

The Role of Intelligent Technologies in Transforming the Methodology of Contemporary Ijtihad

1. Leila Mazhari¹: Department of Law, Da.C., Islamic Azad University, Damghan, Iran

2. Morteza Barati^{2*}: Department of Law, Da.C., Islamic Azad University, Damghan, Iran

3. Hamid Abbasi Nishaburi³: Department of Computer Engineering, Da.C., Islamic Azad University, Damghan, Iran

*Correspondence: mo-barati@iau.ac.ir

Abstract

The rapid expansion of intelligent technologies and their increasing penetration into various domains of science, research, and decision-making have created the conditions for transforming many traditional methods of knowledge production. Islamic jurisprudence and ijtihad, as the principal means of deriving Islamic legal rulings, have likewise encountered new opportunities and challenges in the face of these developments. The central problem addressed in this study is the role of intelligent technologies in transforming the methodology of contemporary ijtihad and the extent to which these technologies can influence the process of deriving Islamic legal rulings. The study aims to identify the capacities of intelligent technologies for collecting, processing, and analyzing jurisprudential sources; assess their effects on the various stages of ijtihad; and clarify the position of the jurist in engaging with emerging intelligent tools. This research employed a descriptive-analytical method and drew upon library sources, works on Islamic jurisprudence and the principles of jurisprudence, and studies related to intelligent technologies. The findings indicate that intelligent technologies, through their capacity to process vast volumes of data, analyze texts, identify relationships among sources, and accelerate access to information, can significantly enhance the accuracy, efficiency, and comprehensiveness of the ijtihad process and facilitate the emergence of new models of data-driven ijtihad. Nevertheless, the absence of presential cognition, intentionality, volition, and the capacity to understand the objectives of Islamic law prevents these technologies from replacing the mujtahid; consequently, their role remains limited to that of auxiliary and decision-support tools. Therefore, the most appropriate model for contemporary ijtihad is based on constructive interaction between the jurist and intelligent technologies within the framework of collaborative ijtihad—a model that utilizes technological capacities while preserving the central role of human agency in the process of deriving Islamic legal rulings.

Keywords: intelligent technologies, artificial intelligence, contemporary ijtihad, methodology of ijtihad, derivation of Islamic legal rulings, Islamic jurisprudence.

Received: 27 May 2026

Revised: 07 August 2026

Accepted: 09 August 2026

Initial Publication 12 August 2026

Final Publication 01 July 2027



Copyright: © 2027 by the authors. Published under the terms and conditions of Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) License.

Citation: Mazhari, L., Barati, M., & Abbasi Nishaburi, H. (2027). The Role of Intelligent Technologies in Transforming the Methodology of Contemporary Ijtihad. *Legal Studies in Digital Age*, 6(4), 1-11.

1. Introduction

Technological developments in recent decades, particularly in artificial intelligence, machine learning, and intelligent technologies, have transformed many traditional models of knowledge production, processing, and transmission. Through their capacity to analyze vast volumes of data, uncover latent relationships among information, process natural language, and generate decision-support models, these technologies have gradually entered domains that were previously regarded as the exclusive province of human beings. The humanities and Islamic sciences have not remained unaffected by this trend, and in recent years, numerous efforts have been undertaken to employ the capacities of intelligent technologies in religious studies, Qur'anic studies, hadith research, and Islamic jurisprudence. Within this context, *ijtihad*, as the principal mechanism for understanding and deriving Islamic legal rulings, has been more exposed than other fields to the influence of these technologies. This is because *ijtihad* is based, on the one hand, on the extensive examination of religious sources and data and, on the other, requires the analysis, comparison, evaluation, and inference of conclusions from a vast body of jurisprudential texts and propositions. These characteristics have enabled intelligent technologies to contribute to certain stages of the *ijtihad* process and to create the conditions for transforming traditional methods of legal derivation.

Despite these capacities, important questions have arisen concerning the scope and implications of this transformation. Are intelligent technologies merely tools for accelerating and facilitating *ijtihad*, or can they produce changes in the methodology of *ijtihad* itself? To what extent can these technologies contribute to the collection of sources, analysis of evidence, subject-matter identification in emerging issues, and evaluation of jurisprudential opinions? Can the development of intelligent technologies produce a new model of data-driven *ijtihad* alongside traditional methods of *ijtihad*? Addressing these questions is important because Islamic jurisprudence has historically employed tools and methods appropriate to the developments of each period, and preserving its dynamism in confronting emerging issues requires a precise understanding of the capacities and limitations of new technologies. Conversely, neglecting these developments may distance the system of *ijtihad* from the requirements of the digital age and diminish its effectiveness in responding to the contemporary needs of society.

