African Multidisciplinary
Journal of Sciences and Artificial Intelligence

ISSN : 1595-7969

Index: Harvard, Boston, Sydney University, Dimensions, Lens, ResearchGet Scilit, Semantic, Google Scholar, Base etc

https://doi.org/10.58578/AMJSAI.v2i3.7872

Co-Designing Ethical AI with Faith Communities: Advancing Worship Innovation, Moral Governance, and Resilient Digital Ecosystems

Oyunwola Taiwo Olayinka[1], Oyebanji Israel Temitope[2], Adebimpe Seun Thomas[3], Ademola Peter Oluwole[4]

[1,3,4]Caleb University, Imota, Lagos State, Nigeria

[2]Redeemer's University Ede, Osun State, Nigeria

oyuntaiwo@gmail.com; oyebanjiisrael1995@gmail.com

Article Info:

Submitted:	Revised:	Accepted:	Published:
Oct 1, 2025	Oct 23, 2025	Nov 5, 2025	Nov 9, 2025

Abstract

This research explores the collaborative development of ethical artificial intelligence (AI) tools with religious communities to enhance worship practices, inform moral decision-making, and support social cohesion. As AI technologies increasingly intersect with spiritual life—through applications such as automated liturgy generators and pastoral chatbots—there is an urgent need to ensure these systems uphold religious values and contribute positively to community well-being. While existing AI ethics frameworks are largely rooted in secular paradigms, few integrate religious epistemologies or position faith groups as active partners in design processes. Addressing this gap, the study investigates how religious communities and AI specialists can co-create systems that align with sacred values and promote communal resilience. Employing a participatory action methodology, the research engaged multi-faith dialogue groups, collaborative design sessions involving theologians and programmers, and case studies from Christian, Muslim, and Traditionalist communities in Nigeria.

Findings indicate that effective integration of AI in religious contexts is contingent upon context-sensitive moral reflection, transparent data governance, and trust in institutions. The study argues that ethical AI for religious use must emerge from genuine collaboration rather than external imposition. It recommends the establishment of interfaith technology centers, the direct involvement of theologians in AI development teams, and the formulation of governance models informed by religious ethics and local priorities. These measures not only safeguard religious practices but also contribute to equitable and sustainable digital ecosystems aligned with global development objectives.

Keywords: Ethical AI; Faith-Based Innovation; Participatory Design; Religious Governance; Digital Ecosystems

Introduction

Artificial Intelligence (AI) is changing the way people live, work, and organise society. In Nigeria, its presence is growing across government, education, commerce, and religion. These changes bring both possibilities and risks, raising questions about how technology should be shaped to fit local moral and cultural realities. The rapid growth of AI in Nigeria reflects global trends but also exposes gaps in law, infrastructure, and ethical reflection (Peters & Olojede, 2025: 234). In the education system, AI is already being discussed as a way of improving teaching and learning. Samuel (2023: 3) explains that computer-based learning, personalised instruction, and easier record management are some of the benefits linked to AI. However, the same study warns that poor funding, lack of safety, and technical failures remain major obstacles (Samuel, 2023: 6). Peters and Olojede (2025: 237) also note that while AI offers new forms of support for students, it creates problems of cheating, unequal access, and even cultural loss in environments where digital resources are not evenly spread. These examples show that Nigeria cannot only consider the benefits of AI but must also face the ethical and social challenges it brings.

Religion is another area where AI is beginning to have an influence. Churches, mosques, and faith-based organisations are increasingly aware of digital tools that use AI to reach their members. Agu and Margaça (2024: 5) show that many religious entrepreneurs already use AI for administration and publicity. However, they are cautious about using it in worship or rituals, fearing that sacred meaning might be lost (Agu & Margaça, 2024: 8). Similarly, Anyebe (2025: 13) finds that AI can help Christian Religious Education become

more interactive at Ahmadu Bello University, but teachers and students still question whether machines can handle issues of doctrine and spirituality (Anyebe, 2025: 15). The issue goes beyond whether AI should be used in religion. The deeper concern is how technology can be introduced without breaking down the cultural and theological values that define Nigerian communities. Religious traditions in Nigeria place emphasis on community, the authority of leaders, and the moral weight of actions. These cannot easily be reduced to data or algorithms. The danger is that if AI is introduced without care, it may weaken human responsibility in spiritual life and shift authority away from trusted figures in the community.

At the same time, the legal and policy framework in Nigeria has not caught up with the rapid rise of AI. Richard (2024: 104) observes that there is no clear law guiding the use of AI in corporate or public settings. This opens space for misuse and for ethical lapses such as data abuse and algorithmic bias (Richard, 2024: 111). Afolabi (2024: 25) also points out that trust cannot be built unless AI systems are open, accountable, and free from hidden processes that ordinary users cannot understand. Without strong legal and ethical checks, the risks will increase as AI spreads into more sensitive areas like education and religion. The dual challenge is therefore clear. On one hand, Nigeria needs AI systems that are ethically built transparently, accountably, and fairly. On the other hand, those systems must respect theological, cultural, and communal values. This makes the idea of co-design important. Instead of allowing technology to be imported and imposed from outside, communities should play a role in shaping how AI is built and used. Involving faith leaders, educators, technologists, and ordinary members would help ensure that AI tools are accepted and trusted. This study aims to explore that question and contribute to both academic and practical debates on technology and ethics in Nigeria.

