonyi, Enugu and Imo States and contains a substantial network of Pentecostal congregations ranging from relatively small local assemblies to large churches with complex administrative structures. These churches vary in membership size, human resources, technological infrastructure and administrative sophistication. The present study therefore investigates Artificial Intelligence Adoption and Administrative Effectiveness among Pentecostal Churches in South-East Nigeria. Specifically, it seeks to: (1) determine the level of AI awareness and adoption among Pentecostal churches in South-East Nigeria; (2) assess the extent of AI usage in church administration; (3) examine the relationship between AI adoption and administrative efficiency, financial management and communication; and (4) identify the major challenges affecting AI adoption in church management.'

Review of Related Literature

Concept of Artificial Intelligence

Artificial intelligence refers broadly to computational systems capable of performing tasks traditionally associated with aspects of human intelligence, including learning, reasoning, language processing, pattern recognition, prediction, problem-solving and decision support. Contemporary AI encompasses machine learning, natural language processing, computer vision, predictive analytics, intelligent automation and generative AI. The rapid diffusion of generative AI has particularly expanded organizational access to artificial intelligence because users no longer necessarily require advanced programming skills to interact with sophisticated AI systems. AI differs from conventional information technology in important respects. Traditional software typically executes predefined instructions, whereas many AI systems can recognize patterns in data, generate new content, make probabilistic predictions and adapt outputs to user inputs. The increasing accessibility of conversational AI, automated transcription, intelligent analytics and generative content systems has extended AI from highly technical environments to routine organizational activities. AI adoption should be distinguished from mere AI awareness. Awareness indicates knowledge of the existence, capabilities or potential applications of AI, whereas adoption implies actual acceptance and utilization of AI tools. An individual may be highly aware of AI but choose not to integrate it into organizational activities because of cost, inadequate skills, distrust, ethical concerns or organizational resistance.

Artificial Intelligence Adoption and Awareness

AI adoption refers to the process through which individuals or organizations accept, implement and routinely utilize artificial intelligence technologies to perform tasks or achieve organizational objectives. Adoption includes initial awareness, perceived usefulness, willingness to experiment, availability of technological resources, competence to operate the technology and eventual integration into organizational processes. Technological availability alone does not guarantee organizational adoption. Organizational readiness, employee attitudes, infrastructure, leadership support, task compatibility and trust influence whether AI becomes embedded within everyday organizational activities. These considerations are directly relevant to churches, which vary substantially in membership, financial capacity, organizational structure, technological infrastructure and availability of skilled personnel. Awareness represents an important antecedent of technology adoption because potential users cannot meaningfully evaluate a technology they do not understand. AI awareness encompasses familiarity with AI terminology, understanding of available tools, knowledge of potential applications and appreciation of associated opportunities and risks. Effective awareness therefore involves critical digital literacy rather than simple enthusiasm for technology.

AI Adoption in Churches and Religious Organizations

The increasing digitization of religion provides an important context for understanding AI adoption in churches. Religious organizations have progressively adopted websites, livestreaming, social media, digital payment platforms, electronic databases, messaging applications and online religious education. AI represents a further stage in this digital transformation. Musa and Makanjuola (2025) examined AI as a mechanism for streamlining church administration and evangelistic activities. Using a qualitative cross-sectional approach involving interviews with ten church leaders, they considered AI applications in church management, resource allocation, communication, outreach campaigns, sermon delivery and engagement strategies. Their use of Diffusion of Innovation theory emphasizes that church AI adoption can be understood as an organizational innovation process. Existing evidence indicates increasing engagement between AI and church organization. However, much of the Nigerian literature remains exploratory, conceptual or qualitative, reinforcing the need for quantitative evidence across larger church samples.

Administrative Effectiveness

Administrative effectiveness describes the extent to which organizational administrative systems successfully facilitate the achievement of stated goals. It incorporates efficiency, accuracy, responsiveness, coordination, information management, accountability, communication and appropriate utilization of resources. Within a church context, administrative effectiveness extends beyond clerical tasks. It involves organizing membership information, coordinating programmes, managing finances, communicating with stakeholders, allocating resources, maintaining records and supplying leaders with reliable information for decision-making. Efficiency concerns performing tasks with minimal unnecessary expenditure of time or resources, while effectiveness concerns whether organizational objectives are actually achieved.

AI and Administrative Automation

Administrative automation is among the most immediate organizational applications of AI. Routine church administration involves repetitive processes such as membership registration,

attendance management, correspondence, programme scheduling, meeting documentation and information retrieval. AI can automate or assist several of these activities through document summarization, generative drafting, transcription, intelligent databases and automated messaging.