Accordingly, the principal objective of this study is to examine the role of intelligent technologies in transforming the methodology of contemporary *ijtihad* and to explain their capacities, challenges, and implications. The main research question is: What effects have intelligent technologies had on the methodology of contemporary *ijtihad*, and what are the limits of their use in the process of deriving Islamic legal rulings? In response to this question, the study hypothesizes that intelligent technologies have transformed certain methods and stages of *ijtihad* by increasing the speed, accuracy, and comprehensiveness of jurisprudential source processing and data analysis. Nevertheless, because they lack presential cognition, intentionality, volition, and the capacity to understand the objectives of Islamic law, they cannot replace the *mujtahid* and can perform only a supporting and complementary role. This study employed a descriptive–analytical method and drew upon library sources, works on Islamic jurisprudence and the principles of jurisprudence, and studies related to emerging technologies. The findings indicate that intelligent technologies possess considerable capacity to develop data-driven *ijtihad*, improve subject-matter identification, accelerate textual analysis, and organize jurisprudential sources. However, the ultimate validity of legal derivation remains dependent on the judgment and evaluation of the human *mujtahid*. Therefore, the most appropriate model for the future of *ijtihad* is one based on interaction and cooperation between the jurist and intelligent technologies within a collaborative system of *ijtihad* that utilizes the benefits of technology while preserving the central position of human agency in the derivation process.

2. Research Background

The emergence of intelligent technologies and the expansion of artificial intelligence applications in different branches of the humanities, particularly in religious and jurisprudential studies, have generated a relatively extensive body of research in recent years. A substantial proportion of these studies has focused on the possibility of employing artificial intelligence in the derivation of legal rulings, the analysis of religious texts, and the development of jurisprudential decision-support systems. Nevertheless, a review of the existing literature demonstrates that no clearly defined theoretical consensus has yet emerged concerning the effects of intelligent technologies on the transformation of contemporary *ijtihad* methodology.

Among the foundational works, Minaei's *Feasibility of Establishing a Jurisprudential Expert System* represents one of the earliest serious attempts to conceptualize jurisprudential advisory systems. The author maintains that intelligent technologies

can contribute effectively to the collection of sources, analysis of evidence, and organization of jurisprudential information (Salmanpour & Talebi, 2023). Nevertheless, the study does not examine the transformation of the method of *ijtihad* or the epistemological implications of these technologies, and its perspective is primarily directed toward the development of auxiliary tools. Similarly, Nurbakhsh, in *Artificial Intelligence: Foundations and Applications*, explains the capabilities of machine learning and data analysis but does not directly examine the relationship between these capacities, the Islamic sciences, and the process of *ijtihad* (Rashidi, 2023).

In more recent research, Salmanpour and Talebi, in their article on the feasibility and method of using artificial intelligence in a jurist's *ijtihad*, conclude that artificial intelligence can function as an assistant to the jurist but lacks the authority to issue fatwas because it does not possess semantic understanding or intentionality (Salmanpour & Talebi, 2023). The principal strength of this study lies in its attention to the practical capacities of technology; however, its weakness is that it does not provide a framework for explaining methodological changes in contemporary *ijtihad*. Zarei, in an article on the application of artificial intelligence in *ijtihad*, similarly discusses the role of technology in analyzing laws and fatwas and emphasizes its capacity to increase the speed and accuracy of legal derivation (Hedayati, 2025). Nevertheless, that article is primarily descriptive and does not offer a critical analysis of the methodological implications of this transformation.

Among future-oriented studies, Mohammad-Doust and colleagues, in their research on the opportunities and challenges of artificial intelligence governance in relation to the social life of Islamic jurisprudence, emphasize the capacity of technology to enhance the dynamism of jurisprudence while warning against the emergence of “algorithmic jurisprudence” and excessive textual literalism in legal derivation (Boush & Zaim, 2024). The importance of this study lies in its attention to the civilizational and social dimensions of the issue, although its discussion of *ijtihad* methodology remains largely general. In contrast, Taheri, in an article on engineering the future of *ijtihad* and applying artificial intelligence to the legislation, expansion, restriction, and establishment of Islamic legal rulings, adopts a more optimistic position and argues that artificial intelligence can play an active role in aggregating contextual indicators and even extending the process of legal derivation (Hedayati, 2025). Although this approach is innovative, some of its claims concerning an expanded role for artificial intelligence in *ijtihad* do not appear to be fully consistent with the traditional foundations of *uṣūl al-fiqh* and the theory of epistemic authority.

In Arabic-language scholarship, researchers such as Al-Alwani, in *Ijtihad and the Requirements of the Contemporary Age*, have emphasized the need to reconsider the instruments of *ijtihad* in accordance with scientific developments (Al-Alwani, 2003). Al-Qaradaghi, in his works on the jurisprudence of contemporary technologies, likewise considers the use of modern tools in legal derivation permissible and even necessary, although he continues to regard the ultimate validity of a fatwa as dependent on the human jurist (Al-Qaradaghi, 2018). These studies are valuable for their attention to the requirements of the contemporary age, but they were generally written before the emergence of the latest generation of artificial intelligence and therefore do not consider many of its current capacities.