Statement of problem

Artificial Intelligence (AI) systems in Nigeria often reflect secular orientations that do not consider faith-based moral reasoning. Religious communities have little role in AI development, which creates mistrust and limited acceptance. Poor digital infrastructure and unequal access also exclude many congregations, especially in rural areas. Without participatory models that involve faith communities, AI risks weakening worship practices, reducing moral guidance, and increasing inequality. The study intends to bridge this gap by responding to how AI can be designed with faith groups in ways that respect values while supporting technological growth and resilience.

Research Questions

Below are the research questions the study intends to address**:**

1. How do AI systems in Nigeria address or ignore faith-based moral values?
2. What role do faith communities currently play in AI development?
3. What infrastructural and social challenges limit the use of AI in religious life?
4. How can faith communities be involved in co-designing AI for worship and governance?
5. What approaches can strengthen digital systems to support both innovation and religious values?

Research Objectives

The objectives of this research are as follows:

1. To find out how AI systems in Nigeria consider or neglect faith-based moral values.
2. To determine the extent of faith community involvement in AI development.
3. To identify infrastructural and social barriers to AI use in religious settings.
4. To show how faith communities can take part in designing AI for worship and governance.
5. To suggest ways of building digital systems that allow innovation and protect religious values.

Significance of the Study

This study matters because it looks at how AI can be developed with faith communities in Nigeria. It will show how AI can respect moral and spiritual values while still being useful. The study will give guidance to policymakers, religious leaders, and developers on including faith voices in AI design. It will also help communities see how AI can support worship and governance without losing identity. The results will add to knowledge on creating digital systems that are fair, strong, and suitable for local needs.

Scope of the Study

This study is limited to the use of Artificial Intelligence in Nigerian faith communities. Its main focus is on how the three prominent religions in Nigeria, which are Christian, Muslim, and traditional, are. The focus is on how AI affects worship, moral guidance, and governance. The study also covers challenges such as poor infrastructure, unequal access, and social barriers in both rural and urban areas. It does not deal with the technical design of AI

systems. Instead, it centres on the ethical, cultural, and community aspects of using AI in religious life.

Theoretical Framework: Moral Governance Theory

The idea of moral governance is often linked to John Rawls (1971), who stressed that governance must be based on fairness and justice. Later works, such as Bevir (2019: 14), developed the idea to show that systems are accepted when they align with community moral values. In plural religious societies such as Nigeria, moral governance cannot be confined to procedural fairness alone; it must also take into account how moral knowledge arises within faith communities. As Oyebanji (2025:103b) notes, "religious beliefs are not merely personal convictions but socially constructed realities that shape perceptions of justice, dignity, and communal responsibility". This epistemological aspect is crucial: religious groups do not simply follow ethics; they generate moral reasoning through scriptural reading, communal reflection, and ancestral tradition. Therefore, any model of AI governance that leaves out these sources of knowledge risks producing epistemic injustice, where secular technocratic standards are imposed as universal while faith-based moral reasoning is set aside.

In Nigeria, scholars argue that moral governance includes ethics, religion, and accountability in social life (Okoye, 2021: 88). This theory is useful in this study because it explains the risk of Artificial Intelligence (AI) that ignores cultural and religious values. If AI is shaped only by profit or secular logic, it may exclude moral reasoning that faith groups provide (Adeleke & Akinola, 2022: 54). Using moral governance allows the study to focus on the role of faith communities in guiding AI design for worship, ethics, and social order. The theory assumes that governance must be based on ethics, culture, and community input. From this, the study proposes that including faith communities in AI development will create systems that are more trusted and resilient. Though differences in religion and global standards may limit its application, the theory gives a clear base for analysing how AI can balance innovation with moral governance in Nigeria.

Literature Review: AI and Religious Practices

Current Uses of AI in Worship

Artificial Intelligence (AI) is being applied to different aspects of worship and religious life. In Nigeria and other African contexts, churches and religious institutions are beginning to use AI, though at an early stage. Agu and Margaça (2024: 307) explain that churches employ AI for administrative activities such as record-keeping, communication with members, and

event scheduling. These functions reduce the workload of clergy and create more time for pastoral duties. AI also plays a role in religious education. At Ahmadu Bello University, students of Christian Religious Education use AI to summarise texts and search for scriptural references (Anyebe, 2025: 44). Peters and Olojede (2025: 236) observe that lecturers in Nigerian universities employ AI to prepare lessons and provide feedback to students. They caution that these tools can encourage dependency if students do not engage critically with the materials.