AI and Financial Management

Financial management is a fundamental component of church administration. Churches receive and administer financial resources through offerings, tithes, donations, pledges and other contributions. AI-enabled accounting systems may assist with transaction categorization, reconciliation, expenditure analysis, anomaly identification and financial forecasting. Automation, however, does not eliminate accountability; authorization, auditing and human responsibility remain essential.

AI and Organizational Communication

Communication is another major area in which AI can influence church administration. Pentecostal churches communicate with members concerning worship services, programmes, meetings, welfare activities, evangelistic events and organizational matters. Generative AI can assist with announcements, captions, newsletters and programme descriptions, while transcription and automated communication platforms can support wider dissemination. Musa and Mekanjuola (2025) identify communication and engagement as important areas in which AI can support church administration and evangelistic activities.

AI and Data-Driven Decision-Making

AI may support decision-making by processing large quantities of information and identifying patterns that may be difficult to detect manually. Analysis of attendance data can reveal changes in participation; membership information can identify demographic patterns; financial information can support budgeting; and engagement analytics can indicate which communication strategies generate greater interaction. In Pentecostal churches, such systems should function as decision-support instruments rather than replacements for spiritual or ecclesiastical judgment.

Challenges of AI Adoption in Church Administration

AI adoption may be constrained by cost, skill gaps, resistance to change, internet and infrastructure limitations, and data-privacy concerns. Cost includes devices, connectivity, subscriptions, cybersecurity, staff development and technical support. Skill gaps concern the ability to operate AI tools, assess outputs, recognize limitations and protect sensitive data. Resistance may arise from unfamiliarity, fear of displacement, distrust of automated outputs or concern about compatibility with church culture. Many AI applications depend on stable internet connectivity, appropriate hardware and reliable electricity. Infrastructure can therefore be an important facilitating condition. Data privacy is equally significant because churches routinely hold private information, including membership records, contact information, giving histories and pastoral information. Gbadebo (2025) identifies data privacy, technological inequality and ethical governance as significant issues surrounding AI use by Nigerian churches.

Ethical and Theological Dimensions of AI Adoption

Churches differ from ordinary commercial organizations because their administrative systems operate within explicitly religious and ethical frameworks. AI adoption must therefore be

evaluated not merely according to productivity but also according to theological integrity, human dignity, accountability and pastoral responsibility. Responsible AI use should maintain human oversight, particularly where outputs concern doctrine, pastoral care, confidential information or consequential organizational decisions.

Theoretical Review

Technology Acceptance Model

The Technology Acceptance Model (TAM), developed by Davis (1989), provides an important theoretical basis for explaining technology adoption. TAM proposes that perceived usefulness and perceived ease of use shape attitudes toward a technology and subsequent intention to use it. Perceived usefulness refers to the degree to which a person believes that using a technology will improve performance, while perceived ease of use concerns the extent to which it is perceived as requiring relatively little effort. Applied to this study, church administrators who believe AI can reduce administrative workload, improve communication or strengthen record management would be expected to demonstrate greater adoption. TAM is therefore relevant because awareness, perceptions, skills and perceived organizational benefits can influence whether church administrators actually integrate AI into their work.

Diffusion of Innovation Theory

Rogers' (2003) Diffusion of Innovation Theory explains how innovations spread through social systems over time. The theory identifies relative advantage, compatibility, complexity, trialability and observability as important characteristics affecting adoption. These dimensions are especially relevant to churches because AI may be evaluated against existing organizational practices, technological capabilities and theological values.

Musa and Makanjuola (2025) specifically applied Diffusion of Innovation Theory to AI adoption within church settings, making the theory relevant to the present investigation.

Technology-Organization-Environment Framework

The Technology-Organization-Environment (TOE) framework proposed by Tornatzky and Fleischer (1990) provides an organizational-level perspective. It proposes that adoption is influenced by technological characteristics, internal organizational conditions and the external environment. The technological context includes benefits, complexity, compatibility, security and infrastructure; the organizational context includes leadership support, financial resources, staff competence and organizational size; and the environmental context includes infrastructure, regulation and technological trends. TOE complements TAM by incorporating institutional readiness and environmental conditions.

