

# Journal of Islamic Educational Research (JIER)

e-ISSN: 0128-2069

## Employing Artificial Intelligence Tools to Develop Islamic Scientific Research

Aaisha Salim Al Roshdi\* & Fareed Awae\*\* & Ahmad Yussuf\*\*\*

### Article Information

Received:  
26.11.2025

Accepted:  
10.12.2025

### ABSTRACT

This article aims to highlight the role of artificial intelligence in improving the quality of Islamic scientific research, as it starts by introducing the concept of artificial intelligence and its vital role in the development of Islamic university education, then it deals with concepts related to scientific research and the enormous importance of employing artificial intelligence tools in disciplines such as the fundamentals of jurisprudence and analysis of hadith, then the article then deals with the uses of artificial intelligence in the field of Islamic research, as well as referring to the most important tools of artificial intelligence In Islamic academic research, it also discusses the most important challenges facing the application of AI tools in this field, including critical ethical and jurisprudential challenges, such as preserving the role of human ijthad (independent reasoning), transparency in algorithmic interpretations of sacred texts, and ensuring impartiality in the analysis of religious texts. The research concludes that AI technologies represent applications with a profound impact and effectiveness in improving the quality of Islamic scientific research, provided that a supportive environment is provided that Shariah-compliant applications are provided for the application of these technologies and training students and researchers to use them effectively and ethically.

**Keywords:** Artificial intelligence, university education, Islamic scientific research.

**Citation Information:** Al Roshdi, A. S., Awae, F., & Yussuf, A. (2025). Employing Artificial Intelligence Tools to Develop Islamic Scientific Research. *Journal of Islamic Educational Research (JIER)*, 11(2), 21-32.

## 1. INTRODUCTION

Artificial Intelligence (AI) is a transformative force for the development of Islamic university education, offering tools that enhance institutional management, predict future trends, and improve the quality of education (Chidembo & Mochono, 2025). Despite this great strength, its integration requires a delicate balance between advanced technological capabilities and commitment to Islamic moral and human values, and the real goal of education is to develop creativity, work on intellectual growth, and commit to scientific and ethical honesty in the context of Islamic scientific research. AI supports the systematic processes used by scientists to verify facts and phenomena while maintaining adherence to Sharia (Eid and Eid, 2024), and these processes require a range of actions such as: hypothesis formulation, experimentation, theory development, intellectual rigor, critical analysis, and innovation guided by ethical responsibility, thus AI becomes a complementary tool that enhances the researcher's ability to produce reliable and meaningful knowledge rather than replacing human thinking Furthermore, the integration of AI into Islamic research embodies an ethical trust that requires legal and methodological awareness to ensure that science continues to serve humanity and religion together (Abu Rahim & Abu Rahman, 2025), so the future of Islamic research under AI depends on nurturing research leaders, training scientists in the use of ethical technology, and ensuring that scientific progress is in line with the Sustainable Development Goals and authentic Islamic values.

The use of artificial intelligence applications in the field of Islamic social sciences and humanities represents a qualitative shift that adds tangible value to scientific research methodologies in an era characterized by tremendous technological advances and an increasing ability to analyze textual and complex data. The introduction of artificial intelligence techniques in the study of Arab-Islamic texts (e.g., the Qur'an, Hadith, and jurisprudence manuscripts) among graduate students opens the door to new possibilities that accelerate the discovery of knowledge through advanced textual analysis (e.g., verification of the chain of hadith) and significantly improve the quality of Islamic academic writing, which requires in-depth study to understand the nature of this transformative effect. Therefore, it has become necessary for Islamic universities and researchers to be aware of the unique transformations that AI technologies have brought about in the field of Islamic scientific research, and this poses challenges related to the need for ethical and Shariah-compliant frameworks for the dissemination of artificial intelligence, and in this

\* PhD Candidate at Department of Islamic History, Civilization and Education, Academy of Islamic Studies, Universiti Malaya, 50603 Kuala Lumpur, Malaysia. E-mail: aysha.alroshidiya88@moe.om

\*\* Senior Lecturer at Department of Islamic History Civilization and Education, Academy of Islamic Studies, Universiti Malaya, 50603 Kuala Lumpur, Malaysia. E-mail: fareedo2022@um.edu.my

\*\*\* Senior Lecturer at Department of Islamic History, Civilization and Education, Academy of Islamic Studies, Universiti Malaya, 50603 Kuala Lumpur, Malaysia. E-mail: amdysf@um.edu.my

context, reviewing the previous literature is an essential step to understand the impact of these technologies in raising the level of academic research among Muslim scholars, and to identify the best practices and techniques to employ AI in this field in an effective and systematic manner, and in a way that serves and supports Students in writing their specialized scientific research.

### 1. 1 Problem Statement

The introduction of AI technologies in the field of Islamic studies has brought a qualitative transformation of significant value to scientific research methodologies, particularly in managing the vast corpus of Arab–Islamic texts and the complex analytical frameworks of hadith and jurisprudence. Nevertheless, their optimal application remains limited, and the extent of their impact on enhancing the quality of Islamic scholarly research is still uncertain due to practical challenges and ethical constraints that restrict their effective use.

Hence, the main problem of this article starts with the following question:

To what extent do AI technologies contribute to improving the quality of Islamic scientific research? And what are the most prominent ethical challenges and constraints facing their application?

### 1. 2 Research Questions

The research addresses the following questions:

- What is the concept of artificial intelligence in Islamic university education?
- What is the role of artificial intelligence in the development of Islamic university education?
- What are the concepts related to Islamic scientific research and the importance of employing artificial intelligence tools in it?
- What are the uses of artificial intelligence in the field of Islamic scientific research?
- What are the tools of artificial intelligence in Islamic scientific research?
- What are the challenges facing the application of artificial intelligence tools in the field of Islamic scientific research?
- What are the ethics of using artificial intelligence tools in the field of Islamic scientific research?