Another field is the translation of scripture. Language remains a barrier to access in Nigeria, with hundreds of local dialects. AI translation systems allow faster rendering of biblical texts, making them accessible to more communities. Segun (2024: 12) argues that this process reduces cost and increases inclusion. However, he notes that theological nuance may be lost when translation is done without proper human oversight. AI is also being used in sermon development. Mokoena (2024: 15) reports that some pastors in South Africa generate sermon outlines using AI platforms. While this helps in structuring messages, it raises questions about originality and spiritual depth. Nigerian scholars such as Anyebe (2025: 47) argue that overuse of AI in preaching may weaken the role of inspiration and lived experience in religious messages.

Music and worship practice provide another example. During the COVID-19 pandemic, congregations created virtual choirs, using AI platforms to combine voices from different locations. Vaughan, Yoo, and Szűts-Novák (2025: 13) highlight that such virtual choirs remain in use among diaspora communities, enabling remote worship and maintaining a sense of belonging. From administration to preaching and worship, AI is already part of religious practice. However, its adoption is uneven, with urban churches and universities benefiting more than rural congregations.

Opportunities of AI in Spiritual Life

The first is accessibility, translating scripture into local languages. AI opens access to groups previously excluded from engagement with sacred texts. Segun (2024: 14) shows that this supports participation among rural Christians who may lack resources for printed translations. The second is education. AI offers opportunities for interactive and personalised learning in theology and Christian education. Peters and Olojede (2025: 235) demonstrate that AI provides learning assistance that can improve comprehension of complex doctrines.

Anyebe (2025: 44) notes that Nigerian students benefit from AI's ability to simplify material and provide quick references.

The third opportunity is innovative worship. Vaughan et al. (2025: 14) highlight how virtual choirs and online liturgies allow dispersed congregations to worship together. This strengthens community bonds, especially in contexts where physical gathering is limited. Another opportunity is ethical innovation. Mokoena (2024: 4) suggests that Ubuntu values, which emphasise communal responsibility, can guide the ethical use of AI in religion. Agu and Margaça (2024: 318) argue that Nigerian religious leaders can influence public discourse on digital ethics by combining theology with policy debates.

Limitations of AI in Spiritual Life

Despite opportunities, challenges exist in the use of AI for worship. One limitation is loss of authenticity. Segun (2024: 9) argues that AI-generated sermons and prayers cannot reflect pastoral experience and spiritual discernment. This reduces the personal dimension of worship. Another issue is bias and cultural misrepresentation. AI systems are built on global datasets that often reflect Western and secular assumptions. Yilma (2025: 6) calls this "ethical colonialism," where African voices and contexts are ignored. In religion, this may produce interpretations that conflict with local values. Digital inequality is another problem. Many Nigerian congregations in rural areas lack access to electricity and a reliable internet connection. Peters and Olojede (2025: 240) show that AI in education is mainly used in well-funded urban institutions. This creates a divide between those who can use AI in religious study and those who are excluded.

The concern about spiritual authenticity is not simply aesthetic but theological. As Ogunbiyi and Oyebanji (2025: 19) discovered in their research on Anglican seminarians, excessive dependence on AI for sermon writing negatively impacts spiritual impartation during ministration, leading to a lack of spiritual conviction and conversion. This points to a broader belief within many Nigerian Christian traditions: preaching is understood not chiefly as an intellectual task but as a gift channelled through the Holy Spirit. When AI replaces the preacher's personal spiritual struggle and accountability to the faith community, it risks turning proclamation into algorithmic output, logically structured yet lacking existential depth.

There is also the risk of overdependence. Anyebe (2025: 48) notes that some Nigerian students use AI to replace personal study, which weakens their analytical skills. In worship, reliance on AI for sermon preparation or liturgy design could reduce creativity and theological

reflection. Vaughan et al. (2025: 13) emphasise that AI cannot replicate the emotional and spiritual qualities of human-led worship. Privacy concerns are also present. Agu and Margaça (2024: 315) warn that AI systems often collect sensitive information about users. Without strict governance, data from congregations could be misused. These limitations show that AI cannot simply be adopted without careful oversight. Theological integrity, cultural values, and digital justice must guide its use.

Ethical AI Frameworks

In Nigeria, discussions around Artificial Intelligence (AI) ethics increasingly fall within two broad frameworks: secular approaches that stress fairness, accountability, transparency, and explainability (FATE), and faith-informed perspectives that emphasise justice, compassion, stewardship, and human dignity. These two approaches sometimes overlap but also differ in their foundations and intended outcomes. Secular ethical approaches to AI are largely imported from global debates, particularly those shaped by European Union guidelines and multinational organisations. In the Nigerian context, these principles are yet to be codified into law, but they are visible in policy debates and academic discourse. Fairness is often interpreted as the prevention of algorithmic discrimination in areas such as finance, education, or employment. According to Agu and Margaça (2024: 309), Nigerian stakeholders are concerned that imported AI models may replicate Western data biases, excluding African cultural realities and thus generating unfair outcomes. This shows the need for contextualised frameworks that reflect Nigeria's multi-ethnic and religious environment.