In international scholarship, Russell and Norvig, in *Artificial Intelligence: A Modern Approach*, define artificial intelligence as an instrument for data analysis, decision support, and learning (Al-Dader, 2024). Bostrom, in *Superintelligence*, explains the extensive capacities of intelligent systems while emphasizing their ethical and control-related limitations (Boush & Zaim, 2024). Floridi, in his work on the ethics of artificial intelligence, further demonstrates that any form of AI-based decision-making requires human supervision and a framework of values (Al-Saadi, 2019). Although these works do not directly address Islamic *ijtihad*, they provide important theoretical frameworks for analyzing the role of technology in knowledge production and decision-making.

Overall, the review of the research background indicates that most existing studies have concentrated on two principal themes: the application of artificial intelligence in *ijtihad* and the epistemic authority or lack of authority of AI-generated conclusions. By contrast, the “transformation of contemporary *ijtihad* methodology in light of intelligent technologies” has received considerably less attention. Most studies have neglected structural changes in the stages of legal derivation, subject-matter identification, evaluation of evidence, and the emergence of new models of data-driven *ijtihad*. The principal gap in previous research is therefore the absence of a systematic approach to the effects of intelligent technologies on the method of *ijtihad*—a gap that the present study seeks to explain and analyze.

3. Theoretical Foundations

The present study seeks to explain the role of intelligent technologies in transforming the methodology of contemporary *ijtihād*. Its theoretical foundations are therefore based on the relationship among the theory of *ijtihād*, theories of knowledge and technology, and the epistemic capacities of intelligent systems. In Islamic thought, *ijtihād* is regarded as a rational process for discovering Islamic legal rulings from authoritative sources and has historically undergone change in accordance with social and scientific developments. Many Muslim scholars maintain that *ijtihād* is not a static phenomenon but a dynamic mechanism for responding to emerging issues (Al-Alwani, 2003). Accordingly, transformations in cognitive tools and access to data can also affect methods of jurisprudential derivation.

Within the theoretical framework of Shi'i jurisprudence, *ijtihād* is based on four principal foundations: the Qur'an, the Sunnah, reason, and consensus. Although the sources of legal derivation remain constant, the methods by which they are employed have changed over time. The expansion of digital libraries, hadith databases, and advanced search systems in recent decades represents one example of the transformation of the instruments of *ijtihād*. Modern technologies can facilitate the collection, classification, and analysis of jurisprudential sources and increase the accuracy of *ijtihād*-based research (Keshavarzi Voldani & Mohammadian, 2024). Technology should therefore be understood not as a substitute for *ijtihād* but as a means of expanding its capacities.

From the perspective of the philosophy of science, the theory of instrumental rationality constitutes one of the most important foundations for explaining the relationship between technology and knowledge. According to this perspective, new instruments increase the human capacity to process information and make decisions. Artificial intelligence can be analyzed within this framework because its objective is to enhance the capacity for data analysis and extract latent patterns from vast quantities of information (Al-Dader, 2024). In the field of *ijtihād*, this capacity can facilitate the more rapid identification of relationships among jurisprudential texts, traditions, juristic opinions, and principles of *uṣūl al-fiqh*, thereby simplifying certain time-consuming components of jurisprudential research.

One important theory for explaining the status of intelligent technologies is the theory of expert systems. An expert system is a system that employs specialized knowledge and inferential rules to solve problems within a particular domain. Researchers in Islamic jurisprudence maintain that certain components of the *ijtihād* process, including searching for evidence, comparing opinions, and extracting common principles, can be designed within the framework of expert systems (Salmanpour & Talebi, 2023). Nevertheless, such systems cannot understand the objectives intended by the Lawgiver, comprehend social conditions, or identify actual benefits and harms. For this reason, they cannot replace the jurist.

Another theoretical foundation of this study is the theory of data-driven knowledge production. This theory maintains that extensive datasets and the capacity to analyze them can reveal new patterns of knowledge. In Islamic jurisprudence, thousands of books, treatises, fatwas, and hadith texts are now digitally accessible. Artificial intelligence can analyze this vast body of material within a short period and reveal relationships among its components (Hedayati, 2025). This capacity can increase the accuracy and comprehensiveness of subject-matter identification, which is one of the fundamental components of contemporary *ijtihād*.

At the same time, theories of technology governance emphasize the limitations of artificial intelligence. Every intelligent system is ultimately dependent on data and algorithms designed by human beings and therefore lacks genuine epistemic independence (Boush & Zaim, 2024). Consequently, conclusions generated by intelligent systems cannot be treated as an independently authoritative source. A similar position appears in studies warning that excessive reliance on algorithms may diminish the role of human judgment and marginalize the ethical dimensions of decision-making (Boush & Zaim, 2024).

