

UTILIZATION OF AI IN INTERPERSONAL COMMUNICATION STRATEGIES FOR EFFECTIVE ISLAMIC PROPAGATION IN NIGERIA

BY

***Wonuola Tajudeen, Ajijola Bashir Amoda & Akashoro Ganiyu Olalekan**
Department of Mass Communication, Al-Hikmah University, Ilorin, Nigeria
Email: wonutahj@alhikmah.edu.ng

Abstract

As a country marked by cultural and linguistic diversity, and where Islam constitutes a significant portion of the population, effective communication is vital for religious outreach. This paper explores the potential of Artificial Intelligence (AI) in enhancing interpersonal communication strategies for Islamic propagation (*da'wah*) in Nigeria. Traditional *da'wah* methods, while impactful, face limitations in scale and accessibility. This study examines how AI technologies such as chatbots, Natural Language Processing (NLP), and data analytics can be integrated into *da'wah* efforts to address these challenges. AI-driven tools offer promising solutions by enabling more personalized, scalable, and culturally sensitive religious outreach. The paper also discusses ethical considerations, emphasizing the need for oversight by qualified Islamic scholars to ensure theological accuracy and respect for cultural nuances. It recommends a collaborative approach involving AI developers, communication experts, and religious scholars to harness AI's full potential in advancing Islamic propagation. Ultimately, this study highlights the transformative role AI could play in the future of *da'wah* in Nigeria, provided it is implemented responsibly and ethically.

Keywords: Artificial Intelligence, Interpersonal Communication, Islamic Propagation, Nigeria

Introduction

Artificial Intelligence (AI) has permeated all phases of life and almost every field of expertise (Wonuola & Akashoro, 2024). AI has revolutionized various sectors of life without excluding religious outreach. Religious outreach is centered upon religious education and the spotlight here is beamed on Islam which shapes individual character and morality (Hakim & Anggraini, 2023). Ayuba (2024) opines that Muslims exert the notion that creation's essence is to fully harness the potential natural and artificial resources on earth for the betterment of humanity, and thus, portraying Islam as a religion that covers every aspect of human existence as well as the integration of modern technologies. Communication, on the other hand, is the synchronizer of humanity. It involves the process of deliberate or accidental transfer of meaning, that is, one person does or says something, thereby engaging in symbolic behaviour, while others observe what was done or said and attribute meaning to it; whenever you observe or give meaning to behaviour, then communication is taking place (Gamble & Gamble, 2014). According to Nadvi (2022), Communication is the core element to humanity without which it cannot survive a healthy communication linkage as it requires usage of different symbols with meanings in order to establish relations with other humans of a society. They are many kinds of communication and this paper focuses on only interpersonal communication. Olayiwola (1993) in Khalil (2016) describes interpersonal communication as an attribute of the social system in which two or more persons interact with one another based on the pursuit of common goals. Khalil (2016) further buttresses that the Islamic perspective of interpersonal communication, human interaction and societal relationship is because the individual human being cannot secure all the things necessary for his livelihood without the cooperation of someone else; therefore, Islam is a communication-based religion.

Islamic propagation, known as *da'wah*, is a religious obligation for Muslims, aimed at inviting others to understand and embrace Islam. The significance of AI towards the Islamic *da'wah* can never be underestimated (Ayuba, 2024). In Nigeria, where over 50% of the population adheres to Islam, therefore, *da'wah* plays a crucial role in shaping religious understanding and societal harmony (Pew Research Center, 2024). Traditional methods of *da'wah* have

primarily relied on face-to-face interactions, sermons, and mass communication platforms. However, with advancements in technology, particularly in Artificial Intelligence (AI), there is growing interest in integrating AI into *da'wah* efforts. This paper aims to explore how AI can be utilized in interpersonal communication strategies to enhance Islamic propagation in Nigeria by using a systematic literature review. It is sectionalized in the following order: (1) introduction, (2) the role AI in interpersonal communication; with three sub-segments (3) ethical and cultural consideration, (4) the future of AI in Islamic propagation (*da'wah*) in Nigeria, (5) conclusion and (6) recommendations.