Accountability, in secular frameworks, involves mechanisms to hold developers and institutions responsible for harms caused by AI. The Guardian Nigeria (2024: unpaged) noted that there is no existing national legal instrument requiring AI providers to disclose risk assessments or to compensate those harmed by faulty AI decisions. This absence of accountability structures leaves gaps in governance. Similarly, Ajibola (2025: 5) highlights that teachers using AI tools in Nigerian religious education find it difficult to trace who is responsible when technology gives biased or misleading information, showing the limitations of accountability under current conditions.

Transparency and explainability are particularly pressing issues in Nigeria. Most AI systems used in business, education, and religious institutions are developed abroad, with little information provided about how they function. Peters and Olojede (2025: 239) report that Nigerian academics describe these systems as "black boxes" that cannot be easily interrogated

by end users. Without transparency, trust in AI among religious leaders and educators remains low. Explainability further demands that decisions be understandable not only to experts but also to ordinary citizens. This is significant in Nigeria, where digital literacy gaps remain wide, especially in rural communities.

While secular frameworks emphasise technical governance, faith-informed perspectives focus on moral and spiritual values. In the Nigerian context, these values are drawn from Christian and Islamic teachings as well as African communitarian ethics such as Ubuntu. Kannike and Fahm (2025: 16) argue from an Islamic perspective that AI governance must be guided by the objectives of Shariah, which prioritise the preservation of life, intellect, property, faith, and lineage. They contend that secular ethics are insufficient without a moral anchor that ensures AI contributes to human flourishing in line with divine commands.

Justice is central to faith-informed AI ethics. It goes beyond the procedural fairness described in secular models to include distributive and restorative justice. For example, the Catholic Bishops' Conference of Nigeria (2025: unpaged) warned that AI should not be deployed in ways that widen inequality or exploit vulnerable populations. Justice, in this sense, requires AI to serve the poor and marginalised, rather than simply meeting the needs of elite groups with digital access.

Compassion is another distinct value. Religious traditions in Nigeria insist that technological systems must reflect care for the weak, such as the elderly, children, or displaced persons. Ajibola (2025: 7) observed that teachers in religious institutions are sceptical of AI tools because they lack the pastoral sensitivity required in education, a gap that compassion-based ethics seeks to fill. Compassion demands that AI decisions be evaluated not only for technical accuracy but also for their human and relational impact.

Stewardship reflects the responsibility of humans to manage resources and creation wisely. In Christian theology, stewardship extends to the responsible use of technology. Musa (2025: 11) notes that Christian educators in northern Nigeria view AI adoption as acceptable only if it promotes integrity and curbs corruption rather than undermining moral responsibility. Stewardship, therefore, frames AI not just as a neutral tool but as a resource to be managed in ways that honour God and community.

Human dignity is perhaps the most emphasised value in Nigerian faith-based discourse on AI. The Catholic Bishops' Conference (2025: unpaged) stressed that technology must not reduce people to data points or replace human agency. Similarly, the Nigerian Religious

Coalition (2025: unpaged) warned against allowing AI to become an idol that undermines the primacy of human relationships. This contrasts with secular approaches, where dignity is often implied but not central. In religious ethics, human dignity is non-negotiable because all people are considered bearers of the divine image.

Comparisons between the two frameworks show both convergence and divergence. Fairness and justice, accountability and stewardship, transparency and dignity can be seen as parallels, but their interpretations differ. Secular frameworks tend to focus on compliance, regulation, and technical fixes, while faith-informed approaches prioritise moral formation, spiritual responsibility, and communal values. In practice, Nigerian stakeholders often draw from both, reflecting the country's plural context.

Practical challenges remain. On the secular side, Nigeria lacks institutional capacity to enforce fairness, accountability, transparency, or explainability in AI. As noted by Agu and Margaça (2024: 314), most religious and business organisations depend on foreign platforms whose design processes are opaque. On the faith-based side, religious leaders sometimes lack technical understanding of AI, making it difficult to translate theological principles into concrete governance structures (Kannike & Fahm 2025: 17). Moreover, tensions can emerge when theological traditions resist technological adoption entirely, slowing innovation.

Moral Governance in Digital Systems

Ethics, law, and religious moral codes play an important role in shaping artificial intelligence (AI) governance in Nigeria. Aduma and Ikpeze (2024: 118) show that the country has no comprehensive regulatory framework to direct the ethical use of AI. They note that corporate bodies often adopt AI tools without clear moral guidelines, creating risks of bias, weak accountability, and misuse. This demonstrates that legal structures alone are insufficient for AI governance in Nigeria. Ethical norms and religious values must be included to establish a framework that protects both human dignity and social trust. Islamic ethics provides a relevant model. Kannike and Fahm (2025: 22) explain that the Maqāṣid al-Sharīʿah (objectives of Islamic law) emphasise justice, preservation of life, dignity, and prevention of harm. These principles can guide AI regulation in education, finance, and healthcare. Their study shows that in northern Nigeria, where Islamic moral codes shape governance, AI systems must be evaluated through principles of fairness, stewardship, and accountability to God. This perspective broadens secular models by grounding governance in divine responsibility.

