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AI-Driven Sharia Governance in Islamic Digital Payment Systems: Developing a Contemporary Islamic Law Framework for Ethical and Regulatory Compliance

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Abstract: The rapid advancement of artificial intelligence (AI) and digital financial technologies has transformed the operational landscape of Islamic financial institutions, creating both new opportunities and significant challenges for Sharia governance. As Islamic digital payment systems increasingly rely on AI-driven tools for transaction monitoring, fraud detection, risk assessment, and compliance verification, important questions arise regarding their compatibility with the principles and objectives of Islamic law. This study examines the role of AI in strengthening Sharia governance within Islamic digital payment ecosystems and evaluates its effectiveness in identifying prohibited elements, including riba, *gharar*, and other forms of financial misconduct. Using a doctrinal legal research methodology supported by comparative analysis and qualitative content analysis, the study examines primary and secondary sources of Islamic law, including the Qur'an, Sunnah, classical fiqh literature, contemporary Sharia governance standards, and regulatory frameworks from selected Islamic finance jurisdictions. The findings suggest that AI can substantially enhance Sharia compliance through real-time monitoring, predictive analytics, and automated auditing mechanisms. However, concerns related to algorithmic transparency, explainability, accountability, and the inherent limitations of AI in performing ijtihad and issuing fatwa-based judgments prevent it from replacing human scholarly authority in Sharia decision-making. The study argues that AI should function as a decision-support tool rather than an autonomous Sharia decision-maker. To address the governance challenges associated with AI implementation, the article proposes a contemporary Islamic law framework built upon five interconnected pillars: Human-Centered Sharia Supervision, Explainable Artificial Intelligence (XAI), *Maqasid al-Shariah* Compliance, Continuous Sharia Auditing, and Regulatory Accountability. This framework aims to harmonize technological innovation with the ethical, legal, and jurisprudential foundations of Islamic law while ensuring responsible and trustworthy AI deployment in Islamic finance. The study contributes to the

growing literature on Islamic FinTech and AI governance by offering a normative framework for regulating AI applications in Islamic digital payment systems.

Keywords: Artificial Intelligence (AI); Explainable Artificial Intelligence (XAI); Islamic Digital Payment Systems; *Maqasid al-Shariah*; Sharia Governance.

Introduction

The rapid advancement of artificial intelligence (AI) has fundamentally transformed the global financial sector, creating new opportunities for efficiency, automation, risk management, and regulatory compliance. Financial technology (FinTech) innovations increasingly rely on machine learning algorithms, predictive analytics, big data processing, and automated decision-making systems to enhance the speed and accuracy of financial services. Within this broader technological transformation, digital payment systems have emerged as one of the most dynamic segments of the financial industry, facilitating real-time transactions, mobile banking, electronic wallets, and cross-border financial exchanges.[1] The integration of AI into digital payment infrastructures has further accelerated the development of intelligent financial ecosystems capable of processing vast quantities of transactional data, detecting anomalies, assessing risks, and automating compliance procedures.[2]

Simultaneously, Islamic finance has experienced significant global expansion over the past two decades, becoming an important component of the international financial system. Islamic financial institutions now operate across numerous jurisdictions, including Malaysia, Indonesia, Saudi Arabia, the United Arab Emirates, Pakistan, Bahrain, Turkey, and other member states of the Organization of Islamic Cooperation (OIC).[3] The growing adoption of Islamic digital payment systems reflects broader efforts to align technological innovation with Sharia principles while meeting the demands of increasingly digital economies. Islamic banks, Islamic FinTech startups, and digital payment providers are investing heavily in technological solutions designed to facilitate secure, efficient, and Sharia-compliant financial transactions. Consequently, the

[1] Issa Hamadou et al., "Unleashing the Power of Artificial Intelligence in Islamic Banking: A Case Study of Bank Syariah Indonesia (BSI)," *Modern Finance* 2, no. 1 (2024): 131–44, https://doi.org/10.61351/mf.v2i1.116.

