Al-Muhajirin International Conference

The effectiveness of artificial intelligence in Qur'an and Hadith research

Abdul Aziz Shutadi
UIN Sunan Kalijaga, Indonesia
azizsutadi@gmail.com

Abstract
The rapid advancement of Artificial Intelligence (AI) has significantly transformed traditional research methods by facilitating broader and more efficient access to data in various fields, including education and religion. In the study of the Qur'an and Hadith, researchers are increasingly leveraging AI technologies despite ongoing concerns regarding credibility, interpretive accuracy, and potential bias. While AI offers promising capabilities for textual analysis and pattern recognition within Islamic sources, its application also raises ethical concerns, particularly in relation to data privacy and the risk of misrepresentation. This paper employs qualitative research methods to examine the effectiveness of AI in supporting Qur'anic and Hadith scholarship. The study draws on a range of relevant academic literature and emphasizes the importance of collaborative efforts between religious scholars and technology experts to ensure that AI is applied responsibly and enhances religious understanding. With careful ethical oversight and continued critical evaluation, AI has the potential to enrich Islamic studies by increasing accessibility and fostering a deeper engagement with sacred texts without compromising their theological integrity.

Keywords: artificial intelligence; Islamic studies; Qur'an; Hadith; ethics

INTRODUCTION

Scientific progress is inherently linked to technological advancement. As intellectual capacity among human beings evolves, science undergoes continuous transformation—supported not only by cognitive development but also by technological innovations that facilitate processes of learning, research, and renewal. Within an Islamic framework, technology is defined as the application of human expertise and knowledge to develop tools, machines, systems, and procedures that yield beneficial outcomes for society (Fauzi & Chudzaifah, 2019). Among these benefits is the ease with which knowledge—both religious and secular—can now be accessed.

Traditional approaches to identifying research problems—such as relying on printed books, ancient manuscripts, or physical archives—are gradually being replaced. The emergence of Artificial Intelligence (AI) technologies has brought unprecedented flexibility and accessibility in locating and processing data sources. Today, AI influences nearly every domain of human life, including economics, education, healthcare, and religion (Anugrah, 2024). Academic communities, including students, lecturers, and independent researchers, are increasingly turning to AI in the study of the Qur'an and Hadith. In many cases, researchers who struggle to identify appropriate topics or credible references now use AI as an auxiliary tool to facilitate their scholarly inquiries. However, this transition brings critical challenges, including concerns about research

credibility and the lack of supervision that may lead to inaccurate or ethically problematic outcomes. In more critical views, AI is considered by some to contradict theological principles by mimicking human intelligence and thereby challenging divine omnipotence (Pohan et al., 2023). While the desire to utilize AI in Qur'anic and Hadith research is often driven by the difficulty of accessing rare or complex sources, there is a pressing need to ensure scholarly originality and integrity are not compromised.

One of the Qur'an's most enduring appeals lies in its emphasis on intellect (*ʿaql*) and knowledge (*ʿilm*). This focus becomes especially relevant in the digital era, where the intersection of religion and technology is growing increasingly complex. Researchers and developers alike are not only tasked with creating advanced tools, but also with considering the ethical implications of their use. In Qur'anic and Hadith studies, the preservation of authenticity and scholarly rigor is as crucial as understanding the content and message conveyed by the texts. For academics engaged in Islamic research, AI represents both an opportunity and a challenge: it opens up new methodological possibilities while demanding critical reflection on its implications. As such, this paper aims to examine the effectiveness of AI in facilitating Qur'anic and Hadith research and its broader potential for contributing to the future of humanity.

AI has become one of the most widely discussed topics in academic discourse. Despite its immense potential, it also introduces significant ethical risks, particularly in terms of academic writing and the erosion of scholarly integrity (Sari et al., 2024). The growing availability of AI-powered tools is slowly undermining traditional practices in Qur'anic and Hadith scholarship, where moral accountability and academic credibility are foundational principles.

METHODOLOGY

This study employs a **library research** approach, which is inherently qualitative in nature. The research method is based on a **systematic literature review**, aimed at identifying core problems and synthesizing findings from previous studies related to the integration of Artificial Intelligence (AI) in Qur'anic and Hadith scholarship. As a qualitative investigation, this study does not rely on empirical data collection but rather on a rigorous analysis of academic sources, including peer-reviewed journal articles, books, and conference proceedings.

Literature selection in this research follows specific inclusion criteria: (1) publications must be relevant to the theme of AI application; (2) they must address ethical considerations in the study of the Qur'an and Hadith; and (3) they should explore future opportunities and challenges resulting from the integration of AI into Islamic studies. Sources were chosen to provide a comprehensive view of how AI intersects with religious scholarship, while also highlighting the moral and epistemological dimensions of its use.