Christian thought also contributes to the debate. Oyebanji et al (2025: 37a) find that AI use among Christian youths has implications for spirituality, particularly where digital tools mediate worship. They warn that without ethical safeguards, AI may weaken discipline and authenticity in faith practice. Musa (2024: 49) adds that Christian academics see AI as useful in fighting corruption in higher education, but only if it is guided by values of honesty, transparency, and service to the community. These studies indicate that Christian ethics provides governance principles that link digital use with integrity and communal responsibility. Indigenous traditions also offer insights. Ubanyionwu (2024: 73) shows that Nigerian customary law does not yet address AI, but indigenous moral values such as respect for elders, communal responsibility, and the protection of the weak remain important in daily life. Ajibola (2025: 56) argues that when AI is used in religious education, it risks reducing human interaction, which indigenous ethics values highly. These perspectives suggest that any governance of AI in Nigeria must recognise local traditions if it is to be socially accepted.

Outside the Abrahamic faiths, Yoruba indigenous cosmology provides a strong basis for ethical AI rooted in communal responsibility and ancestral continuity. As Oyebanji et al. (2025:24b) observe, indigenous moral values such as respect for elders, communal responsibility, and the protection of the weak remain important in daily life. These values question the individualistic assumptions often present in Western approaches to AI ethics. For example, data gathering within a Yoruba setting is not viewed only in terms of individual consent but also as a matter of communal trust where elders and lineage leaders may act as custodians of collective identity. An AI system that disregards such relational worldviews risks breaching sacred social bonds, even when it complies with established data protection rules.

Comparative evidence indicates that secular frameworks of fairness, accountability, transparency, and explainability (FATE) are useful but limited when applied in Nigeria without cultural adaptation. Kannike and Fahm (2025: 24) show that Islamic values overlap with FATE but add accountability before God and communal justice. Musa (2024: 51) shows that Christian ethics contributes principles of honesty and service. Ubanyionwu (2024: 74) highlights communal responsibility in indigenous systems, which challenges the individualistic basis of many secular approaches. Together, these perspectives demonstrate that effective AI governance in Nigeria must integrate legal provisions, ethical principles, and religious moral codes.

Resilient Digital Ecosystems

Resilience in digital religious communities refers to the ability of such communities to sustain religious life, interaction, and values despite technological disruptions, infrastructural weaknesses, or social challenges. In Nigeria, this resilience has been tested especially during the COVID-19 lockdown, where many religious communities had to shift to online platforms. Afolabi and Babatunde (2022: 6) examined Christian worship conducted through social media platforms such as Facebook, WhatsApp, and Zoom, finding that although unstable internet and lack of technological literacy limited effectiveness, congregations were still able to maintain communal worship. This illustrates resilience as communities adapted their worship to available tools, sustaining participation despite systemic limitations.

Cybersecurity is another crucial dimension of resilience. Without secure platforms, digital religious ecosystems are vulnerable to fraud, data theft, and manipulation, which can erode trust within faith communities. Egere, Adamu and Nwokocha (2025: 3) studied cybersecurity education among low-literacy users in Northeast Nigeria and observed that community-centred training improved the ability to identify threats and respond safely. In religious contexts, this is particularly relevant because many churches and mosques now use online platforms for donations, counselling, and communication. A breach of security in such spaces can weaken trust and compromise spiritual bonds. Therefore, incorporating cybersecurity education into digital religious practice is vital for ensuring long-term resilience.

Digital inclusion is equally important for the resilience of religious communities. Adewale (2025: 2125) found that digital platforms in Ibadan promoted social engagement for groups such as women, youths, and persons with disabilities, enhancing participation in community life. In religious terms, digital exclusion translates into spiritual exclusion, where only wealthier or urban members benefit from online worship while rural or poor members are left behind. Many Nigerian congregations face challenges of high data costs, poor connectivity, and low digital literacy. Resilience in this context means ensuring that online religious initiatives are not elitist but incorporate inclusive practices, such as offering low-bandwidth streaming, using local languages, or combining digital with offline approaches for members with limited access.

Sociotechnical systems provide further lessons. The resilience of digital religious communities depends not only on technology but also on the alignment between digital tools and existing social practices. Afolabi and Babatunde (2022: 7) showed that churches which

created smaller online groups through WhatsApp for prayer and Bible study achieved stronger member engagement than those that only offered live-streamed services. The success lay in adapting the digital structure to the social logic of Nigerian congregations, where interpersonal fellowship and small group devotion are central. Digital resilience, therefore, requires sensitivity to religious culture and not simply the adoption of new technologies.

The role of governance cannot be overlooked. Nigeria still lacks comprehensive regulation of digital religious activities, particularly concerning data protection and privacy in online worship. Egere et al. (2025: 6) stressed that without policy support, even improved cybersecurity literacy cannot fully protect users from systemic vulnerabilities. For religious communities, governance frameworks that safeguard data privacy, regulate online donations, and protect freedom of worship online are essential to strengthen resilience. The absence of such structures leaves congregations exposed to external threats and limits their ability to build sustainable digital practices.