[2] Hanan Amin Mohamed and Toshitsugu Otake, "The Role of Islamic FinTech in Digital Financial Inclusion and Sustainable Development Post Covid-19: Cross-Country Analysis," *International Journal of Islamic and Middle Eastern Finance and Management* 18, no. 3 (2025): 649–71, https://doi.org/10.1108/IMEFM-02-2024-0100.

[3] Abdullah Alnamlah et al., "A New Model for Screening Shariah-Compliant Firms," *Borsa Istanbul Review* 22 (December 2022): S10–23, https://doi.org/10.1016/j.bir.2022.10.011.

intersection of AI technologies and Islamic digital finance has emerged as an area of academic, regulatory, and practical significance.[4]

Despite these developments, the increasing use of AI in Islamic digital payment systems raises important legal, ethical, and Sharia governance concerns. Traditional Sharia governance frameworks were primarily designed for human-centered financial institutions, in which qualified Sharia scholars and supervisory boards conducted compliance assessments, audits, and fatwa determinations. However, AI-powered financial systems increasingly perform functions that were previously undertaken by human experts, including transaction screening, fraud detection, risk assessment, customer verification, and compliance monitoring. As a result, critical questions arise regarding the extent to which AI-generated decisions can satisfy Sharia governance requirements, maintain accountability, ensure transparency, and preserve the objectives of Islamic law.[5]

The issue is particularly significant because Sharia compliance extends beyond technical legal conformity. Islamic financial transactions must adhere to a comprehensive ethical and legal framework that prohibits riba (interest), *gharar* (excessive uncertainty), *maysir* (gambling), fraud, deception, and unjust enrichment. Furthermore, Islamic financial institutions are expected to promote fairness, transparency, accountability, social welfare, and economic justice in accordance with the higher objectives of Sharia (*Maqasid al-Shariah*). The deployment of AI systems in digital payment environments creates new challenges in interpreting and operationalizing these principles. For example, machine learning algorithms may identify suspicious transactions or classify financial activities according to predetermined criteria, yet such systems often operate through complex decision-making processes that lack sufficient explainability. The opacity of algorithmic decisions may conflict with Sharia requirements for transparency, accountability, and informed contractual consent.[6]

Another major concern relates to the governance of automated compliance mechanisms. Contemporary AI systems are increasingly capable of continuously monitoring financial transactions and detecting potential violations of regulatory standards. While these capabilities may improve operational

[4] Mohammed R. M. Salem, "Digital Financial Intuition and AI-Driven Marketing: Enhancing Perceived Fairness to Improve Customer Retention in Malaysian Islamic Banks," *Interdisciplinary Journal of Management Studies* (IR), no. Online First (October 2025), https://doi.org/10.22059/ijms.2025.397480.677731.

[5] Muhammad Ilyas Ab Razak and Nur Akma Mohd Dali, "The Key Challenges of Islamic Fintech Implementation in Malaysia," *Journal of Central Banking Law and Institutions* 5, no. 1 (2026): 153–74, https://doi.org/10.21098/jcli.v5i1.270.

[6] Yudho Taruno Muryanto, "The Urgency of Sharia Compliance Regulations for Islamic Fintechs: A Comparative Study of Indonesia, Malaysia and the United Kingdom," *Journal of Financial Crime* 30, no. 5 (2023): 1264–78, https://doi.org/10.1108/JFC-05-2022-0099.

efficiency, they also raise questions concerning the legal status of AI-assisted compliance determinations within Islamic law. The extent to which AI can independently evaluate Sharia compliance remains highly contested. Although AI can assist in identifying prohibited contractual elements and monitoring transactional patterns, it lacks the capacity for independent ijtihad, contextual reasoning, ethical judgment, and jurisprudential interpretation that characterize human scholarly decision-making. Consequently, there is an urgent need to determine appropriate boundaries between automated compliance functions and human Sharia oversight.[7]