The Role of AI in Interpersonal Communication

Interpersonal communication involves direct, face-to-face interaction between individuals. Solomon and Theiss (2013) assert that interpersonal communication skills are critically important in every facet of life. Gamble and Gamble (2014) corroborate this assertion with the notion that;

“The fact that interpersonal communication takes two people means that it is indivisible. Without the second person, interpersonal communication is impossible. Thus, the parties to interpersonal communication are a duo: a couple, a pair, or perhaps adversaries. From an interpersonal perspective, even groups of three or more individuals are viewed as composites of dyads, effectively serving as the foundations for separate pairings and potential coalitions. Without a dyad, a relationship does not exist, and without a relationship, there is no interpersonal communication. The effectiveness of interpersonal relationships depends on the extent to which we practice and exhibit interpersonal skills. While we may be born communicators, we are not born with effective interpersonal skills—those we need to learn”. (p. 65)

Interpersonal communication refers more specifically to communication that occurs between people and creates a personal bond between them. In interpersonal communication, one person's actions both affect and reflect another person's actions. This is not the case with all kinds of communication: you can shut down your Internet browser without having an effect on the source of those messages. In contrast, if you don't respond to an instant message, your communication partner will probably have some kind of a reaction. When you engage in interpersonal communication, you and another person become linked together (Solomon & Theiss, 2013, p. 32). Akdilek, Akdilek and Punyanunt-Carter (2024) discusses modern view of interpersonal communication in various dimensions with more emphasis on computer-mediated communication (Braithwaite & Schrodt, 2022; Akdilek, et al, 2024). Computer-mediated communication tools, or digitalization, transform interpersonal communication, especially through artificial intelligence (AI) which has emerged as a transformative force in the domain of interpersonal communication, introducing multifaceted alterations in the modalities and media of human interactions (Akdilek, et al, 2024, p.168). It is unarguable that this technology warrants further exploration, however, it is apparent that AI offers many opportunities to enhance human communication.

With AI, interpersonal communication can be mediated by machines, providing new possibilities for scale, customization, and engagement. AI-driven tools such as chatbots, natural language processing (NLP), and machine learning algorithms have proven effective in mimicking human-like conversations, adapting to different cultural contexts, and providing personalized responses. Generative AI, a specialized subset of artificial intelligence dedicated to generating content reflective of human creativity and cognition, has been recognized for its potential to bridge the gap between linguistic expression and semantic comprehension, hence, its relevance in interpersonal communication is underscored by its ability to reconcile language with its inherent meaning, thereby facilitating enhanced articulation and comprehension (Akdilek, et al, 2024). In order to ascertain the relevance of AI in interpersonal communication, we examined three tools and these include but not limited to; (1) AI Chatbots, (2) Natural Language Processing (NLP) and (3) Data Analytics.

AI Chatbots for Religious Dialogue

A Chatbot is a computerized program that acts like a colloquist between the human and the bot, a virtual assistant that has become exceptionally popular in recent years mainly due to dramatic improvements in the areas like artificial intelligence, machine learning and other underlying technologies such as neural networks and natural language processing (Vijayakumar, Gupta & Hathwar, 2020). Maher, Kayte and Nimbhore (2020) affirms that chatbot has been used to provide data or perform tasks, such as telling the weather, making flight reservations, answering educational queries, or buying goods, often used in call centres to minimize the number of customer calls and can effectively communicate with any human being using interactive queries (Vijayakumar et al, 2020). With the above submissions, one of the primary applications of AI in interpersonal communication is through chatbots. In the context of this paper, AI chatbots can simulate conversations with users, answer religious queries, provide information about Islamic teachings, and offer spiritual guidance. This aligns with the submission of Pandey, Pandey & Bajaj (2024) that the main objectives of a chatbot is but not limited to the following; (1) provide timely assistance, (2) simplify information access, (3) improve engagement and interaction and (4) enhance users satisfaction. In Nigeria, where linguistic diversity is high, chatbots equipped with NLP can be tailored to communicate in various local languages, including Hausa, Yoruba, and Igbo. This linguistic flexibility will allow Islamic scholars and organizations to reach a wider audience, including those in remote areas where access to well-grounded Islamic religious scholars may be limited.