Some contemporary jurisprudential scholars have also warned against the emergence of "algorithmic *ijtihād*." Although artificial intelligence can contribute to the understanding and organization of jurisprudential data, the interpretive and value-laden nature of *ijtihād* means that the active presence of the *mujtahid* will remain indispensable (Ghanipour, 2026). From this perspective, intelligent technology is not a competitor to *ijtihād* but an instrument placed at its service.

The foregoing theoretical foundations indicate that intelligent technologies can transform different stages of the method of *ijtihād*, including data collection, subject-matter identification, analysis of evidence, comparison of opinions, and organization of arguments. Nevertheless, because these systems lack the capacity for normative understanding, identification of the

objectives of Islamic law, and evaluation of benefits and harms, they cannot completely replace the mujtahid. The theoretical framework of the present study is therefore based on the assumption that intelligent technologies produce an “instrumental and methodological transformation” in contemporary *ijtihad* rather than an “epistemic substitution” for the jurist in the process of deriving Islamic legal rulings.

4. Capacities of Intelligent Technologies in Contemporary *Ijtihad*

The expansion of intelligent technologies in recent decades has transformed numerous processes of knowledge production, processing, and analysis and has provided traditional research methods in different scientific disciplines with new possibilities. Islamic jurisprudence and *ijtihad* are not exceptions to this development. Technologies based on artificial intelligence, machine learning, big data, and natural language processing now provide unprecedented capacities for enhancing the process of deriving Islamic legal rulings. In its traditional conception, *ijtihad* requires extensive consultation of religious sources, analysis of evidence, comparison of jurisprudential opinions, and evaluation of different arguments. This process naturally demands considerable time and mastery of a vast body of scholarly data. Under these conditions, intelligent technologies can function as powerful instruments at the service of the jurist and facilitate many preliminary and analytical stages of jurisprudential research (Keshavarzi Voldani & Mohammadian, 2024).

One of the most important capacities of intelligent technologies in *ijtihad* is their ability to collect and extensively organize jurisprudential sources. In the past, access to *hadith*, exegetical, jurisprudential, and *uṣūlī* texts required physical consultation of libraries and lengthy searches for relevant materials. Digital databases and intelligent systems now make it possible to search and analyze thousands of books and jurisprudential treatises within a short period. This development has not only increased the speed of access to information but has also enabled the simultaneous comparison of multiple sources (Al-Dader, 2024). Researchers in artificial intelligence maintain that a substantial part of the progress achieved by knowledge-based systems results from their capacity to store, retrieve, and process volumes of information exceeding the capabilities of the human mind (Al-Dader, 2024).

Another important capacity of intelligent technologies is their application to the analysis of religious and jurisprudential texts. Recent advances in natural language processing have enabled intelligent systems to identify concepts, keywords, semantic relationships, and argumentative structures within texts. This capacity is particularly important in the Islamic sciences because a substantial proportion of jurisprudential knowledge is embodied in written texts and linguistic arguments. Through automated textual analysis, artificial intelligence can extract relationships among Qur’anic verses, traditions, jurisprudential principles, and juristic opinions and provide a more comprehensive representation of a jurisprudential issue (Hedayati, 2025). This capability assists the jurist in accessing an extensive body of relevant data within a shorter period and reduces the possibility that relevant sources will be overlooked.

In addition to textual analysis, intelligent technologies can play an important role in identifying the factual subject matter of emerging issues. One of the fundamental challenges of contemporary *ijtihad* is the increasing complexity of subjects and the expansion of interdisciplinary issues. Many new subjects, including cryptocurrencies, biotechnology, artificial intelligence, big data, and emerging communication technologies, possess technical and specialized dimensions that are difficult for the jurist to understand comprehensively. Under such circumstances, intelligent systems can analyze and classify extensive quantities of specialized information and provide a clear representation of the different dimensions of a subject (Mohammadi & Shayanfar, 2025). From this perspective, intelligent technologies can reduce the distance between jurisprudential knowledge and emerging specialized disciplines and can render subject-matter identification more precise and effective.

Another significant capacity of intelligent technologies is the possibility of designing jurisprudential expert systems. An expert system is a computer-based system that stores and processes the knowledge and experience of specialists in the form of logical rules. In response to specific questions, such systems can provide researchers with relevant data and arguments and facilitate the decision-making process (Salmanpour & Talebi, 2023). Although these systems cannot issue fatwas in the substantive sense, they can effectively classify opinions, extract common principles, and analyze jurisprudential arguments. The development of jurisprudential expert systems can therefore constitute an important step toward the intelligent

transformation of Islamic studies and the increased productivity of ijtihad-based research (Keshavarzi Voldani & Mohammadian, 2024).

Intelligent technologies also possess a considerable capacity to discover patterns and latent relationships among data. One feature of machine-learning algorithms is their ability to identify patterns that may remain concealed from human researchers. In Islamic jurisprudence, this capacity can be employed to analyze historical trends in fatwas, identify argumentative similarities among jurists, and discover relationships among different jurisprudential principles (Al-Dader, 2024). This is particularly important in comparative studies and research on the historical development of jurisprudential opinions because it enables the analysis of extensive bodies of historical data.