### 1. 3 Research Objectives

This research seeks to achieve the following objectives:

- Clarifying the concept of artificial intelligence of Islamic university education.
- Identifying the Role of Artificial Intelligence in the Development of Islamic university Education.
- Defining Islamic scientific research and clarifying the importance of employing artificial intelligence tools in it.
- Identify the uses of artificial intelligence in the field of Islamic scientific research.
- Demonstrating artificial intelligence tools in Islamic scientific research.
- Analyse the most prominent challenges facing the application of artificial intelligence tools in the field of Islamic scientific research.
- Studying the ethics of using artificial intelligence tools in the field of Islamic scientific research.

## 2. RESULTS AND DISCUSSION

### 2. 1 Artificial Intelligence and its Importance in Islamic University Education.

Artificial intelligence (AI) – or what some call machine or programmatic intelligence – is a branch of modern computer science concerned with building intelligent machines and systems that mimic human behaviour and intelligence (Al-Azmi et al., 2024), and Al-Mutairi (2022) points out in her study that the concept of artificial intelligence is the name given to a set of new methods in programming accounting systems, and these methods can use development systems that simulate certain elements It allows it to implement a set of facts and laws represented in computer memory, which are inferences that require a certain degree of artificial intelligence to perform a range of executive tasks, allowing computers to simulate certain tasks such as functional and intellectual procedures, and problem-solving.

In recent years, artificial intelligence (AI) has become one of the most important factors reshaping university education in the world, offering enormous potential to improve learning, increase teaching efficiency, and tailor educational experiences to suit the needs of students, and artificial intelligence in education is defined as the employment of computer systems capable of learning, thinking, and decision-making to support teaching and learning processes, through tools such as instructional analytics, adaptive assessment, and intelligent assistants (Yuan et al., 2025) In the context of Islamic university education, the focus is on harnessing this potential to develop the skills of researchers in the faculties of Sharia and Islamic Studies.

Designing educational systems that can track a student's academic development and provide personalized feedback based on their performance is one of the most prominent applications of AI in university education.

AI applications have also contributed to the promotion of flipped learning, allowing students to interact with "virtual assistants" who provide academic support outside of lecture times at Islamic universities, and the study by Yuan, Yu, Zhang, and Guan (2025) showed that the use of AI-based learning companions in flipped classroom environments contributes to the development of computational thinking skills. It increases students' motivation to actively participate in learning.

Other studies indicate that the integration of AI into university education is not without challenges, such as data ethics issues and concerns about the loss of the human element in education (Rump, 2025), and these concerns are amplified in Islamic research due to ethical and jurisprudential challenges related to the issue of *ijtihad* and the integrity of sacred texts as well as the emergence of limitations such as lack of contextual religious knowledge and excessive academic reliance on the tool (Irfan et al., 2025). Therefore, the researchers recommend the need to develop clear institutional policies to ensure the responsible use of these technologies, as well as to train professors in the skills needed to use AI effectively in the educational process (Barcellar & Barbosa, 2025; UNESCO, 2023).

In addition, AI plays an important role in improving the management of Islamic university institutions, by analyzing institutional data and predicting enrolment trends (Chidembo & Muchono, 2025). Artificial intelligence (AI) is arguably a knowledge and educational revolution, but its successful integration requires a delicate balance between technical capabilities and Islamic human and ethical values, to ensure that the primary goal of education remains to develop thought, creativity and commitment to scientific honesty.

It can be said that artificial intelligence is a knowledge and pedagogical revolution in Islamic university education, combining technology and human analysis to deliver smarter, fairer, and more flexible education, however, the successful integration of these technologies requires a delicate balance between technical potential and Islamic values, to ensure that the primary goal of Islamic education remains to develop thought and creativity, not just automation and control.

## 2.2 The Role of Artificial Intelligence in the Development of Islamic University Education

With the employment of artificial intelligence applications in university education, it has become an important strategic tool in the development of university education through its contributions to improving the quality of teaching, allocating educational content, enhancing the efficiency of Islamic scientific research and other transformations, so it has become necessary to study how to employ artificial intelligence technologies in the Islamic university environment, and identify its vital roles, and through the following, we will learn about the role of artificial intelligence in the development of Islamic scientific research, as stated in (Al-Tantawi, 2024):

- **Improving the quality of Sharia and academic education:** Artificial intelligence contributes to raising the efficiency and quality of the educational process by providing interactive and smart educational content that adapts to the level of students in understanding jurisprudential and hadith texts, and meeting their individual needs, which increases educational effectiveness and reduces gaps in comprehension, as well as accurately evaluating performance and proposing alternative educational paths specialized in Sharia sciences.
- **Enhancing Islamic Scientific Research Capabilities:** One of the most important roles of artificial intelligence in universities is to advance scientific research through the enormous and intelligent analysis tools of classical texts, which help researchers analyze the chains of narrators, extract fundamentalist grammar, and process vast amounts of textual data (manuscripts and works), and this reduces the time and effort required to conduct complex research, and opens up prospects for the development of systematic *ijtihad*.
- **Personalized and individualized instruction for Sharia texts:** AI can analyze students' behaviour, strengths and weaknesses in classical Arabic or Sharia inference, and then design a learning experience that is specific to each student.
- **Supporting people with special needs:** AI provides educational tools that help people with disabilities learn better, such as converting texts into voice, generating sign language, or supporting interaction via voice commands. This promotes the integration of this group into the Islamic university environment and gives them equal educational opportunities.
- **Raising the efficiency of academic administrative work:** AI can take over many administrative tasks, such as managing schedules, tracking attendance, evaluating performance, and responding to frequent inquiries, reducing the administrative burden on faculty members and enabling them to focus on specialized teaching and scientific research.
- **Achieving Shariah-compliant digital transformation:** The importance of artificial intelligence comes from being a key driver of digital transformation in education, as it helps to update curricula, improve teaching tools, and support distance education, which is in line with global trends and smart education, if Shariah purposes are adhered to.