Following the rise of advanced Artificial Intelligence, chatbots have become popular in the past few years as businesses discover innovative ways to put them to use as a beneficial agent and have made life easier for customers as they are available 24/7 (Vijayakumar et al, 2020). Borrowing a leaf from this application, the development of AI-powered chatbots capable of answering questions on Islamic jurisprudence (*fiqh*) and theology can address specific queries from individuals seeking religious guidance. In this context, AI provides a scalable solution to bridge the gap between Islamic scholars and laypersons, ensuring that individuals receive accurate and timely information. Moreover, AI chatbots can serve as a non-judgmental space where users feel comfortable asking sensitive religious questions that they might be hesitant to ask publicly, just the same way anyone seeking would ask such questions in confidentiality, via interpersonal communication with an Islamic Scholar.

Natural Language Processing and Translation

Pothuri (2024) describes Natural Language Processing (NLP) as a subfield of artificial intelligence that focuses on the interaction between computers and humans through natural language. NLP plays a critical role in enhancing communication within emergency response systems by analysing algorithms and interpret vast amounts of unstructured text data, such as emergency calls, social media posts, news articles and available data, to identify relevant information and generate real-time alerts and responses (Luo, Lei and Hou, 2024). NLP aims to enable computers to understand, interpret, and generate human language in a meaningful way by encompassing a wide range of tasks, including machine translation, sentiment analysis, text summarization, question answering, and information retrieval. (Pothuri, 2024). Ali and Shandilya (2021) elaborate that;

“Natural Language Processing (NLP) is an area of research and application that explores how computers may want to understand and manipulate natural language text or speech to try and do useful things. Behind the scenes, NLP analyses the grammatical structure of sentences and therefore individual meaning of words, then uses algorithms to understand meaning and deliver outputs. In other words, it is smart of human language in order that it can automatically perform different tasks. Probably, the foremost popular samples of NLP in action are virtual assistants, like Google Assist, Siri, and Alexa. NLP understands written and spoken text like “Hey Siri, where is the nearest gas station?” and transforms it into

numbers, making it easy for machines to grasp. There are many other everyday apps we employ, where we've probably encountered NLP without even noticing. Text recommendations when writing an email, offering to translate a Facebook post written in an exceedingly different language, or filtering unwanted promotional emails into your spam folder are all examples of NLP". (p. 135)

Through NLP, AI systems can understand, interpret, and generate human language, which is crucial for communication in a multilingual society like Nigeria. Islamic propagation in Nigeria must consider the diversity of languages spoken across different regions. Utilisation of NLP will allow AI systems to translate Islamic texts, sermons, and educational materials into local languages, thereby making religious knowledge more accessible. In addition, NLP can also facilitate the "real-time" interpretation of sermons or religious lectures into multiple languages. This capability is especially beneficial in a country where ethnic and linguistic diversity often presents a barrier to effective communication in religious contexts; hereby allowing individuals who speak different languages to have a feel of the engagement and experience encountered during interpersonal communication.

Data Analytics for Targeted *Da'wah*

As established above, NETL (2020) succinctly explains that, Artificial intelligence are machines that can be given a set of human-defined objectives; learn, predict and make decisions while proffering solutions to these objectives with a significant increase in the speed and efficacy of decision making. Most AI applications use algorithms known as machine learning (ML) to find patterns in massive amounts of data; these patterns are then used for making predictions; and the automated methods capturing, organizing, and processing the data used by ML are known as data analytics (DA) (NETL, 2020). Akintayo et al (2024) submit that the integration of advanced data analytics and artificial intelligence (AI) has revolutionized the decision-making landscape because organizations now have access to vast amounts of data and powerful tools to analyze it, enabling them to make more informed decisions. AI's ability to analyse large datasets can significantly improve the effectiveness of Islamic propagation by analysing social media trends, online behaviours, and demographic data, AI can help *da'wah* organizations identify key areas where religious outreach is needed. This data-driven approach allows for more personalised targeted *da'wah* campaigns, ensuring that religious messages are tailored with an interpersonal approach to specific audiences based on their cultural, social, and religious contexts. This submission aligns with the thoughts of Aliyu and Emeje (2023);

Digital technology in this century is responsible for value addition and quality as far as productivity and efficiency are concerned. This evidence of enhanced productivity and value addition can be seen in Islam in the following ways: digital Islamic websites; digital Islamic radio and television stations; digital Islamic architecture; availability of digital Islamic books and literature; availability of digital Islamic chaplets; availability of prayer-mats carrying digital global time-zone etc (p.151)

Also, while analysing data, AI can be used to identify regions in Nigeria where there is a growing interest in Islam or where misconceptions about Islamic teachings are prevalent. With this information, interpersonal *da'wah* efforts can be concentrated in these areas, using AI tools to deliver content that addresses the specific needs and concerns of the local population and this approach can increase the relevance as well as impact of Islamic propagation efforts.