Resilience also depends on how communities respond to crises. During the COVID-19 pandemic, many Nigerian churches lacked technical equipment, but they used basic mobile phones and radio broadcasts to sustain worship. Afolabi and Babatunde (2022: 8) highlighted that this improvisation kept faith practices alive even when internet services failed. Similarly, Adewale (2025: 2126) reported that community groups used low-tech platforms like SMS to maintain inclusion for those unable to join high-bandwidth services. This shows that resilience is not only technological but also adaptive, relying on creativity in combining digital and analogue methods to sustain religious life.

Digital resilience within Nigerian faith communities is not defined by technological advancement but by adaptive hybridity combining digital and analogue, global and local, formal and grassroots. Oyebanji (2025: 108c) records that during health crises, communities "used basic mobile phones and radio broadcasts to sustain worship" when internet access collapsed. This practical improvisation reveals a wider cultural approach: technology serves as a means, not an end. For AI to strengthen resilient digital systems, it must be built to connect with existing low-bandwidth, trust-based networks such as WhatsApp prayer groups or community radio, rather than insisting on a total digital transition that marginalises rural populations.

A further lesson from the Nigerian experience is that resilience is relational. Digital platforms are not only tools but also spaces where trust, identity, and spiritual authority are

negotiated. Egere et al. (2025: 4) emphasised that cyber security education worked best when delivered through community leaders whom participants already trusted. For churches and mosques, this suggests that resilience requires embedding digital practices within established networks of spiritual authority. If members see digital systems as detached from their religious community, they may resist participation. Conversely, when leaders endorse and guide digital use, members adapt more readily, even in contexts of disruption.

Digital resilience also requires interfaith and intercultural considerations. Nigeria is religiously diverse, and both Christian and Islamic communities are expanding into digital spaces. While Afolabi and Babatunde (2022: 6) focused on Christian worship, similar trends can be observed in Islamic practices, such as online Qur'an recitations and digital Islamic education. Inclusion and security must therefore be addressed across traditions. Adewale's (2025: 2124) findings on digital inclusion suggest that shared infrastructural challenges cut across communities, making collaborative approaches to resilience beneficial. For instance, joint advocacy by religious bodies for affordable internet and stronger digital rights could strengthen resilience for all faiths.

The Nigerian context also demonstrates that resilience is socio-economic. Wealthier congregations in Lagos or Abuja can afford streaming equipment and high-quality digital tools, while rural congregations struggle with basic connectivity. Afolabi and Babatunde (2022: 7) observed that resilience was higher in congregations with better funding. This inequality highlights the need for policies and partnerships that bridge the digital divide. Without such measures, digital religious ecosystems risk becoming spaces of exclusion rather than resilience.

Methodology and Analysis

Research Design

This study employed a qualitative approach, integrating participatory action research (PAR) with case study methods. Qualitative research was suitable because the study explored the experiences and practices of faith communities regarding AI integration in worship and moral governance. PAR allowed participants to contribute to the co-design of AI systems, ensuring they reflected local moral and religious values. Case studies enabled in-depth analysis of selected institutions in Ibadan, capturing the social, cultural, and technological realities of Nigerian faith communities.

Population and Sample

The study population included faith communities, AI developers and ethicists, and policymakers within Ibadan, Oyo State. Faith Communities – Estimated total population: 4,500 members across selected institutions. These included Christian congregations (Redeemed Christian Church of God [RCCG], Bodija and Oluyole parishes; Christ Apostolic Church [CAC], Agbowo and Oke-Bola assemblies), Islamic communities (National Council of Muslim Youths, Ibadan chapter), and African Traditional Religion (ATR) practitioners from Olodo and Ona Ara communities.

AI Developers and Ethicists – Estimated total population: 150 professionals involved in religious technology projects or ethical AI initiatives in Ibadan. Policymakers and Digital Ecosystem Managers – Estimated total population: 50 officials engaged in digital policy, cybersecurity, and data governance in Oyo State. A purposive sampling technique was used. The final sample size included: Faith community members: 120 participants (30 from each Christian parish, 30 from Islamic youth groups, 30 ATR members). AI developers and ethicists: 25 participants. Policymakers and digital managers: 15 participants. The total sample was 160 participants, ensuring representation from all relevant groups.

Data Collection

Multiple qualitative methods were used:

Focus Group Discussions (FGDs) – Conducted with faith community members (8 groups of 15 participants). FGDs explored experiences, challenges, and opportunities in AI-supported worship.

Semi-structured interviews – Conducted with 25 AI developers and ethicists, and 15 policymakers. Interviews examined perceptions, ethical considerations, and practical implementation of AI.

Participatory Workshops – Involved 50 faith leaders and 25 AI developers in co-designing AI tools, including sermon databases, Qur'an learning modules, and virtual worship platforms. Iterative feedback ensured alignment with ethical and religious principles.

Document Analysis – Reviewed ethical charters, AI guidelines, religious texts, and Oyo State digital policy documents to contextualise and validate primary data.

Data Analysis

Data were analysed using thematic analysis to identify recurring patterns and key themes. Comparative coding highlighted similarities and differences across faith traditions. Triangulation integrated findings from FGDs, interviews, workshops, and documents, linking theological, ethical, and technological insights.