From a future-studies perspective, intelligent technologies can also provide the foundations for new models of data-driven ijtihad. Traditional ijtihad has primarily depended on the individual skills of the mujtahid and the jurist's capacity to analyze authoritative sources. In the digital age, however, it has become possible to employ extensive information networks and intelligent systems. Emerging technologies can raise the aggregation of contextual indicators, probabilistic analysis, and examination of different opinions to a level that was previously unattainable (Ghanipour, 2026). Although this transformation does not eliminate the role of the jurist, it can modify the structure of ijtihad-based activities and provide the conditions for new forms of jurisprudential research.

Despite all these capacities, most researchers emphasize that intelligent technologies are instruments for increasing the efficiency of ijtihad rather than substitutes for it. Ijtihad requires not only knowledge and reasoning but also an understanding of the objectives of Islamic law, the identification of benefits and harms, and the comprehension of social circumstances, all of which remain beyond the capacities of intelligent systems (Al-Qaradaghi, 2018). Artificial intelligence can, at best, process data and provide analytical recommendations, whereas the final decision must continue to be made by a human being (Al-Dader, 2024). Therefore, the most important capacity of intelligent technologies in ijtihad lies in increasing the speed, accuracy, comprehensiveness, and analytical power of the derivation process. This capacity can transform jurisprudential research methods and enhance the effectiveness of contemporary ijtihad.

5. Methodological Transformation of Ijtihad in Light of Intelligent Technologies

The introduction of intelligent technologies into the Islamic sciences does not merely signify the emergence of new research instruments; rather, it is producing profound changes in the methods through which jurisprudential knowledge is generated, processed, and evaluated. Throughout the history of Islamic jurisprudence, methodological transformation has consistently constituted one of the principal factors contributing to the dynamism of ijtihad. The formation of *uṣūl al-fiqh*, the development of jurisprudential maxims, the expansion of *rijāl* and *dirāyah* studies, and the subsequent emergence of modern information tools all represent methodological changes in the process of deriving Islamic legal rulings. In the contemporary period, intelligent technologies are establishing a foundation capable of transforming many stages of ijtihad and generating new models of jurisprudential research. This transformation concerns not a change in the authoritative sources of legal derivation but a transformation in the methods of accessing, analyzing, and evaluating those sources.

One of the earliest manifestations of this transformation can be observed in methods of accessing the sources of ijtihad. In the past, a substantial proportion of the mujtahid's time and scholarly effort was devoted to identifying, collecting, and comparing sources. Intelligent systems can now process and classify thousands of jurisprudential, *uṣūlī*, *hadith*, and exegetical works within a short period. This development has shifted jurisprudential research from traditional searching toward data-driven analysis. Artificial intelligence can facilitate the transition from traditional methods of information collection to intelligent models of subject-matter identification and data analysis, thereby expanding the scope of ijtihad (Keshavarzi Voldani & Mohammadian, 2024). Consequently, the methodology of ijtihad is becoming less exclusively dependent on individual memory and personal study and is moving toward the use of extensive information networks.

Another transformation can be observed in the analysis of evidence and evaluation of jurisprudential arguments. Under traditional methods, examining juristic opinions and comparing their evidence required the extensive reading of texts and the manual extraction of data. Intelligent technologies now make it possible to identify and analyze relationships among Qur'anic verses, traditions, *uṣūlī* principles, and different fatwas automatically. AI-based systems can employ semantic search and

network-based data analysis to reveal similar or conflicting arguments across different sources and thereby enhance the jurist's analytical capacity (Hedayati, 2025). This capacity enables the evaluation of evidence to move beyond a linear and restricted model toward a multilayered and network-based system.

Subject-matter identification, which constitutes one of the essential foundations of contemporary *ijtihad*, has also undergone substantial transformation under the influence of intelligent technologies. The complexity of new issues in fields such as the digital economy, biotechnology, cyberspace, and artificial intelligence has reduced the effectiveness of traditional methods of understanding factual subjects. Through the processing of big data and the analysis of interdisciplinary information, intelligent technologies can provide a more precise understanding of emerging issues. *Ijtihad* in the technological age requires synergy between jurists and technology specialists, and artificial intelligence can play an important mediating role in transferring specialized knowledge to the field of Islamic jurisprudence (Mohammadi & Shayanfar, 2025). Subject-matter identification has consequently developed from a restricted individual activity into a process based on extensive data analysis and interdisciplinary cooperation.

Another methodological transformation concerns the emergence of the model of "data-driven *ijtihad*." In this model, extensive jurisprudential, historical, and social data are employed as major sources of support for jurisprudential decision-making. Although the foundations of *ijtihad* remain based on the authoritative sources of Islamic law, the methods by which these sources are utilized have changed. Artificial intelligence can increase the accuracy of jurisprudential arguments and reduce the probability of error by analyzing vast bodies of legal and religious data (Hedayati, 2025). This perspective indicates that future *ijtihad* will become increasingly dependent on data processing and the network-based analysis of information.