- **Enhancing the future skills of student researchers:** By employing AI technologies in teaching, students are exposed to these tools early, contributing to the development of their technological and cognitive skills required for the modern job market, including analytical thinking, problem-solving, and dealing with big data.
- **Data-driven educational decision-making:** AI helps university administrations collect and analyze data on student performance, interaction within online platforms, attendance rates, and others, enabling accurate educational decisions based on clear evidence rather than guesswork or estimate.
- **Increased flexibility and interactivity in learning:** Thanks to AI-powered education systems, students can learn anytime, anywhere, providing a flexible and continuous learning environment, and opening the way for self-paced and interactive learning in various Islamic disciplines.

It is clear from the above that artificial intelligence represents a key pillar in the future of Islamic university education, as it offers enormous potential that contributes to enhancing the quality of education, developing scientific research, and providing a more personalized and effective educational experience, and its employment contributes to building a flexible, interactive and inclusive educational environment for all groups, and the human element remains the real key to achieving the maximum benefit from artificial intelligence in education and achieving a comprehensive and sustainable digital transformation in universities, while adhering to ethical and Sharia controls.

## 2. 3 Islamic Scientific research and the importance of employing artificial intelligence tools in it

### 2. 3. 1 Definition of Islamic Scientific Research

Islamic scientific research is defined as the process of studying phenomena, whether empirical or textual (legal and jurisprudential), using the scientific method and Islamic methodology with the aim of discovering new facts and developing contemporary Islamic knowledge. This research aims to review and scrutinize legal texts (such as hadiths and verses), facts and laws in the light of recent discoveries and their applications, and Islamic scientific research is a continuous means of searching for knowledge and understanding reality, and this is done by following the scientific method, which leads to produce knowledge, while adhering to Shari'a controls. The goal of the research may be purely theoretical (such as generating fundamental knowledge), or the goal may be practical (to generate fatwas and applied solutions to emerging problems) (Silva, 2022).

Islamic scientific research is also defined as a set of methodological processes that are followed to verify the validity of facts or phenomena by specialized researchers, and this depends on examining data and information related to the phenomenon using a structured logic that is consistent with Shari'a controls. These processes include formulating hypotheses, building concepts, conducting experiments, testing the validity of hypotheses, and developing knowledge in accordance with new variables, with the aim of generalizing the results and concluding theories that explain the relationships between variables, which helps to develop scientific research continuously (Eid & Eid, 2024).

It can be concluded from this that Islamic scientific research is a systematic and sequential process that aims to study, understand and interpret phenomena, with a focus on the analysis of legal texts and macro purposes, through the collection and analysis of data in an organized and logical manner and using a specific methodology, with the aim of validating hypotheses, building new knowledge, whether for theoretical or applied purposes, and coming up with new solutions to contemporary problems.

## 2. 4 Islamic Research Skills

The skills of scientific research are summarized as follows: (Al-Sayyad and Al-Salem, 2024)

- **Discipline and Organization:** Scientific research is a mental, organized, disciplined, precise, and planned activity. Discipline in Islamic research requires methodological rigor in dealing with legitimate sources and honesty in documentation and transmission.
- **Theorizing (Origin Building):** Scientific research is based on theory to formulate hypotheses and construct concepts. In Islamic research, this includes the ability to construct fundamentalist frameworks and relate the results to the purposes of Sharia.
- **Experimentation and verification:** Scientific research is based on conducting experiments and testing the validity of hypotheses. In Islamic studies, this includes verifying the validity of texts. Research has shown that AI, especially natural language processing (NLP) technology, is now being used in classification and verification of speech (Saloot et al., 2016) by analyzing narrator chains and conversational texts with high accuracy.
- **Renewal (innovation and ijihad):** New and renewed Islamic scientific research introduces new knowledge, through which old knowledge is developed in accordance with new variables. This skill represents the ability to methodological ijihad to develop jurisprudential solutions to contemporary problems, bearing in mind that artificial intelligence now supports rapid access to comparative jurisprudential knowledge, but does not replace the authority of human ijihad (Abdelnour, 2025).

- Circular (Dissemination of Knowledge): Scientific research seeks to publish results, because knowledge and information acquire a scientific character only if it is approved research and available to all, which supports the enrichment of the Islamic library.
- Inference and deduction: Generalization leads to the development of a theory that explains the relationships based on variables. It represents the ability to deduce jurisprudential deduction that focuses on deriving judgments from original sources, so that the circle of research returns to theorizing.

These skills represent the cornerstone on which every real knowledge achievement is based, they are not just technical tools, but they are an organized intellectual approach that leads the researcher towards the truth in a logical and disciplined way, and when the researcher has the skill of control and organization, he is able to manage the elements of his research accurately. From identifying the problem and formulating goals, to collecting and analyzing data, to presenting the results in a systematic way. Organization means controlling variables and avoiding bias, while organization means arranging the steps of scientific research in a coherent and sequential manner that ensures reliable and verifiable results, while the skill of theorizing represents the ability to build an intellectual framework that explains phenomena and links them to the existing theoretical foundations, and the distinguished researcher in Islamic sciences. This skill requires a deep understanding of previous concepts and theories, and the ability to criticize and analyze Islamic texts and structure, so that the researcher provides an integrated vision that goes beyond the boundaries of description to the level of understanding and interpretation, while the skill of experimentation is the essence of applied scientific research, as the researcher was able to test hypotheses and theories on the ground using precise scientific methods This skill requires a strict commitment to the Islamic scientific method, the accuracy of experiment design and the analysis of results, taking into account ethical and objective controls in research, and the skill of innovation comes to make the researcher an active element in the development of knowledge and not just a carrier of it, as innovation means the ability to innovate in posing problems by adopting new research methods, or reinterpreting phenomena from unconventional angles, the creative researcher is always the one who seeks to go beyond the ordinary and add new value to the scientific community through his ideas and outputs.