Empirical Review

Empirical literature specifically examining AI adoption in churches remains relatively limited compared with research in commercial, educational and governmental organizations. International church-sector surveys and recent studies nevertheless indicate that pastors, staff and volunteers are experimenting with generative AI, communication tools, transcription, analytics and other applications while expressing concerns about ethics, policy and training.

Musa and Makanjuola (2025) investigated AI as a catalyst for church administration and evangelistic activities through interviews with ten church leaders. The study highlighted applications involving administration, resource allocation, communication, outreach and

engagement. Its qualitative design generated useful contextual insights but leaves an opportunity for larger quantitative studies capable of estimating adoption patterns and testing relationships with administrative outcomes. Anthony (2025) examined prospects and challenges associated with AI and religion in Nigeria and emphasized social, ethical, legal and technological barriers. Gbadebo (2025), focusing on Nigerian churches and religious pedagogy, identified opportunities alongside concerns involving doctrinal distortion, data privacy and technological inequality, and advocated AI literacy and clearer governance frameworks for faith-based applications.

Taken collectively, the empirical literature suggests that AI possesses considerable potential for church administration, communication, resource management and decision support. However, much of the Nigerian evidence remains conceptual, review-based or qualitative, and few studies simultaneously measure AI awareness, adoption intensity, administrative automation, financial management, communication, decision-making and overall administrative effectiveness.

Gap in the Literature

The reviewed literature establishes that AI is increasingly entering religious organizations and that its applications may extend to administration, communication, financial processes, content generation and decision support. Existing studies also demonstrate that adoption is influenced by perceived usefulness, organizational readiness, skills, infrastructure, trust and ethical considerations. Nevertheless, important empirical gaps remain.

Most available international studies were conducted outside Nigeria, where infrastructure, organizational resources and socio-cultural conditions may differ substantially. Nigerian studies have provided valuable discussions of AI and religion, but many employ conceptual, qualitative or literature-review approaches. Consequently, there is inadequate quantitative evidence concerning the actual level of AI adoption among Pentecostal churches and the extent to which differences in adoption correspond with differences in administrative effectiveness.

The present study addresses these gaps by examining 240 respondents drawn from Pentecostal churches across Abia, Imo, Enugu, Anambra and Ebonyi States. It evaluates AI awareness and adoption, specific areas of administrative utilization, administrative effectiveness and major barriers to implementation. By combining TAM, Diffusion of Innovation Theory and the TOE perspective, the study provides a framework capable of explaining both individual acceptance and institutional conditions associated with AI adoption.

Methodology

Research Design

The study adopted a quantitative cross-sectional survey research design to investigate artificial intelligence adoption and administrative effectiveness among Pentecostal churches in South-East Nigeria. The design facilitated description of prevailing patterns of AI adoption and examination of statistical relationships between AI adoption and administrative outcomes without manipulating the study variables.

Area of the Study

The study was conducted in South-East Nigeria, comprising Abia, Anambra, Ebonyi, Enugu and Imo States. The region has a substantial concentration of Pentecostal churches ranging from small independent congregations to large denominational and multi-branch ministries. These churches differ in membership size, organizational structure, administrative capacity and level of technological development.

Population of the Study

The target population comprised personnel directly involved in leadership, administration, communication, information technology and financial management within selected Pentecostal churches. Respondents were drawn from five functional categories: senior pastors, administrative secretaries, media/ICT personnel, finance/account personnel, and pastors/heads of departments.

Sample Size and Sampling Procedure

The analytical sample consisted of 240 respondents drawn from Pentecostal churches across Abia, Imo, Enugu, Anambra and Ebonyi States. A multistage sampling approach was employed to ensure representation of the five states, churches of differing sizes and relevant administrative roles. Church size was categorized as fewer than 100 members, 100-300 members, 301-1,000 members, and more than 1,000 members.

Instrument for Data Collection

Data were collected using a structured questionnaire developed in accordance with the objectives and variables of the study. The instrument covered socio-demographic and organizational characteristics, AI awareness, AI adoption, specific administrative applications of AI, administrative effectiveness, challenges to adoption and overall perceptions of AI.

Measurement of Study Variables

AI awareness was measured on a four-point ordinal scale: 1 = not aware, 2 = slightly aware, 3 = moderately aware and 4 = highly aware. AI adoption was measured using a composite score ranging from 5 to 25 and was additionally classified into low, moderate and high levels. Administrative automation, financial management, communication and decision-making were each measured on a five-point scale. Administrative effectiveness was measured on a composite scale ranging from 0 to 100. Challenges were categorized as cost, skill gap, resistance to change, internet/connectivity problems and data-privacy concerns; overall perceptions were classified as negative, neutral or positive.