Another dimension of this transformation is the movement from individual *ijtihad* toward intelligent collective *ijtihad*. In many emerging issues, the subject matter is so complex that the knowledge of a single individual is insufficient to comprehend all its dimensions. Intelligent technologies facilitate communication among specialists from different disciplines and enable the sharing of knowledge. The future of *ijtihad* may therefore emerge through interaction among mujtahids, technology specialists, and intelligent systems within a model of AI-supported collective *ijtihad* (Ghanipour, 2026). This model represents a shift from individual-centered structures to network-based and collaborative structures in the process of deriving Islamic legal rulings.

Nevertheless, the methodological transformation of *ijtihad* does not entail the unqualified acceptance of conclusions produced by intelligent technologies. Many researchers maintain that algorithms, although highly capable of analyzing data, lack normative and value-based understanding. Intelligent decision-support technologies cannot independently occupy the position of a legal reasoner and may be used only as auxiliary instruments (Ghanipour, 2026). This perspective is consistent with findings emphasizing the necessity of continuous juristic supervision over intelligent processes (Salmanpour & Talebi, 2023).

Arabic-language studies also emphasize the necessity of reconsidering methods of *ijtihad* in accordance with new technologies. The emergence of artificial intelligence has created new issues and challenges in Islamic jurisprudence, and responding to them requires revision of certain traditional methods of jurisprudential research (Boush & Zaim, 2024). The application of artificial intelligence in the Islamic sciences has not only facilitated access to information but has also enabled more rapid and precise responses to jurisprudential questions (Al-Dader, 2024).

From a theoretical perspective, the methodological transformation of *ijtihad* can be analyzed within the framework of the interaction between human intelligence and artificial intelligence. Although artificial intelligence can process data, it lacks the capacity to understand the objectives of Islamic law and ethical values and therefore cannot replace the epistemic process of *ijtihad* (Al-Qaradaghi, 2018). This limitation has led many researchers to defend a theory of "complementarity" rather than substitution. According to this theory, intelligent technologies undertake certain analytical and informational tasks, whereas the final decision remains within the authority of the jurist.

Overall, an examination of recent developments indicates that intelligent technologies have produced profound changes in the methodology of contemporary *ijtihad*. These changes can be observed in source collection, evidence analysis, subject-matter identification, evaluation of arguments, the emergence of data-driven *ijtihad*, and the development of collective *ijtihad*. Nevertheless, the value-laden and normative character of *ijtihad* requires intelligent technologies to remain in a supporting role,

while the central position of the mujtahid in the derivation process is preserved. The principal implication of intelligent technologies is therefore not a transformation of the foundations of *ijtihad* but a transformation in the methods and practical mechanisms through which it is conducted.

6. Challenges, Limitations, and Requirements for Employing Intelligent Technologies in *Ijtihad*

Despite the extensive capacities of intelligent technologies to advance jurisprudential studies and transform the methodology of *ijtihad*, their use involves numerous challenges and limitations. Neglecting these issues may produce significant scholarly, jurisprudential, and even social consequences. A substantial proportion of these challenges arises from the character of *ijtihad* as an epistemic, value-laden, and normative process. *Ijtihad* does not consist merely of processing data and extracting information from texts; rather, it involves a profound understanding of the objectives of Islamic law, temporal and spatial circumstances, social benefits and harms, and the relationship between legal rulings and human realities. The fundamental question is therefore whether intelligent technologies can comprehend these complex dimensions or whether they remain confined to the processing of information.

One of the most important challenges concerns the epistemic authority and validity of AI-generated outputs. In Islamic jurisprudence, the validity of any conclusion derived through *ijtihad* depends on specific conditions, including the mujtahid's scholarly competence, capacity to understand the evidence, ability to identify the factual subject matter, and adherence to the principles of *uṣūl al-fiqh*. Although intelligent technologies can process vast quantities of data, they lack intentionality, volition, responsibility, and human consciousness. Intelligent decision-support systems cannot occupy the position of an authoritative jurisprudential scholar, and their outputs possess validity only as recommendations or preliminary analyses (Ghanipour, 2026). Artificial intelligence also lacks the legal and epistemic capacity required for *ijtihad*; its conclusions therefore cannot be treated as independent fatwas (Salmanpour & Talebi, 2023).

Another challenge concerns the limitations of artificial intelligence in understanding the objectives of Islamic law. A substantial component of contemporary *ijtihad* is based on discovering the purposes and underlying rationales of legal rulings. In many cases, the jurist must consider the overarching objectives of Islamic law, social conditions, and the practical consequences of a fatwa to arrive at an appropriate ruling. Although artificial intelligence can analyze texts, it lacks an intuitive and normative understanding of religious values and purposes. Intelligent technologies can serve *ijtihad* only when they operate under value-based frameworks directed toward the protection of religion, intellect, life, lineage, and property (Al-Qaradaghi, 2018). The objectives of Islamic law continue to require human interpretation because algorithms are incapable of understanding these objectives independently (Al-Qaradaghi, 2018).