## 2.5 The importance of using artificial intelligence in Islamic scientific research.

The use of artificial intelligence applications by researchers in Islamic studies has become very important, as these applications allow them to improve their research, save time and effort, and organize the scientific research process. Programs such as Mendeley and Zotero can organize and manage references and provide suggestions related to the research topic, by adding the feature of artificial intelligence tools, its function went beyond just processing texts to the field of spelling and grammar checking through artificial intelligence algorithms, but it can provide corrective suggestions that help the researcher pay attention and rephrase his production, and it can also provide the ability to convert written text into speech and vice versa., the program can detect similarity phrases and suggest examining this similarity whenever there is a change at the level of the text, which is a feature that is more provided by plagiarism detection platforms, perhaps the most famous of which are (I Thenticate) and (Turnitin), where the authenticity of texts is verified, which contributes significantly to the fight against plagiarism in the field of Islamic research, and this contributes to removing barriers that prevent students from accessing education, which contributes to creating a comprehensive and integrated learning environment (Dafiri, 2024).

Artificial intelligence tools have contributed to radical shifts in Islamic scientific research methodologies, as confirmed by a study by Lee, Kim, and Zhang (2023) in the journal *Nature Machine Intelligence*, which showed that the integration of artificial intelligence into the scientific research system does not aim to replace the human researcher, but rather to enhance his ability to analyze and produce reliable knowledge.

Among the most important contributions of artificial intelligence tools in the field of Islamic scientific research (Abdelnour, 2025):

- Rapid Scientific Discovery by Big Data Analysis: Artificial intelligence can process vast amounts of data in a short time, enabling the detection of patterns and relationships quickly and accurately. In the Islamic context, this is applied to the analysis of the texts of hadiths, jurisprudential fatwas, and large fundamentalist works to identify trends and doctrines. Modern technologies have demonstrated the ability to use deep learning to classify and validate hadiths by analyzing texts with high accuracy, which supports the efforts of scholars of hadith in verification.
- Improve the accuracy of analysis through machine learning algorithms: Artificial intelligence, especially through machine learning techniques, contributes to increasing the accuracy of analyses by applying advanced models to verify the linguistic and methodological consistency of legal texts, reducing deviations caused by human errors. It also helps improve the quality of archival and manuscript data and accurately detect anomalies in historical data.
- Generate new hypotheses based on data patterns and hidden relationships between variables: AI algorithms can uncover invisible relationships between concepts in complex fundamentalist and jurisprudential textbooks, enabling researchers to formulate innovative scientific hypotheses about the evolution of sharia rulings or intellectual patterns based on strong textual evidence, which enriches the process of systematic jurisprudence.

- Support intelligent systematic reviews of literature by drawing concepts and trends from thousands of studies: Natural language processing (NLP) techniques are used to extract key concepts and important findings from large Islamic manuscripts and works, helping the researcher to build a comprehensive and structured review of the literature without having to read each source manually. This is of utmost importance in the analysis of Islamic literature that is characterized by its vast and historical diversity.
- Reduce the time and physical cost of textual research via virtual and digital modelling: AI allows for deep analysis and data classification, which significantly reduces the need for massive and costly human effort in cataloguing and organizing essential Islamic sources and rare manuscripts, as well as reducing travel and field research costs in archives.
- Promote global scientific collaboration with AI tools that connect researchers according to their research interests: AI-powered research platforms provide intelligent recommendation tools that help connect Islamic scholars and researchers with common interests around the world, fostering knowledge sharing and forming multidisciplinary research teams specialized in contemporary jurisprudential issues.

The above confirms that the integration between the researcher and artificial intelligence does not replace human thinking but rather doubles the scientific production of the researcher in the field of Islamic research and enhances his ability to analyze and produce reliable knowledge.

## 2. 6 Applications of Artificial Intelligence in Islamic Scientific Research.

If we look at the artificial intelligence reformer and its integration with the term Islamic scientific research, it is as follows, as stated in Abdel- Hakim (2024), it is the use of machine learning technology, software, and algorithms to perform tasks and set rules and predictions based on available data, information, and instructions with capabilities that simulate the human capabilities of researchers in the academic research sector so that they are able to carry out scientific and academic research tasks that require high degrees of accuracy and critical and analytical thinking.

Therefore, we can conclude that artificial intelligence in Islamic scientific research depends on tools and techniques that perform tasks and functions in a way that simulates the tasks and functions performed by researchers in writing and preparing their research, and may surpass traditional research writing in terms of reducing time and effort and innovating strategies and methods that improve the quality of Islamic scientific research.

- **Scientific reference search tools**

There are many search engines that use artificial intelligence techniques that can be relied on to collect and obtain scientific references, perhaps the most important of which is Google Scholar, which facilitates researchers to collect scientific references, and this engine searches a group of websites affiliated with scientific centres and provides the best results and research points that have attracted the attention of researchers, and it also provides a set of multiple search options, as well as the notification feature that provides additional data on research interests, whether bibliographic data or citations, as well as Your library can be created on Google Scholar and also provides documentation options according to popular systems, and there is a group of smart search engines such as: Elicit AL (Research – Publish or Perish – Chat gpt), and other search engines that use artificial intelligence technology (Habashi, 2025).

- **In-File and Text Search Tools**

There is a set of artificial intelligence tools that specialists in the field of libraries and information rely on called search tools within files and texts and grouping paragraphs according to key keywords, and one of the most important of these tools is Data Search, which is a scientific search engine that provides data for a group of researches in the form of extracts and reads pdf files from the web or computer, and classifies and searches them by words and paragraphs, and there is a group of tools that are used in this context, including: (Text Generation – Tolk to Books) and other tools (El-Baz, 2023).

- **Academic Writing and Paraphrasing Tools**

It is a set of artificial intelligence tools that can be relied on in writing articles and scientific formulations of sentences and texts, as these tools allow writing key research words, then extracting and writing multiple articles about these research words, and allow the researcher to choose the most suitable among these articles, and the most famous of them are the specialists (Kattab, Rytr, Essay Bot), and these tools support the Arabic language, which facilitates the process of dealing with it, using it, and benefiting from it (Habashi, 2025).