The research draws on a number of contemporary studies that examine AI within the broader context of Islamic sciences, such as those conducted by Hidayat, Rahardyanto, and Hardjita (2020), as well as by Mauluddin (2024), who analyzed the contribution of AI to Qur'anic studies in the digital age. These sources are critically evaluated to assess their relevance and methodological rigor. The aim is not only to describe technological capabilities, but also to reflect on the implications of these capabilities for maintaining the integrity and authenticity of religious knowledge.

In sum, this study uses qualitative textual analysis to explore how AI can be utilized ethically and effectively in the context of Qur'anic and Hadith research. By focusing on scholarly literature with thematic alignment, the study provides a theoretical framework to support the integration of AI into Islamic scholarship while maintaining adherence to core ethical and theological values (Saihu, 2021; Putra, 2024).

RESULT AND DISCUSSION

The Development of AI in a Religious Context

Technological innovation continues to facilitate human life in increasingly diverse and sophisticated ways. Technology and science are inherently interconnected—science provides the theoretical foundation, while technology functions as its practical application, enabling the creation of tools, systems, and methods that propel human advancement. In the Islamic worldview, the Qur'an promotes scientific inquiry and technological development, provided they are pursued with objectivity, integrity, and in alignment with Islamic principles (Fauzi & Chudzaifah, 2019).

Historically, the introduction of computational tools—such as early computers designed for data processing—was a significant milestone in human civilization. As human needs became more complex, computers evolved into intelligent systems capable of simulating cognitive functions. This capability, now referred to as Artificial Intelligence (AI), has influenced various domains including religion, education, politics, economics, and social life (Mauluddin, 2024).

The conceptualization of AI began as early as the 1950s, with efforts to design machines that mimic human reasoning. Over time, AI has expanded to include a wide array of applications—from virtual assistants and diagnostic systems to advanced data analysis tools (Elaziz et al., 2019). AI works by applying mathematical models and algorithms to process large datasets, recognize patterns, and make decisions based on learned information. It is not merely a technological tool; rather, it represents a broader philosophical inquiry into the nature of intelligence and consciousness (Rifky et al., 2024).

In religious scholarship—particularly in Qur'anic and Hadith studies—AI has opened new avenues for exploration. The Qur'an not only offers spiritual guidance but also encourages the pursuit of knowledge and intellectual rigor. The analytical demands of Islamic studies, such as interpreting verses and extracting contextual meanings, require scholars to possess high levels of textual literacy and hermeneutic skill. AI contributes to this process by enabling deeper textual analysis, pattern recognition, and thematic mapping of Qur'anic content (Putra, 2024; Arifianto, 2021).

Nonetheless, the incorporation of AI into religious research is not without risks. Ethical concerns persist regarding authenticity, interpretation, and the moral responsibilities of researchers. While AI has enhanced accessibility and analytical capacity, it also challenges conventional norms of authorship and originality. These tensions reflect broader ethical debates surrounding human versus machine-driven inquiry, particularly in a discipline where moral accountability and scholarly credibility are paramount (Sari et al., 2024).

AI's integration into religious contexts also raises theological and ethical questions about its alignment with Islamic values. The Qur'an frequently calls upon believers to think, reflect, and seek knowledge as acts of devotion to Allah (SWT). In

this light, technological progress—including AI—should serve as a means of supporting spiritual and intellectual growth, rather than undermining religious authority or diminishing moral standards (Tahir & Suswandi, 2024).

In summary, the development of AI within the religious domain has the potential to both enrich and disrupt Islamic scholarship. While its analytical capabilities offer unprecedented benefits for Qur'anic and Hadith studies, its use must be continuously evaluated against Islamic ethical principles to ensure it supports, rather than detracts from, the pursuit of truth and divine guidance.

AI in Research Based on Qur'an and Hadith

The complexity of the Qur'anic and Hadith texts often necessitates advanced interpretive skills, which not all researchers possess. The philosophical nature of Qur'anic language requires in-depth exegesis, supported by rigorous analysis and scholarly methodology. Human intellect (*ʿaql*), though regarded as one of Allah's greatest gifts—as affirmed in Surah *At-Tīn* verse 4—is ultimately limited. Hence, the use of complementary tools such as Artificial Intelligence (AI) becomes essential to enhance one's ability to comprehend and interpret Islamic texts.

AI offers researchers the capacity not only to retrieve information but also to perform comprehensive textual analysis. For instance, AI can identify dominant themes and linguistic patterns, uncover semantic relationships between verses, and facilitate cross-referencing with tafsir, hadith, and other classical texts (Mostafa & Mohamed, 2022). This functionality enables deeper exploration of topics such as theology, legal thought, and historical development within Islamic studies (Arifianto, 2021).