Another important limitation concerns bias in data and algorithms. All intelligent systems are trained on data produced or selected by human beings. When training data are incomplete, biased, or unbalanced, the outputs generated by these systems will also be distorted. Data bias may produce incorrect analyses and even jurisprudential recommendations inconsistent with the principles of justice (Boush & Zaim, 2024). Machine-learning algorithms that operate without human supervision may also reproduce errors embedded in their underlying datasets (Al-Yaqin, 2024).

Responsibility constitutes another major challenge in employing intelligent technologies in *ijtihad*. If an intelligent system makes an error in analyzing a jurisprudential issue and that error becomes the basis of a decision or fatwa, who bears responsibility for the resulting consequences? The absence of an independent legal personality for artificial intelligence means that ultimate responsibility continues to rest with designers, users, or human supervisors (Hedayati, 2025). Unlike human beings, intelligent systems do not possess independent moral or legal responsibility and therefore cannot be treated as genuine agents of *ijtihad*.

The legal and jurisprudential capacity of artificial intelligence has also received attention in Arabic-language scholarship. Even the most advanced forms of artificial intelligence lack the conditions necessary for complete legal capacity and can operate only as instruments under human control (Al-Saadi, 2019). This perspective is also consistent with classical theories of *uṣūl al-fiqh* because, in the Islamic tradition, *ijtihad* has always been assigned to a legally responsible human being subject to religious obligations.

Some researchers have additionally warned against the danger of “algorithmic *ijtihad*.” Algorithmic *ijtihad* refers to a situation in which jurisprudential decisions become excessively dependent on machine-generated analysis and the role of human evaluation is diminished. Excessive reliance on intelligent systems may weaken the spirit of *ijtihad* and reduce jurisprudential creativity (Boush & Zaim, 2024). Research on algorithmic traceability similarly emphasizes the necessity of transparency in AI decision-making processes and warns that algorithmic complexity must not obstruct jurisprudential supervision of the operation of intelligent systems (Al-Yaqin, 2024).

In response to these challenges, scholars have proposed several approaches for the responsible use of intelligent technologies. One of the most important is the development of a model of “collaborative *ijtihad*.” The most appropriate model for the future of *ijtihad* involves cooperation among jurists, technology specialists, and intelligent systems. Within this model, artificial intelligence performs data-processing tasks, whereas the final decision is made by the mujtahids (Ghanipour, 2026). Maintaining the framework of Islamic law and ensuring the continuous supervision of jurists throughout all stages of employing intelligent technologies are likewise essential requirements (Hedayati, 2025).

The development of ethical systems specifically designed for artificial intelligence in Islamic jurisprudence constitutes another fundamental requirement. The age of artificial intelligence requires reconsideration of the relationship among ethics, technology, and Islamic law, and these technologies cannot be safely employed without clear regulatory principles (Boush & Zaim, 2024). It is also necessary to develop indigenous Islamic models for directing the development of artificial intelligence so that this technology is employed in accordance with religious and social values (Rashidi, 2023). Furthermore, the jurisprudence of technology should be developed as an independent field capable of responding to the complex issues generated by artificial intelligence (Shamsi Koushki, 2019).

Overall, an examination of the challenges and limitations of intelligent technologies demonstrates that, although they possess important capacities for enhancing the methodology of *ijtihad*, they continue to face numerous epistemological, ethical, jurisprudential, and legal obstacles. The future of *ijtihad* will therefore not be determined by replacing the mujtahid with a machine but by purposeful interaction between human reason and intelligent instruments. Within this relationship, technology remains at the service of *ijtihad*, while the central position of the jurist as the bearer of religious responsibility and the ultimate authority in deriving legal rulings is preserved.

7. Conclusion

Contemporary technological developments, particularly the expansion of artificial intelligence and intelligent technologies, have produced extensive transformations in the methods through which knowledge is generated, processed, and utilized. The present study, which examined the role of intelligent technologies in transforming the methodology of contemporary *ijtihad*, demonstrated that these technologies are not merely new instruments for facilitating research activities. They can contribute effectively to many stages of the *ijtihad* process, including the collection and organization of sources, data analysis, subject-matter identification in emerging issues, and the evaluation of jurisprudential opinions. The substantial capacity of intelligent systems to process vast volumes of information, conduct semantic searches, identify relationships among texts, and analyze complex data has enabled many time-consuming and resource-intensive *ijtihad*-related activities to be conducted with greater speed and accuracy. It has also facilitated more comprehensive access to jurisprudential sources and opinions.