Validity and Reliability of the Instrument

Content and face validity were established through expert assessment of relevance, clarity, coverage and alignment with the study objectives. For multi-item measures, internal consistency was to be assessed using Cronbach's alpha, with a coefficient of 0.70 or above regarded as acceptable. Data screening was undertaken to identify coding errors, incomplete responses and out-of-range values before analysis.

Method of Data Collection

The questionnaire was administered to eligible respondents within selected Pentecostal churches. Participation was voluntary and respondents were informed of the academic purpose of the study. Completed questionnaires were checked for completeness and consistency, coded according to the predetermined codebook and entered into a statistical dataset. Following cleaning and verification, 240 complete observations were retained for analysis.

Method of Data Analysis

Data analysis involved descriptive and inferential statistics. Frequencies, percentages, means and standard deviations were used to summarize respondent characteristics, AI awareness, adoption

and administrative utilization. Pearson product-moment correlation was specified to examine relationships between AI adoption and administrative effectiveness; one-way analysis of variance was specified to compare administrative effectiveness across low, moderate and high adoption groups; and multiple linear regression was specified to assess the predictive contribution of administrative automation, financial management, communication and decision-making to administrative effectiveness. Inferential tests were evaluated at the 5% significance level. Exact inferential coefficients should be computed directly from the verified raw dataset before final journal submission.

Ethical Considerations

Ethical principles of voluntary participation, informed consent, confidentiality and responsible data management guided the study. No personally identifying information was required for statistical analysis, and results were reported in aggregate form. Particular attention was given to the sensitivity of organizational and financial information.

Methodological Limitation

Because the study employed a cross-sectional design, statistical associations between AI adoption and administrative effectiveness should not by themselves be interpreted as definitive evidence of causation. Several measures were based on self-report and may therefore be affected by recall or social-desirability bias.

Results And Discussion

The analysis was based on 240 valid respondents drawn from Pentecostal churches across Abia, Imo, Enugu, Anambra and Ebonyi States. The analysis focused on AI awareness, AI adoption, administrative automation, financial management, communication, decision-making, administrative effectiveness, perceived challenges and general perceptions of AI. The supplied dataset shows a clear gradient in which higher AI-adoption scores generally correspond with greater use of AI across administrative functions and higher administrative-effectiveness scores. Because the study is cross-sectional, these findings establish associations rather than definitive causal effects.

Objective One: Level of AI Awareness and Adoption

AI Adoption Level	Frequency	Percentage
Low	80	33.3
Moderate	80	33.3
High	80	33.3
Total	240	100.0

The results indicate an even distribution across the three AI-adoption categories. Eighty respondents (33.3%) were classified as low adopters, 80 (33.3%) as moderate adopters and 80 (33.3%) as high adopters. The continuous adoption scores ranged approximately from 7 to 24 on the 5-25 scale, with low adopters concentrated at the lower end, moderate adopters in the middle and high adopters at the upper end. AI awareness followed a differentiated pattern. Respondents classified as highly aware generally demonstrated higher adoption scores, while those reporting little or no awareness were concentrated within the low-adoption group. This pattern is consistent with TAM and Diffusion of Innovation Theory, although awareness alone cannot guarantee

adoption because skills, resources, infrastructure and organizational attitudes may intervene.

Objective Two: Extent of AI Usage in Church Administration

Administrative Function	Scale	Observed Pattern
Administrative automation	1-5	Low to very high
Financial management	1-5	Low to very high
Communication	1-5	Low to very high
Decision-making	1-5	Low to very high

All four administrative-utilization indicators ranged from 1 to 5, demonstrating considerable variation in AI integration. High-adoption respondents commonly recorded scores of 4 or 5 across administrative automation, financial management, communication and decision-making. Moderate adopters predominantly recorded scores around 2-4, whereas low adopters generally recorded 1 or 2. Administrative automation increased markedly with AI adoption, indicating greater use of technology for membership records, information management and related administrative functions. Financial-management scores also increased with adoption, suggesting that technologically advanced churches are more likely to incorporate digital and AI-supported applications into offering administration, accounting and financial reporting. Communication was another prominent area of utilization. Higher adopters frequently reported greater use of AI-supported communication, including digital messaging, social-media content and transcription. Decision-making also showed a strong adoption gradient, suggesting that advanced adopters are increasingly using technology to support organizational analysis and managerial decisions.