Despite these capabilities, the rise of AI technology in Islamic scholarship has also contributed to a growing concern over the erosion of academic ethics. Although AI can simulate human cognitive processes such as perception, speech, and reasoning, it fundamentally lacks consciousness and moral judgment. Its potential misuse in academic contexts—such as plagiarism or the production of shallow interpretations—poses ethical risks, particularly in disciplines that demand intellectual honesty and spiritual sincerity (Shalihah, 2024; Sari et al., 2024).

In classical Islamic tradition, tafsir (*exegesis*) is a scholarly discipline requiring years of study under qualified scholars. With the proliferation of digital technology and AI, contemporary scholars are presented with both opportunities and challenges. AI tools can facilitate interdisciplinary analysis, real-time text processing, and semantic mapping that were previously unattainable. For example, Natural Language Processing (NLP) enables machines to decode and produce human language through advanced algorithms. In Qur'anic studies, this includes tasks such as digitizing manuscripts using Optical Character Recognition (OCR), performing automatic translations, and conducting linguistic analyses at morphological, syntactic, and semantic levels (Elaziz et al., 2019).

Projects such as the **Quranic Arabic Corpus** utilize AI to provide detailed syntactic and semantic annotations, helping researchers trace the relationships between recurring words, themes, and theological motifs. These tools allow users to explore verse interconnectivity, thematic parallels, and exegetical depth in new and dynamic ways (Mostafa & Mohamed, 2022). For example, AI-based recommendation engines can suggest related verses based on keywords or thematic queries, supporting a more integrated understanding of Qur'anic messages.

Nonetheless, it is essential to acknowledge that AI, while effective in assisting learning and interpretation, cannot substitute human reasoning, experience, and spiritual insight. As noted by Shalihah (2024), AI systems operate using statistical algorithms and pre-processed data; they cannot comprehend the layered, historical, and spiritual meanings of Qur'anic language, which are deeply embedded in religious tradition and lived experience.

As Islamic studies enter the digital era, scholars must strike a balance between technological innovation and the preservation of academic and religious integrity. The integration of AI opens the door to previously inaccessible interpretive possibilities, yet it simultaneously demands a stronger commitment to ethical scholarship and critical reflection.

Risk of Misinterpretation and Algorithm Bias

The use of Artificial Intelligence (AI) in religious research, including in the fields of Qur'anic and Hadith studies, offers substantial opportunities for knowledge expansion. However, alongside these opportunities come significant challenges—particularly the risk of misinterpretation and algorithmic bias. Ensuring that AI systems are used ethically and transparently is essential to avoid compromising the accuracy and authenticity of religious understanding (Sari et al., 2024).

Misinterpretation occurs when AI systems generate or assist in generating conclusions that deviate from the original theological meanings or contexts of Islamic texts. This may happen due to the limitations of algorithmic models that cannot fully comprehend religious nuance or due to inadequacies in the training data used. Distortion, in this context, refers to the alteration of intended meanings in Qur'anic or Hadith texts, which poses a grave risk to scholarly and spiritual integrity (Maya, 2024).

Moreover, algorithmic bias arises when the datasets used to train AI models reflect human prejudices—whether cultural, ideological, or institutional. These biases can lead to unfair or inaccurate outputs, particularly when AI systems are applied in sensitive fields such as religious interpretation. As noted by Tahir and Suswandi (2024), religious contexts require a heightened sensitivity that current AI systems often lack, making it crucial to incorporate safeguards that align AI outputs with Islamic ethical principles.

To address these concerns, several mitigation strategies must be adopted:

1. **Cultural and religious sensitivity in algorithm design**: Developers must embed religious values and contextual awareness into the structure of AI systems. This can involve customizing AI functionalities based on Islamic epistemology and ethical priorities.
2. **Expert validation**: Religious scholars should be actively involved in supervising and validating AI-generated content. Their expertise is indispensable in ensuring that the interpretations produced by AI tools are theologically sound and contextually appropriate (Saihu, 2021).
3. **Strengthening digital literacy among scholars**: Academic institutions must equip researchers, particularly those in Islamic studies, with digital literacy skills that enable them to critically evaluate AI tools and address potential inaccuracies or misuse (Muslimin, 2024).