- **Statistical Data Analysis Tools**

There are many artificial intelligence tools available in statistical analysis of data that specialists rely on in all scientific disciplines, and the most famous of these tools is Microsoft's Excel tool, and there is also a distinguished group of tools in this field such as: (SAS- Statistic, IMP SPSS) and other tools that work on statistical analysis of data (Habashi, 2025).

- **Mind Maps, Graphics, Presentations, and Pointers**

There are many tools that are used in the field of mind maps, drawings, and presentations that support the efforts of specialists in the field of scientific research, the most important of which are: (Gamma – Mindiy aps.com – Context Minds), and other tools that allow specialists to represent their ideas and research products in the form of shapes and demonstrations that help represent data in a simplified form that can be understood and understood, and there are tools that support the presentation of high indicators such as World Bank data This tool provides a set of general reports in the form of indicators that can be presented in a simplified form to benefit from them in the fields of scientific research (El-Baz, 2023).

- **Proofreading and spelling tools**

Artificial intelligence provides a set of tools that support the linguistic and spelling of texts and words, the most famous of which is (Microsoft Word – Moda OIO Heming Way – Grammarly-) and other tools that are used in this context and provide corrective options for texts and words that are intended to verify their writing and provide the most appropriate options in terms of spelling and grammar, and most of these tools support the Arabic language, which increases the demand of specialists to use and benefit from them (Fathy, 2024).

- **Machine Text Translation Tools**

Most specialists need tools that serve the correct and codified translation processes of foreign texts and terms, which allows researchers to identify everything that is published in their fields of research specializations in all different countries, monitor developments in the research field globally, and benefit from this in advancing their scientific specializations, such as: (Wordfast – Memoq – Translator Universal Speesh – Google Translate) (Al-Najjar, 2023).

- **PDF Merge and Format Tools**

There are a number of tools that work on merging and formatting pdf files that are used by researchers, and the most common of these tools are among library and information specialists: (pdfgo.com smallpdf.com – I love pdf) and other tools through which pdf files can be dealt with, such as merging, cutting, watermarking, signature, files, and other services needed by researchers (Harisi, 2024).

- **Reference and Resource Management Tools**

The main task of this is to collect all the researches that the researcher wants to return to while writing, arrange and organize scientific research in the way he wants, and it is also characterized by arranging the researches according to the method preferred by the researcher, whether according to the research topic, according to the author of the research, according to the publisher, or according to the year of publication. It also provides the possibility of searching within the reference and accessing paragraphs that benefit specialists in writing their scientific production, and enables it to take notes on these paragraphs, and here are some other tools used in this framework, including (Zotero – End Note) (Hamed, 2023).

- **Publishing Tools and Selection of Scientific Journals**

In this context, a set of artificial intelligence tools are used, including: (The University Arizna – Journal Filder), which are used in citation checks, documentation, proofreading, and adaptation processes to improve the quality of research, and these tools support the Arabic language, and some institutions provide these services with financial statements, and they are also interested in providing assistance in choosing the most suitable journal for publication according to the scientific field of research, and works to provide a set of general statistics about scientific journals that help specialists in choosing the journal It is most suitable for scientific publication (El-Baz, 2023).

Table 1: Applications of Artificial Intelligence in Scientific Research

Tool Type	Examples of tools
Reference Finders	Google Scholar, Elicit AI, Research Publish or Perish (POP)
Search tools within files and text	Data Search, Talk to Books, Text Generation
Academic Writing and Paraphrasing Tools	Essay Bot, Rytr, Kattab
Statistical Data Analysis Tools	Microsoft Excel, IMP, SPSS, Statistice, SAS
Charting and presentation tools	Microsoft PowerPoint, Context Minds, Mindly apps.com
Proofreading and spelling tools	Grammarly, Hemingway, Moda OiO
Machine Translation Tools	Google Translate, Translator Universal Speech, MemoQ, Wordfast
PDF Merge & Formatting Tools	I Love PDF, smallpdf.com, pdfgo.com
Reference and Resource Management Tools	Mendeley, EndNote, Zotero
Publishing tools and choosing the right journal	Journal Finder, The University of Arizona

## 2. 7 Challenges facing the application of Islamic artificial intelligence in the field of scientific research

Artificial intelligence is a great opportunity to develop Islamic scientific research and enhance its capabilities in analysis, deduction, and accurate scientific review, as it can help researchers analyze Shari'a texts, extract concepts, and support the processes of fatwas and institutional ijtihad. However, the tools of artificial intelligence remain auxiliary tools and not a substitute for the researcher or jurist, because Islamic scientific research is based on mental diligence and reliable transmission, and hence what these tools produce should be returned to human formulation and legal review to avoid plagiarism and ensure the originality and credibility of Islamic scientific research, but the application of artificial intelligence in this context faces multiple challenges, the most important of which are:

- **Transparency and Interpretation in the Shari'a Context**

Most AI models rely on "black box" mechanisms, making it difficult to interpret how they infer legal judgments or preponderances. This is contrary to the principle of clarity in jurisprudential reasoning, which is an essential element of the Islamic research methodology (Habib, 2025).

- **Algorithmic biases in Islamic texts**

AI can reflect implicit biases in training data such as sectarian, geographical, or linguistic leaning, affecting the accuracy of comprehension of Islamic texts. Recent research suggests that these biases may lead to unfair or biased results in automated inference of legal texts (Elmahjub, 2023).

- **Reproducibility and Scientific Methodology**

The results of applying AI to Shari'a texts vary from one model to another due to the diversity of linguistic and historical contexts and the multiplicity of schools of jurisprudence, which makes it difficult to replicate and scientifically document the results within Islamic research standards (Ab Rahim & Ab Rahman, 2025).

- **Privacy and Legitimate Data Protection**

Smart models require big data that includes fatwas and research sources that may be sensitive or specific to religious institutions, raising concerns related to digital security and the protection of legitimate intellectual property, which calls for regulatory frameworks to ensure that this data is safeguarded in accordance with Shari'a's purposes of privacy and rights (Bukhari, 2025).