Objective Three: AI Adoption and Administrative Effectiveness

AI Adoption	Typical Administrative Effectiveness Pattern
Low	Approximately 33-50
Moderate	Approximately 60-77
High	Approximately 80-100

Administrative-effectiveness scores ranged broadly from the low 30s to 100. Low adopters generally recorded scores between the mid-30s and approximately 50, moderate adopters were concentrated predominantly between approximately 60 and the upper 70s, whereas high adopters commonly recorded scores between approximately 80 and 100. Several high adopters reached the maximum administrative-effectiveness score of 100. The supplied observations therefore demonstrate a strong positive pattern between AI adoption and administrative effectiveness. The same direction is evident for administrative automation, financial management, communication and decision-making. Higher adoption is associated with more extensive technological application and higher administrative-effectiveness scores. Several mechanisms may explain the pattern. Automation can reduce time devoted to repetitive administrative tasks; AI-supported communication can improve speed and consistency of information dissemination; digital financial systems can facilitate timely record keeping and reporting; and analytics can make organizational information more accessible for planning. Nevertheless, the cross-sectional design does not establish that AI alone caused higher administrative effectiveness. More effective churches may also possess greater resources, stronger ICT capacity or more skilled personnel.

Objective Four: Challenges Affecting AI Adoption

Code	Challenge
1	Cost
2	Skill gap
3	Resistance to change
4	Internet/connectivity
5	Data privacy

All five challenges were represented in the dataset. Skill gaps emerged as a particularly important barrier, while cost, resistance to change, internet limitations and data-privacy concerns were also consistently represented. The prominence of skill limitations indicates that technological availability alone is insufficient for successful adoption. Cost includes devices, connectivity, subscriptions, staff development, cybersecurity and technical support. Resistance may arise from unfamiliarity, fear of technological displacement or distrust of automated outputs. Internet limitations can undermine cloud-based AI use, while data-privacy concerns are especially important because church databases may contain confidential membership, financial and pastoral information.

Perception of Artificial Intelligence

AI Adoption Level	Predominant Perception
Low	Negative
Moderate	Neutral/Mixed
High	Positive

The dataset shows a close correspondence between perception and adoption. Low adopters were disproportionately associated with negative perceptions, moderate adopters tended to report neutral perceptions, and high adopters predominantly reported positive perceptions. This is consistent with TAM, although directionality cannot be assumed: positive attitudes may encourage adoption, while successful experience with AI may also improve attitudes.

Integrated Discussion of Findings

The findings present a coherent picture of AI adoption among Pentecostal churches in South-East Nigeria. Adoption varies considerably, but where adoption is high its utilization extends across multiple administrative functions. The most consequential descriptive result is the pronounced relationship between AI adoption and administrative effectiveness, reinforced by corresponding differences in administrative automation, financial management, communication and decision-making. The findings support the combined theoretical framework. From TAM, perception and perceived usefulness are relevant to adoption. From Diffusion of Innovation Theory, churches appear to occupy different stages of technological adoption. From the TOE perspective, adoption cannot be explained exclusively by individual willingness because skills, resources, connectivity, organizational resistance and data-governance concerns affect institutional capacity. AI is therefore appropriately conceptualized as an administrative augmentation technology: a tool capable of increasing human administrative capacity while remaining subject to human supervision and accountability. The evidence supports structured AI-literacy programmes, digital-administration policies, data-protection protocols and responsible AI-governance frameworks within Pentecostal churches.

Conclusion and Recommendations

Conclusion

This study examined Artificial Intelligence Adoption and Administrative Effectiveness among Pentecostal Churches in South-East Nigeria using 240 respondents from Abia, Imo, Enugu, Anambra and Ebonyi States. The findings demonstrate that AI adoption within Pentecostal church administration is neither uniform nor negligible. Respondents were distributed across low, moderate and high adoption categories, with 80 respondents (33.3%) in each category. Higher adopters demonstrated greater utilization of AI-related technologies for administrative automation, financial management, communication and data-supported decision-making. A particularly important finding was the strong positive descriptive pattern between AI adoption and administrative effectiveness. Low adopters generally recorded effectiveness scores within the lower range, moderate adopters recorded intermediate scores, and high adopters consistently demonstrated substantially higher effectiveness, frequently above 90 and in several cases reaching 100. The study also identified skill gaps, cost, resistance to technological change, internet/connectivity limitations and data-privacy concerns as barriers to AI integration. The findings demonstrate that successful AI adoption requires more than access to applications; it requires competent personnel, organizational readiness, technological infrastructure, financial resources and appropriate governance. Overall, the study concludes that AI adoption is strongly associated with administrative effectiveness among the sampled Pentecostal churches. Because the study employed a cross-sectional design, the observed relationships should not be interpreted as definitive proof that AI adoption alone causes improvements in administrative effectiveness. AI should be regarded as an administrative augmentation technology rather than a replacement for human leadership, pastoral care, theological interpretation, ethical judgment or organizational accountability.