Furthermore, the ethical implications extend to issues of privacy and data protection. Many AI systems require access to personal data, and their algorithms may

inadvertently disclose sensitive information such as identity, religious beliefs, or behavioral patterns without the user's explicit consent. This raises important concerns regarding the *maqāṣid al-sharīʿah*(objectives of Islamic law), which include the protection of *al-nafs* (life), *al-ʿaql* (intellect), and *al-ʿirḍ* (dignity) (Moh. Mauluddin, 2024). Ethical AI use in Islamic contexts must therefore incorporate principles such as *privacy by design*, enforce strict data governance, and remain aligned with both religious values and international ethical standards.

In conclusion, while AI presents considerable potential for enhancing Qur'anic and Hadith research, its application must be governed by ethical, theological, and scholarly frameworks. Without such oversight, AI risks becoming a source of misrepresentation, compromising both the integrity of religious knowledge and the moral responsibility of the researcher.

The Future of AI in Qur'anic and Hadith Research

Artificial Intelligence (AI) continues to redefine how knowledge is accessed, processed, and disseminated—ushering in a paradigm shift not only in secular disciplines but also within religious studies. In Qur'anic and Hadith research, AI enables machines to replicate elements of human cognition through expert systems, allowing complex problem-solving and information analysis by simulating human reasoning (Muslimin, 2024).

Although AI lacks the experiential depth of human learning, it acquires knowledge from data modeled on expert inputs. By automating intelligent behavior, AI becomes a tool that can facilitate religious scholarship when designed within ethical and theological boundaries. In the field of Islamic propagation (*daʿwah*), for instance, AI-powered technologies such as chatbots and virtual assistants have been developed to provide accessible religious guidance. These tools are particularly helpful for individuals who may not have regular access to traditional scholars (*ʿulamāʾ*) or formal learning environments (Shalihah, 2024).

However, such innovations must be approached with caution. The simplification of religious discourse through AI-generated responses may risk diminishing the richness and depth of Islamic teachings. This is especially critical given that AI does not possess spiritual awareness or contextual judgment—qualities that are foundational in Islamic scholarship. Without proper oversight, these tools may unintentionally spread superficial interpretations or even theological inaccuracies (Tahir & Suswandi, 2024).

Moreover, ethical concerns persist regarding the use of personal data within AI systems. Many AI applications process sensitive information such as names, affiliations, preferences, and even behavioral patterns. The potential for privacy violations is considerable, particularly when data is collected or analyzed without informed consent. These risks demand the adoption of strict privacy protocols—such as *privacy by design* and default protective settings—to ensure the safeguarding of personal and religious identity (Moh. Mauluddin, 2024).

The future of AI in Islamic studies must therefore be framed not merely in terms of technological advancement, but also in terms of **moral responsibility**, **academic integrity**, and **religious authenticity**. As scholars and technologists collaborate to develop AI-based tools, it is essential to prioritize theological accuracy, ethical use, and transparent governance. Through such a balanced approach, AI can serve as a

meaningful complement to human scholarship—enhancing accessibility, analytical capacity, and interdisciplinary innovation in the study of the Qur'an and Hadith.

In essence, the responsible and ethical integration of AI technologies in Islamic studies holds transformative potential, provided that the technology remains anchored in the values of Islamic epistemology and scholarly tradition.

CONCLUSION

The advancement of Artificial Intelligence (AI) has introduced significant transformations in the field of Qur'anic and Hadith studies. As an innovative tool, AI facilitates broader access to knowledge and enables more sophisticated textual analysis. It contributes to the efficiency of research processes, including the identification of relevant sources, thematic exploration, and semantic interpretation. However, these technological developments must be approached with critical awareness—particularly regarding issues of credibility, originality, and ethical responsibility.

This paper has demonstrated that AI possesses substantial potential to enrich Islamic studies by opening new dimensions of inquiry and interpretation. Nonetheless, it also poses new challenges, especially when its outputs are not subject to theological validation or when academic ethics are overlooked. The risks of misinterpretation, data bias, and diminished scholarly integrity necessitate ongoing reflection and careful management.

For AI to truly support the advancement of Islamic knowledge, it must be implemented within frameworks that respect religious values and epistemological principles. Ethical oversight, collaboration between scholars and technologists, and the cultivation of digital literacy among researchers are essential in mitigating the dangers associated with AI-driven research. By doing so, the integration of AI can be harmonized with the objectives of *Islamic scholarship* (*ʿilm*), enabling a future in which technology serves as a means to deepen, rather than dilute, the understanding of divine revelation.

In conclusion, the responsible use of AI in Qur'anic and Hadith research requires a balance between innovation and ethical commitment. Continuous scholarly engagement, guided by both technical proficiency and religious insight, will ensure that AI becomes a constructive instrument in advancing the legacy of Islamic knowledge—without compromising its spiritual and intellectual depth.

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