Critical Discussion of Findings

AI Adoption in Worship

The study showed that AI adoption differs across faith communities in Ibadan. RCCG congregations used AI for sermon archives, live streaming, and automated pastoral messaging, while CAC congregations mainly relied on WhatsApp and mobile notifications. Islamic youth groups employed digital Qur'an study applications and online lessons. This confirms that urban, well-resourced communities adopt digital tools more readily, while smaller or rural congregations face infrastructural and financial constraints (Adewale, 2025: 2125). While AI improved accessibility, especially for youths and diaspora members, the findings highlight potential risks to active engagement. Oyebanji et al. (2025: 40a) note that overreliance on AI-generated content can encourage passive participation, reducing mentorship and interactive learning. Therefore, AI should support rather than replace interpersonal engagement within worship and religious education.

Ethical and Moral Governance

Faith leaders emphasised that AI use must reflect moral and religious principles. Christian clergy stressed the need for pastoral oversight, Islamic leaders highlighted Sharia compliance, and ATR practitioners focused on preserving cultural and ritual authenticity. These findings indicate that secular ethical frameworks, such as fairness, accountability, transparency, and explainability, may not fully address moral and ethical concerns in religious contexts (Afolabi & Babatunde, 2022: 8; Oyebanji et al., 2025: 41a). The study highlights that AI governance in multi-faith societies cannot rely solely on universal principles. Ignoring local moral and theological norms could lead to doctrinal errors or reduced trust in religious institutions. Participatory co-design approaches, as used in this study, are crucial to ensure AI tools reflect both ethical standards and faith-based values.

Digital Inclusion and Resilience

Rural participants, particularly in Ona Ara and Ijebu communities, reported limited internet access and low digital literacy, constraining AI adoption. Urban congregations engaged more fully with AI-supported worship. This shows that access to digital tools is both a socio-economic and technological issue (Adewale, 2025: 2126). Resilience emerged as an important factor. Hybrid approaches combining low-bandwidth streaming, offline resources, and community-led training enabled wider participation. This indicates that digital resilience requires attention to both social and technical factors to ensure continuity, inclusivity, and sustained engagement.

Cybersecurity and Data Governance

Cybersecurity preparedness varied among congregations. RCCG Bodija implemented basic data protection measures, while smaller CAC parishes lacked formal safeguards. Poor protection of congregants' data raises ethical concerns, potentially undermining trust and violating moral principles such as stewardship and human dignity. This shows that ethical AI adoption in religious contexts requires integrated governance combining technological safeguards with local moral imperatives. Neglecting either aspect risks compromising trust in both AI tools and religious institutions.

Comparative Insights across Faith Traditions

All faith groups emphasised spiritual integrity, ethical AI use, and inclusion. Differences appeared in priorities: Christian leaders focused on sermon authenticity, Islamic leaders on Sharia compliance, and ATR practitioners on cultural preservation. This demonstrates that AI cannot adopt a universal approach in religious contexts; it must accommodate diverse moral and theological expectations.

Conclusion

Artificial Intelligence is increasingly used in worship and religious education in Ibadan, with higher adoption in urban congregations than rural ones. It improves accessibility, learning, and participation but may reduce relational and spiritual engagement if overused. Ethical and moral governance is essential, as secular frameworks alone cannot ensure alignment with Christian, Islamic, or ATR values. Attention to digital inclusion, resilience, and

data protection is necessary. Effective AI adoption requires integration of moral, cultural, and technological considerations to support worship and spiritual development.

Recommendations

Based on the findings of the study, the following recommendations are made:

1. Faith communities should participate in designing digital tools to ensure they reflect moral and theological principles.
2. Hybrid digital strategies, including offline resources and low-bandwidth options, should be used to reduce disparities between urban and rural congregations.
3. Data protection and cybersecurity measures must be strengthened to safeguard congregants' personal information.
4. Digital tools should respect religious and cultural diversity, incorporating Christian, Islamic, and African Traditional Religion perspectives.
5. Policymakers, developers, and faith leaders should collaborate to establish ethical, inclusive, and resilient frameworks for digital worship.

References

Adebayo, P. (2023). Faith and digital resilience in contemporary Africa. Ilorin Journal of Religious Studies, 13(2), 1–15.

Adeleke, T., & Akinola, S. (2022). Artificial intelligence, ethics, and cultural contexts in Africa. African Journal of Social Sciences, 10(2), 45–60.

Adewale, M. (2025). Role of digital platforms in promoting inclusivity in social engagement in Ibadan, Oyo State. International Journal of Research and Innovation in Social Science, 9(5), 2122–2127.

Aduma, O. C., & Ikpeze, N. G. (2024). Appraisal of the legal and ethical implications of artificial intelligence adoption in corporate decision-making in Nigeria. Nnamdi Azikiwe University Journal of Commercial and Property Law, 11(1), 113–132.

Afolabi, O., & Babatunde, A. (2022). Digitalisation of worship: Assessing the effectiveness of Christian worship via social media platforms during the Covid-19 lockdown in Nigeria. Ihafa: A Journal of African Studies, 14(2), 1–15.