The findings demonstrated that the most significant effect of intelligent technologies on *ijtihad* is the transformation of the methods and practical mechanisms of legal derivation rather than any change in the foundations or authoritative sources of *ijtihad*. In other words, the Qur’an, the Sunnah, reason, and consensus remain the principal foundations for deriving Islamic legal rulings, although the methods of utilizing these sources have been transformed under the influence of emerging technologies. The employment of intelligent databases, textual-analysis systems, machine-learning algorithms, and digital subject-identification tools has moved *ijtihad* away from an exclusively traditional and individual-centered model and toward data-driven, network-based, and collaborative models. This development can increase the effectiveness of Islamic jurisprudence in addressing the complex and emerging issues of the contemporary world.

At the same time, the results demonstrated that intelligent technologies, despite their extensive capabilities, possess fundamental limitations that prevent them from replacing the human mujtahid. The absence of presential cognition,

intentionality, volition, responsibility, an understanding of the objectives of Islamic law, and the capacity to identify actual benefits and harms constitutes the principal barrier preventing artificial intelligence from achieving the status of an independent agent of *ijtihad*. Consequently, the outputs of intelligent systems cannot be regarded as possessing independent religious authority, and the ultimate validity of any analysis or recommendation produced by such systems remains dependent on the evaluation and approval of the jurist. Challenges such as data bias, ambiguity regarding responsibility for algorithmic errors, the absence of adequate ethical frameworks, and the danger of excessive dependence on machine-generated analysis further demonstrate the necessity of caution and continuous supervision in employing these technologies.

Accordingly, the present study concludes that the future of *ijtihad* lies neither in opposition to intelligent technologies nor in transferring the derivation process to machines, but in establishing a model based on interaction and cooperation between the mujtahid and intelligent technologies. In this model, intelligent systems function as supporting instruments responsible for collecting, analyzing, and organizing data, while the mujtahid, drawing upon jurisprudential and *uṣūlī* knowledge and the capacity for normative judgment, retains ultimate responsibility for legal derivation and the issuance of rulings. Intelligent technologies should therefore be understood not as substitutes for *ijtihad* but as means of strengthening, accelerating, and modernizing it. When employed correctly and within clearly defined regulatory frameworks, they can improve the effectiveness of the system of *ijtihad* and increase the capacity of Islamic jurisprudence to respond to the emerging issues of the digital age.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

Acknowledgments

Authors thank all who helped us through this study.

Conflict of Interest

The authors report no conflict of interest.

Funding/Financial Support

According to the authors, this article has no financial support.

References

- Al-Alwani, T. J. (2003). *Ijtihad and the Requirements of the Contemporary Age*. Dar al-Salam.
- Al-Dader, M. (2024). Applications of Artificial Intelligence and Their Role in Serving the Islamic Sciences. *Journal of Scientific Research*, 19(60), 301-331.
- Al-Qaradaghi, A. M. (2018). *Jurisprudence of Contemporary Issues*. Dar al-Basha'ir al-Islamiyyah.
- Al-Saadi, H. (2019). The Legal Capacity of Artificial Intelligence: A Comparative Study Between the Principles of Islamic Jurisprudence and Law. *Journal of the Islamic University for Sharia Sciences*, 22(1), 23-51.
- Al-Yaqin, R. (2024). Algorithmic Traceability in Contemporary Islamic Jurisprudence. *Journal of Contemporary Jurisprudential Research*, 31(4), 81-103.
- Boush, M. L., & Zaim, M. (2024). Artificial Intelligence and Its Technologies: Problems and Challenges in Light of Islamic Jurisprudence. *Journal of Research and Studies*, 21(2), 211-229.
- Ghanipour, M. (2026). *Jurisprudential Ijtihad in Confronting Intelligent Decision-Support Technologies: A Principles-Based Examination of Their Limits and Functions* Proceedings of the First Conference on Interdisciplinary Research and Jurisprudential-Legal Innovations, Tehran.
- Hedayati, A. (2025). *Artificial Intelligence and Ijtihad: Can Algorithms Assist in Deriving Jurisprudential Rulings?* Proceedings of the International Conference on Religious and Jurisprudential Research, Tehran.
- Keshavarzi Voldani, M., & Mohammadian, A. (2024). A Reflection on the Feasibility and Forms of Applying Artificial Intelligence in Islamic Jurisprudence and Law. *University of Tehran Journal of Jurisprudential Studies*, 18(2), 41-68.
- Mohammadi, M., & Shayanfar, J. (2025). *A Jurisprudential Analysis of Digital Rights and Artificial Intelligence in Islam* Proceedings of the First International Conference on Artificial Intelligence, Bushehr.
- Rashidi, N. (2023). *Artificial Intelligence in Islam*. Iran Book and Literature House.
- Salmanpour, M. J., & Talebi, M. (2023). The Feasibility and Method of Using Artificial Intelligence in a Jurist's *Ijtihad*. *Legal Studies*(34), 91-115.

Shamsi Koushki, R. (2019). *The System of Topics, Issues, and Jurisprudential Applications of Artificial Intelligence Technology*. Institute for Islamic Culture and Thought.