Ethical and Cultural Consideration

The use of AI in Islamic propagation raises important ethical and cultural questions. Albeit, AI offers numerous advantages, such as scalability and efficiency; it also poses challenges related to authenticity, control, and cultural

sensitivity. Hakim and Anggraini (2023) insist that challenges such as ethical considerations and data privacy of AI must be carefully addressed. Wonuola and Akashoro (2024) query, “Is AI simply a tool created by humans, or does it have its own inherent nature and existence? What is the nature of AI’s consciousness? Is AI becoming so sophisticated that it is capable of making its own decisions? Can AI be held responsible for its actions? If AI is capable of making its own decisions, then is it possible that it could be held responsible for misleading prompts?”

The increased reliance on data and technology also raises important questions about transparency, accountability, and ethics (NETL, 2020). Mohammed and Shehu (2023) highlight that one major issue of Artificial intelligence is the lack of standard for evaluation. Mohammed and Shehu (2023) also call attention towards the reliability, uniformity and volume of data when interference such as equipment or network failure occurs; such data may not be complete and thus, lead to erroneous results. The ethical and cultural consideration of AI are so enormous and exhaustive to discuss that it caught the attention of UNESCO to give some recommendations on the development and usage of AI systems. These recommendations, according to AllahRakha (2024), built upon UNESCO’s foundation of values and principles, include:

- Respect for human rights and fundamental freedoms
- Environmental and ecosystem protection
- Ensuring diversity and inclusiveness
- Living in peaceful, just, and interconnected societies
- Proportionality and do no harm
- Fairness and non-discrimination
- Safety and security
- Right to privacy and data protection
- Human oversight and determination
- Transparency and explainability
- Responsibility and accountability
- Awareness and literacy

These principles are designed to be applied across various policy areas, including ethical impact assessment, governance and stewardship, data policy, development and international cooperation, environment and ecosystems, gender, culture, education and research, communication and information, economy and labour, and health and social well-being (Birkstedt et al., 2023; AllahRakha, 2024). One major concern from the Islamic perspective, is whether AI-generated contents for *da’wah* can adequately reflect the nuanced understanding and interpretive traditions of Islamic scholarship. In particular, there is a risk that AI-driven religious guidance may oversimplify complex theological issues, leading to gross misunderstandings. Elmahjub (2023) submits that Islamic jurisprudence stresses maximizing the common good in decision-making; with this ethical approach, any AI framework must prioritize societal well-being and benefit the majority of people. However, Elmahjub (2023) after weighing the opinions of different Islamic scholars from different schools of thought pinpoints that;

*“Applying this concept does not directly result in a clear-cut set of ethical values to be pursued. Questions arise as to whether our interpretation of **maṣlaḥa** (Public Interest/Public Welfare) should be oriented towards maximizing welfare in the design and deployment of AI applications, or should it primarily focus on safeguarding a specific set of imperatives. We suggest that the most effective approach is likely a more nuanced one, considering both welfare maximization and safeguarding of specific imperatives as interrelated and complementary aspects of a cohesive ethical framework. By recognizing the multifaceted nature of maṣlaḥa, we can better*

appreciate the intricacies of Islamic ethics, enabling us better to align AI technology with universally relevant ethical considerations” (p.13).

Another concern is the potential for AI tools to inadvertently promote a homogenized version of Islam that does not account for the rich diversity of Islamic practices and interpretations found across Nigeria's different regions and communities. To mitigate these risks, it is essential that AI systems used in *da'wah* be developed and monitored by qualified Islamic scholars who can ensure that the content generated aligns with authentic and verifiable Islamic teachings.