- **Accountability and Shari'a Responsibility**

A central question arises about who bears responsibility when erroneous research results or recommendations are issued by artificial intelligence systems: is it the tool, the programmer, or the forensic researcher? The absence of a clear framework for legal and technical accountability may lead to jurisprudential and ethical problems in determining responsibility for error or bias (Kannike & Fahm, 2025).

From the above, it can be said that the employment of artificial intelligence tools in Islamic scientific research is not only an advanced technological step, but also represents a profound cognitive shift in the way legal knowledge is produced and circulated, as artificial intelligence, with its enormous analytical and inductive capabilities, can contribute to the renewal of research methodology by facilitating the process of deriving judgments, classifying heritage sources, linking legal texts to contemporary contexts more accurately and effectively, and allowing researchers to quickly access thousands of manuscripts and the original sources, and their analysis in moments, which was not available in previous centuries.

However, this development carries with it a double responsibility, as dealing with Sharia texts by artificial intelligence requires the existence of a strict Shari'a ethical framework that controls the limits of use and prevents deviation in directing the results or interpreting texts away from the purposes of Sharia, Scholars and jurists specialized in supervising the development of these tools should also be involved in supervising the development of these tools, so that they are in harmony with the spirit of the Shari'ah and its major purposes in preserving religion, reason and man.

Thus, it can be said that artificial intelligence in Islamic research is not just a technical means to facilitate scientific work, but rather a scientific and ethical trust that calls for an integrated legal and methodological awareness, so that science remains at the service of man and religion together, and contributes to building a knowledge civilization that combines the authenticity of heritage and the innovation of the age within a framework of established Shari'a values and controls.

## 2. 8 Ethics of using artificial intelligence applications in Islamic scientific research

Considering the great facilities that AI tools provide to researchers in the field of Islamic sciences, such as analyzing Shari'a texts, classifying sources, generating commentaries, and verifying hadiths and references, this application stands out as a dual

challenge that combines scientific opportunities with ethical risks. Contemporary Islamic research needs to formulate a legal ethical system that guarantees the integrity of the curriculum and independence of thought, preserves the principles of scientific honesty, transparency, and privacy protection, and prevents plagiarism or manipulation of heritage contents (Mustapha et al., 2025).

- **Scientific Transparency and Accountability**

Transparency and accountability are core values in AI-powered Islamic scientific research, where researchers are required to disclose the nature of the tools used, data sources, and algorithms that generate the results, ensuring the integrity of Sharia inference and the clarity of the methodology. UNESCO (UNESCO, 2021) in its "Artificial Intelligence Ethics Recommendation" has emphasized the need to promote transparency in intelligent models to reduce the risk of bias and ensure confidence in scientific outputs.

- **Scientific Honesty and Research Integrity**

Scientific honesty is a fundamental pillar in forensic sciences, and the use of artificial intelligence should not lose the researcher's responsibility for the validity and accuracy of the results. Floridi (2019) emphasizes that AI does not exempt the researcher from ethical accountability, but rather multiplies it, as it must document the extent to which intelligent systems contribute to the preparation of the study and clarify the limits of their role.

- **Avoiding conflicts of interest**

One of the most prominent ethics of Islamic scientific research is to avoid conflicts of interest, especially in the case of cooperation with technical institutions with commercial objectives that may affect the direction of research. The European Commission (2020) in its report on "Trusted Artificial Intelligence" notes the importance of full disclosure of material and professional interests to protect the integrity of the knowledge produced.

- **Privacy and data protection**

AI relies on a vast amount of data, some of which includes sensitive information related to individuals or religious institutions. Therefore, Leslie (2020) from the Turing Institute emphasizes the need to adhere to data protection standards in accordance with international legislation such as the General Data Protection Regulation (GDPR) and adapt them to the legitimate purposes of protecting the privacy of individuals.

- **Justice and Reducing Bias**

Justice is a supreme legitimate and moral value, and it is feared that algorithms will reproduce cultural or sectarian biases if they are not designed with religious and human consciousness. Mitchell et al. (2021) explained in the journal *Communications of the ACM* that ensuring algorithmic justice requires systematic review of data to avoid bias and establish the principle of balance in the treatment of religious texts.

- **Non-Abuse and Responsible Use**

The ethical use of AI is based on the principle of "no harm, no harm," i.e., avoiding the use of AI for purposes that offend religion or cause intellectual strife. Cath (2018) warns that the irresponsible use of AI in sensitive areas such as media or politics can lead to serious societal harm, calling for the establishment of ethical controls in research and application.

- **Intellectual Property and Copyright**

Considering the generation of artificial intelligence for texts and research, the problem of intellectual property is emerging. According to the World Intellectual Property Organization (Jorgenson & Fink, 2023), AI is not a legal author, but the resulting works must be attributed to the researcher, and the role of the smart tool is documented.

- **Social Justice and Public Responsibility**

Floridi and Cows (2021) points out that social justice in the use of artificial intelligence requires the equal provision of technologies and knowledge between countries and societies, so that artificial intelligence does not become a tool to deepen the knowledge gap between Islamic nations and others.

The applications of AI in Islamic scientific research represent an opportunity to renew the Shari'a methodology and enhance the accuracy of research, but at the same time it poses profound ethical challenges. The integrity of Islamic science in the digital age depends on the extent to which researchers adhere to the five major principles: transparency, honesty, justice, responsibility, and harm avoidance. The goal remains for these technologies to remain in the service of man and religion, not to become a dominant force that undermines the authenticity and credibility of science.

The principles of non-abuse and responsible use are an extension of the well-established Islamic ethical rule of "no harm, no harm", as it requires researchers to consider the social, environmental, and legitimate impacts of their research and not to use AI in harmful areas such as information manipulation or weapons development, among others.