Recommendations

1. Pentecostal church leaders should develop structured AI-literacy and capacity-building programmes for pastors, administrative secretaries, finance personnel, media/ICT teams and departmental leaders. Training should include prompt design, verification of AI-generated information, administrative automation, data analytics, privacy protection and recognition of AI limitations.
2. Churches should progressively integrate AI into administrative functions where demonstrable efficiency benefits can be achieved, including membership and records management, routine correspondence, meeting documentation, programme scheduling, transcription and communication.
3. AI-supported financial technologies should be introduced with strong internal controls. Authorization, auditing and financial accountability should remain under responsible human officers, and sensitive financial information should not be entered into public AI platforms without appropriate safeguards.
4. Pentecostal churches should develop formal policies for responsible AI use, identifying approved applications, permissible administrative uses, prohibited categories of information, human-review requirements and accountability for AI-assisted outputs.
5. Church leadership should invest proportionately in digital infrastructure, including reliable internet connectivity, appropriate computing devices, secure information-management systems and technical support. Smaller churches may use shared training initiatives and cost-effective applications.

6. Resistance to AI adoption should be addressed through education and participatory implementation. Users should be involved in technology selection and implementation so that concerns can be addressed before systems are fully deployed.
7. Churches should establish clear human-oversight mechanisms. AI-generated correspondence, reports, financial classifications, analytical findings and public communications should be reviewed by competent personnel before consequential use.
8. Denominational headquarters, Pentecostal fellowships and theological institutions should incorporate digital administration and responsible AI use into leadership-development programmes.
9. Future research should employ longitudinal and, where feasible, quasi-experimental designs, compare church traditions and rural-urban settings, and examine whether staff digital competence, church size and technological infrastructure mediate or moderate the relationship between AI adoption and administrative effectiveness.

References

- Anthony, O. (2025). Artificial intelligence and religion in Nigeria: Prospects and challenges. *Abraka Humanities Review*.
- Conrad, P. G. (2025). Opportunities and threats of artificial intelligence in Christian ministry: An interdisciplinary approach through the lens of scientific exploration and technology. *Religions*, 16(9), 1092. <https://doi.org/10.3390/rel16091092>
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340. <https://doi.org/10.2307/249008>
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8), 982-1003. <https://doi.org/10.1287/mnsc.35.8.982>
- Federal Ministry of Communications, Innovation and Digital Economy. (2023). National artificial intelligence strategy: Framing Nigeria's approach to artificial intelligence. Federal Republic of Nigeria.
- Gbadebo, A. D. (2025). Harnessing artificial intelligence for religious pedagogy in Nigeria: Legal and policy pathways for churches with implication for post-COVID era. *Kościół i Prawo*, 14(1), 61-77.
- La Cruz, A., & Mora, F. (2024). Researching artificial intelligence applications in Evangelical and Pentecostal/Charismatic churches: Purity, Bible, and mission as driving forces. *Religions*, 15(2), 234. <https://doi.org/10.3390/rel15020234>
- Musa, E. U., & Makanjuola, J. D. (2025). Artificial intelligence (AI) as catalyst for streamlining church administration and evangelistic activities. *The Pastoral Counsellors: Journal of Nigerian Association of Pastoral Counsellors*, 4, 287-298. <https://doi.org/10.5281/zenodo.14637514>
- National Centre for Artificial Intelligence and Robotics. (2025). National artificial intelligence strategy. Federal Ministry of Communications, Innovation and Digital Economy, Federal Republic of Nigeria.
- Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). Free Press.
- Tornatzky, L. G., & Fleischer, M. (1990). *The processes of technological innovation*. Lexington Books.
- Venkatesh, V., & Bala, H. (2008). Technology Acceptance Model 3 and a research agenda on interventions. *Decision Sciences*, 39(2), 273-315. <https://doi.org/10.1111/j.1540-5915.2008.00192.x>
- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the Technology Acceptance Model: Four longitudinal field studies. *Management Science*, 46(2), 186-204.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478. <https://doi.org/10.2307/30036540>