The Future of AI in Islamic Propagation in Nigeria

Ayuba (2024) reiterates that the significance of Artificial Intelligence (AI) to every sector can never be over-emphasized as it is being used in agriculture, engineering, medicine, politics, sports and to drive the economy- Nigeria being one of the largest leading economies in Africa can never be left out in the effective integration of AI towards economic growth and development. On the same page with this submission is Aliyu and Emeje (2023) that, “the use of modern ICT has shaped the existential and religious ideologies of the Islamic world. Digital communication is an effective strategy for the propagation of Islam in Nigeria especially in rural areas. Despite the following digital challenges; namely, electricity, internet fraud, logistic cost, lack of connectivity, unauthorized misinterpretation, etc. the benefits of digital communication in improving Islamic propagation in Nigeria, cannot be downplayed because digital communication through the following, has helped Islamic propagation in Nigeria via digital employment and job creation among Muslims; development of digital infrastructure; increase in digital income; application of electronic advising and marketing; ease of funds by online means and digital Islamic lectures”.

The future of AI in Islamic propagation in Nigeria is promising, but its success will depend on several factors, including the availability of resources, technological infrastructure, and the willingness of Islamic scholars and organizations to embrace AI technologies. As internet penetration and digital literacy continue to grow in Nigeria, AI has the potential to revolutionize *da'wah* by making Islamic teachings more accessible to a broader audience. However, to fully realize the potential of AI in Islamic propagation, there is a need for investment in AI research and development, particularly in the field of religious communication. Additionally, collaboration between Islamic scholars, AI developers, and communication experts will be crucial in ensuring that AI tools are used ethically and effectively in the service of *da'wah*.

Conclusion

The integration of AI into interpersonal communication strategies for Islamic propagation in Nigeria offers numerous opportunities for enhancing religious outreach efforts. AI technologies such as chatbots, NLP, and data analytics have the potential to improve the accessibility, relevance, and impact of *da'wah*, especially in a culturally and linguistically diverse country like Nigeria. However, careful consideration must be given to the ethical and cultural implications of using AI in religious contexts. By working collaboratively with Islamic scholars and ensuring that AI tools are developed responsibly, the Muslim community in Nigeria can harness the power of AI to strengthen Islamic propagation in the digital age.

Recommendations

To effectively integrate Artificial Intelligence (AI) into interpersonal communication strategies for Islamic propagation in Nigeria, we are suggesting the following recommendations;

(1) There is a critical need for investment in AI research and development, specifically in the realm of religious communication. Such investment will provide the necessary foundation to develop and refine AI tools that can be used to enhance *da'wah* efforts across the country, ensuring these technologies are well-suited for the task.

(2) Collaboration is also essential. Islamic scholars, AI developers, and communication experts must work together to ensure that AI technologies are used in alignment with Islamic principles. By involving scholars in the development process, the content generated by AI systems can be regularly reviewed to maintain theological accuracy and relevance. This partnership will be crucial in ensuring that AI does not stray from Islamic teachings.

(3) Given Nigeria's cultural and linguistic diversity, it is also important that AI systems designed for *da'wah* are both culturally sensitive and linguistically adaptive. AI chatbots powered by Natural Language Processing (NLP) should be able to communicate in local languages such as Hausa, Yoruba, and Igbo. This will broaden the reach of Islamic propagation, allowing religious messages to penetrate remote and diverse communities more effectively.

(4) To safeguard the accuracy of AI-generated content, there should be oversight from qualified Islamic scholars. This ensures that complex religious issues are not oversimplified or misrepresented. With proper oversight, AI tools can be more trusted as sources of religious guidance, while also preserving the rich interpretive traditions of Islamic scholarship.

(5) Ethical and cultural concerns also need to be addressed when using AI for *da'wah*. Issues related to transparency, accountability, data privacy, and cultural sensitivity must be prioritized. Furthermore, AI tools should avoid promoting a homogenized version of Islam, recognizing the rich diversity of Islamic practices and interpretations found across different regions of Nigeria.

Finally, AI's capacity for data analytics should be harnessed to enhance *da'wah* efforts. By analyzing demographic trends and social media behavior, AI can help identify regions where religious outreach is most needed or where misconceptions about Islam are prevalent. This data-driven approach allows for more targeted and personalized *da'wah* campaigns, ensuring that religious messages are both contextually and culturally appropriate. By following these recommendations, we believe AI can be used effectively to enhance the reach, relevance, and ethical impact of inter-personalised Islamic propagation efforts in Nigeria.

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