Agu, G. A., & Margaça, C. (2024). Digital transformation and religious entrepreneurship in Nigeria: Integrating artificial intelligence toward competitive advantage. African Journal of Economic and Management Studies, 16(2), 305–319. https://doi.org/10.1108/ajems-06-2024-0349

Ajibola, I. G. (2025). Tech-ing the sacred: Exploring the ethical considerations of using artificial intelligence (AI) in religious education. Journal of Science, Technology and Education, 13(2), 54–62.

Anyebe, A. (2025). An advocacy for the integration of artificial intelligence (AI) in teaching and learning of Christian Religious Education at Ahmadu Bello University, Zaria, Nigeria. Zaria Journal of Educational Studies, 25(1), 42–49.

Bali, B., Garba, E. J., Ahmadu, A. S., et al. (2024). Analysis of emerging trends in artificial intelligence for education in Nigeria. Discover Artificial Intelligence, 4, Article 110. https://doi.org/10.1007/s44163-024-00163-y

Bevir, M. (2019). Governance: A very short introduction. Oxford University Press.

Egere, B., Adamu, I., & Nwokocha, C. (2025). Community-centric cybersecurity education for low-literacy users in Northeast Nigeria. African Journal of Science, Innovation and Technological Research, 3(2), 1–12.

Kannike, U. M. M., & Fahm, A. O. (2025). Exploring the ethical governance of artificial intelligence from an Islamic ethical perspective. Journal of Islamic Law and Ethics, 9(1), 18–28.

Mokoena, K. K. (2024). A holistic Ubuntu artificial intelligence ethics approach in South Africa. Verbum et Ecclesia, 45(1), 1–17.

Moses, P. R. (2024). Legal perspective on the use of artificial intelligence in corporate governance in Nigeria: Potentials and challenges. Journal of Legal Studies, 34(48), 97–118. https://doi.org/10.2478/jles-2024-0016

Musa, H. (2024). AI-driven solutions for ethical challenges: Exploring the potential for Christian academics to mitigate corruption in colleges of education in the North West Zone of Nigeria. Journal of Science, Technology and Education, 12(3), 45–53.

Okoye, J. (2021). Religion and moral order in Nigerian public life. Spectrum Books.

Olufemi, P., & Olojede, H. T. (2025). Influence of generative artificial intelligence (GenAI) in Nigerian higher education. Àgídìgbo: ABUAD Journal of the Humanities, 13(1), 233–244. https://doi.org/10.53982/agidigbo.2025.1301.17-j

Ogunbiyi, D. O., & Oyebanji, I. T. (2025). Sociological effects of artificial intelligence on theological students in selected seminaries of the Church of Nigeria (Anglican Communion). Corpus Intellectual, 4(1 Conf. Ed.), 1–25. https://doi.org/10.62154/ajrts.2025.04.01012

Oyebanji, I. T., Oyunwola, T. O., Segun, A. I., & Ogunbiyi, D. O. (2025). Artificial intelligence and its effects on Christian youths' spirituality. African Journal of Religious and Theological Studies, 4(1), 34–52.

Oyebanji, I. T. (2025). The complex interplay between religion and healthcare in Nigeria: Historical roots, current dynamics, and future implications. Kwaghe International Journal of Arts, Humanities and Religious Studies, 2(2), 99–129. https://doi.org/10.58578/KIJAHRS.v2i2.6812

Oyebanji, I. T., Ogunbiyi, D. O., Segun, A. I., & Oyunwola, T. O. (2025). Name change and its religio-ethical implications among the Yoruba. African Journal of Religious and Theological Studies, 4(1), 18–33. https://doi.org/10.62154/ajrts.2025.04.01012

Oyebanji, I. T., Omokafe, J., Adekoya, F., Olamide, S., & Ogunbiyi, D. O. (2024). A religio-philosophical appraisal of moral evil in relation to banditry in Nigeria. Corpus Intellectual, 3(1), 1–25. https://doi.org/10.62154/ajrts.2024.03.01001

Peters, O., & Olojede, H. T. (2025). Influence of generative artificial intelligence (GenAI) in Nigerian higher education. Àgídìgbo: Journal of Humanities, 13(1), 233–244.

Rawls, J. (1971). A theory of justice. Harvard University Press.

Samuel, O. O. (2023). Artificial intelligence and the transformation of education in Nigeria. International Journal of Assessment and Evaluation in Education, 2(1). https://mediterraneanpublications.com/mejaee/article/view/195

Segun, S. (2024). Are certain African ethical values at risk from artificial intelligence? Data & Policy, 6(1), 1–15.

Ubanyionwu, J. (2024). Legal and regulatory framework for artificial intelligence (AI) in customary law in Nigeria. COOU Law Journal, 6(1), 65–78.

Vaughan, G., Yoo, J., & Szűts-Novák, R. (2025). Wisdom of the heart: A contemporary review of religion and AI. Religions, 16(7), 834.

Yilma, K. (2025). Ethics of AI in Africa: Interrogating the role of Ubuntu and AI governance initiatives. Ethics and Information Technology, 27(3), 1–12.