In the end, the ethics of artificial intelligence reminds us that Islamic scientific research is not just a process of producing knowledge, but also a human act that carries in its essence a moral commitment to truth and society, and science devoid of ethics loses its meaning and purpose, therefore, integrating human values into the design and application of artificial intelligence technologies is the way to ensure that science remains a constructive force that serves and does not control human beings, as represented by the use of artificial intelligence in Islamic scientific research. It is a great opportunity to enhance the efficiency and quality of knowledge production in scientific research if it is used in the best way, but at the same time it poses ethical and legal challenges that cannot be ignored due to their negative effects, as the unethically controlled use of AI technologies may lead to privacy violations, widespread plagiarism, and distorting results due to programmatic biases or poor human oversight.

Therefore, the future of Islamic scientific research under artificial intelligence depends on our ability to control the adherence to scientific research ethics when using these applications, work to develop research leaders, and train cadres on the safe and conscious use of these technologies, to ensure authentic scientific production that serves the Sustainable Development Goals and enhances the position of science in our societies.

### **3. CONCLUSION**

Artificial intelligence (AI) represents a fundamental shift in the field of Islamic scientific research, as it contributes to accelerating the processes of discovery, processing, and analysis through intelligent tools capable of handling large amounts of data accurately and effectively. The use of AI technologies in Islamic scientific research can enhance the quality of studies and provide greater opportunities for creativity and innovation, if it is integrated into a conscious research environment that has the necessary technical and knowledge infrastructure. The success of this integration underscores the importance of collaboration between academic institutions, research centres, and technical entities. Developing the skills of researchers and qualifying them to use these techniques responsibly, to ensure a balance between scientific progress and maintaining research ethics and credibility.

### **RECOMMENDATIONS**

The research resulted in some recommendations aimed at enhancing the effectiveness of the use of artificial intelligence in the field of Islamic scientific research, as it stressed the need to enhance researchers' awareness of the ways to use artificial intelligence through continuous training and technical capacity building, and recommended the development of the technical infrastructure of Islamic research institutions to provide a supportive environment for the applications of artificial intelligence and integrate the ethics of its use in Islamic research methods. The research also stressed the importance of encouraging cooperation between different disciplines to promote the spirit of innovation and scientific production, in addition to stimulating investment in Islamic research projects related to artificial intelligence, and in conclusion, it called for the establishment of specialized national centres concerned with supporting and developing artificial intelligence applications in the field of Islamic scientific research, in a way that contributes to enhancing research excellence and competitiveness at the national and international levels.

#### **Contribution Rates of Authors to the Article**

Author 1 (Main Author): 50% – Developed the conceptual framework, conducted the literature review, and wrote the core sections of the article.

Author 2: 30% – Contributed to the integration of Islamic perspectives, reviewed the manuscript critically for intellectual content, and is responsible for correspondence during the submission and review process.

Author 3: 20% – Assisted with editing, final proofreading, and referencing.

#### **Support Statement (Optional)**

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

#### **Acknowledgement (Optional)**

The researchers extend their thanks and appreciation to their academic colleagues who provided their insights into employing artificial intelligence tools in scientific research, as their opinions contributed fundamentally to formulating the final version of the research.

## Statement of Interest

Authors have no conflict of interest.

## REFERENCES

- Ab Rahim, S. F., & Ab Rahman, M. F. (2025). Artificial Intelligence for Fatwa Issuance: Guidelines And Ethical Considerations. *Journal of Fatwa Management and Research*, 30(1), 76-100. <https://doi.org/10.33102/jfatwa.vol30no1.654>
- Abdel-Hakim, M. Z. M. (2024). An E-Learning Environment Based on the Connectivist Theory to Develop Some Artificial Intelligence Application Skills in Scientific Research among Postgraduate Students at the Faculty of Education, Assiut University. *Journal of the Faculty of Education (Assiut)*, 40(6), 76–161.
- Abdelnour, M. G. (2025). Artificial intelligence and the Islamic theology of technology: From “Means” to “Meanings” and from “Minds” to “Hearts”. *Religions*, 16(6), 796.
- Ahmed, M. M. K., & Hussein, Y. H. (2023). The use of artificial intelligence tools in scientific research: An analytical study. *Arab International Journal of Information and Data Technology*, 3(4), 49–96.
- Al-Azmi, T. R., Al-Kandari, A. A., & Al-Harbi, A. H. (2024). Attitudes of information studies students at the college of basic education in Kuwait toward using ChatGPT technology in preparing academic research. *Journal of Information Studies and Technology*, 9(2).
- Al-Mutairi, A. Z. (2022). The effect of an Artificial Intelligence-Based E-Learning environment on developing E-Learning skills among female students of the college of education at Umm Al-Qura University. *Journal of Curriculum and Teaching Methods*, 1(7), 145–176.
- Al-Najjar, T. (2023). Writing research papers and articles using artificial intelligence tools [YouTube video]. <https://www.youtube.com/watch?v=wMsWFRLPJXI>
- Al-Sayyad, M. M. Y., & Al-Salem, W. A. (2023). The role of artificial intelligence in developing scientific research skills among female students of the college of education at King Saud University. *Journal of Educational and Qualitative Research*, 19(19), 247–288.
- Al-Tantawi, Rasha Hamed Attia. (2025). The role of artificial intelligence in developing university education, a field study. *Scientific Journal of the Faculty of Arts, Tanta University*, 58, 319-357.
- Barcellar, F. L., & Barbosa, D. (2025). Inteligência artificial: competências no ensino superior. Universidade Federal de Campina Grande. <https://dspace.sti.ufcg.edu.br/handle/riufcg/44106>
- Bukhari, S. H. F. (2025). The role of Islamic ethical principles in the development and deployment of artificial intelligence technologies. *Asian Research Journal of Islamic Culture and Civilization*, 7(1), 33–47.
- Cath, C. (2018). Governing Artificial Intelligence: Ethical, Legal, and Technical Opportunities and Challenges. *Philosophical Transactions A*, 376(2133):20180080. doi:[10.1098/rsta.2018.0080](https://doi.org/10.1098/rsta.2018.0080)
- Chidembo, T., & Muchono, W. (2025). Unpacking the adoption of artificial intelligence chatbots by students in tertiary institutions in Mashonaland Central, Zimbabwe. *Oikos: The Zimbabwe Journal of Higher Education*, 4(1&2), 1-31. doi:[10.71458/mgsvgw39](https://doi.org/10.71458/mgsvgw39)
- Eid, B. A. A. S., & Eid, Y. A. A. S. (2024). The role of artificial intelligence in the development of the educational process and scientific research in universities: A field study at Mansoura University. *Journal of the Faculty of Arts*, 29(29), 395–522.
- El-Baz, M. A. (2023). How to write your scientific thesis with high accuracy and quality using artificial intelligence tools [YouTube channel]. <https://www.youtube.com/@mohamedanasebaz5861>
- Elmahjub, E. (2023). Artificial intelligence (AI) in Islamic ethics: Towards pluralist ethical benchmarking for AI. *Philosophy & Technology*, 36(4), 1–19. <https://doi.org/10.1007/s13347-023-00668-x>
- European Commission. (2020). White Paper on Artificial Intelligence – A European Approach to Excellence and Trust. Brussels.
- Fathy, M. (2023). How to write a master’s or doctoral thesis using ChatGPT [YouTube video].
- Floridi, L. (2019). Establishing the rules for building trustworthy AI. *Nature Machine Intelligence*, 1(6), 261–262. <https://doi.org/10.1038/s42256-019-0055-y>
- Floridi, L., & Cows, J. (2021). A unified framework of five principles for AI in society. *Harvard Data Science Review*, 3(1). <https://doi.org/10.1162/99608f92.8cd550d1>
- Geburu, T., et al. (2021). Datasheets for datasets. *Communications of the ACM*, 64(12), 86–92. <https://doi.org/10.1145/3458723>
- Habashi, M. (2025). How to write a master’s and doctoral thesis and how to cite using artificial intelligence tools [YouTube video]. <https://www.youtube.com/watch?v=hUm5DLeObtg>
- Habib, Z. (2025). Ethics of artificial intelligence in Maqāṣid al-Sharīʿa’s perspective. *KARSA: Journal of Social and Islamic Culture*, 33(1), 88–102.
- Hamed, M. (2023). Using artificial intelligence in scientific research [YouTube video]. <https://www.youtube.com/watch?v=9VtIsT5PW30>
- Harisi, M. H. (2024). Applications of artificial intelligence in scientific research [YouTube video]. Available at: <https://www.youtube.com/watch?v=OcfY6iJeUkU>

- Harzli, O. E., Grau, B. C., Garcez, A. D. A., Horrocks, I., & Besold, T. R. (2025). From Neural Networks to Logical Theories: The Correspondence between Fibring Modal Logics and Fibring Neural Networks. *arXiv preprint arXiv:2509.23912*.
- Irfan, M., & Zulkifli, M. (2025). Artificial Intelligence in Islamic studies courses: Opportunities and limitations in Islamic higher education from student perspectives. *Al-Hayat: Journal of Islamic Education*, 9(3), 612-627.
- Jobin, A., Ienca, M., & Vayena, E. (2019). The global landscape of AI ethics guidelines. *Nature Machine Intelligence*, 1(9), 389–399. <https://doi.org/10.1038/s42256-019-0088-2>
- Jorgenson, L., & Fink, C. (2023). WIPO's contributions to international cooperation on intellectual property. *Journal of International Economic Law*, 26(1), 30-34.
- Kannike, U. M. M., & Fahm, A. G. O. (2025). Exploring the ethical governance of artificial intelligence from an Islamic ethical perspective. *Jurnal Fiqh*, 22(2), 15–31.
- Lee, J., Kim, S., & Zhang, Y. (2023). Artificial intelligence for accelerating scientific discovery. *Nature Machine Intelligence*, 5(4), 345–359. <https://doi.org/10.1038/s42256-023-00612-4>
- Leslie, D. (2020). Understanding artificial intelligence ethics and safety. The Alan Turing Institute. <https://www.turing.ac.uk>
- Mitchell, M. et al. (2021). Algorithmic Fairness and Bias in AI. *Communications of the ACM*, 64(4), 62–71.
- Mustapha, A., Senik, Z., & Haron, S. C. (2025). An overview of artificial intelligence (AI) issues from the perspective of Islamic jurisprudence. *Online Journal of Research in Islamic Studies*, 12(1), 95-114.
- Rump, J. AI, Education, and Understanding: When to Drive and When to Walk. *Digit. Soc.* 4, 77 (2025). <https://doi.org/10.1007/s44206-025-00236-0>
- Saloot, M. A., Idris, N., Mahmud, R., Ja'afar, S., Thorleuchter, D., & Gani, A. (2016). Hadith data mining and classification: a comparative analysis. *Artificial Intelligence Review*, 46(1), 113-128.
- Silva, J. G. C. (2022). Scientific research methods. *International Journal of Science and Research (IJSR)*, 11(9), 635–648. doi:10.21275/SR221004074851
- UNESCO. (2021). Recommendation on the Ethics of Artificial Intelligence. Paris: United Nations Educational, Scientific and Cultural Organization. <https://www.unesco.org/en/articles/recommendation-ethics-artificial-intelligence>
- UNESCO. (2023). Recommendation on the ethics of artificial intelligence. UNESCO Publishing. <https://unesdoc.unesco.org/ark:/48223/pf0000381137>
- Yuan, L., Yu, H., Zhang, W., & Guan, Y. (2025). Flipping the switch: how artificial intelligence learning companions in flipped classrooms enhance students' computational thinking. *Education Tech Research Dev.* <https://doi.org/10.1007/s11423-025-10566-y>
- Dafiri, M. E. (2024). The Role of Artificial Intelligence in Developing Islamic Studies: Opportunities and Challenges. *Ibn Khaldoun Journal for Studies and Researches*, 4(8). <https://doi.org/10.56989/benkj.v4i8.1137>