The growing reliance on AI also introduces concerns regarding responsibility and liability. In conventional financial regulation, accountability mechanisms generally assign responsibility to identifiable actors such as financial institutions, compliance officers, auditors, and regulators. However, when AI systems contribute to or influence compliance decisions, determining accountability becomes considerably more complex. Questions emerge regarding whether responsibility should rest with software developers, financial institutions, Sharia supervisory boards, regulators, or the AI systems themselves. From an Islamic legal perspective, accountability is closely linked to principles of amanah (trust), *mas'uliyyah* (responsibility), and justice. Therefore, any governance framework governing AI-driven Islamic financial services must establish clear mechanisms for oversight and accountability.[8]

The emergence of explainable artificial intelligence (XAI) has generated significant interest as a potential solution to these challenges. Explainable AI seeks to make algorithmic decisions understandable, transparent, and auditable by human stakeholders. In Islamic finance, explainability may be crucial to ensuring that AI-generated compliance assessments remain consistent with Sharia governance requirements. Transparent decision-making processes can facilitate scholarly review, strengthen regulatory oversight, and enhance public confidence in Islamic digital financial services. Nevertheless, existing studies have largely focused on technical aspects of AI implementation, while relatively little attention has been devoted to developing a comprehensive Islamic legal framework capable of governing AI-assisted compliance systems.[9]

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[7] Sholahuddin Al-Fatih et al., "Artificial Intelligence in Indonesia's Financial Sector: Regulatory and Islamic Law Perspectives," *Justicia Islamica* 22, no. 2 (2025): 303–26, https://doi.org/10.21154/justicia.v22i2.10479.

[8] Leti Latifah, "Regulatory and Ethical Duality in Indonesia's Fintech P2P Lending: Conventional vs. Sharia Models from an Islamic Economics Perspective," *Al-Muhasib: Journal of Islamic Accounting and Finance* 5, no. 1 (2025): 74–98, https://doi.org/10.30762/al-muhasib.v5i1.2344.

[9] Azwar Azwar et al., "Artificial Intelligence and Islamic Finance: A Scopus-Based Literature Mapping through a PRISMA Protocol," *Journal of Islamic Law on Digital Economy and Business*, August 23, 2025, 65–83, https://doi.org/10.20885/JILDEB.vol1.iss1.art5.

The existing literature demonstrates considerable growth in research concerning Islamic FinTech, digital payments, AI ethics, and Sharia governance. However, these discussions often remain fragmented and discipline-specific. Studies examining Islamic FinTech generally focus on technological innovation and market development, whereas research on Sharia governance primarily examines institutional oversight mechanisms in Islamic banking. Similarly, scholarship on AI ethics frequently emphasizes conventional regulatory concerns such as privacy, fairness, discrimination, and accountability without adequately considering the unique normative requirements of Islamic law. Consequently, there remains a significant gap in the literature regarding the integration of contemporary Islamic legal principles, *Maqasid al-Shariah*, and AI governance mechanisms within Islamic digital payment systems.

Recent scholarship has increasingly examined the relationship between artificial intelligence, Islamic financial technology (Islamic FinTech), and Sharia governance. Studies on Islamic FinTech have primarily focused on the adoption of digital payment platforms, blockchain technology, crowdfunding, and technological innovation within Islamic financial institutions. Existing research generally concludes that digital technologies can enhance financial inclusion, operational efficiency, and accessibility of Islamic financial services. However, these studies largely concentrate on technological adoption and market development rather than the legal implications of AI-assisted decision-making.
Similarly, research on Sharia governance has traditionally emphasized the role of Sharia Supervisory Boards, internal compliance mechanisms, Sharia audits, and regulatory oversight in Islamic financial institutions. These studies underline the importance of human expertise, scholarly interpretation, and institutional accountability in ensuring compliance with Islamic legal principles. Nevertheless, they offer limited guidance on how to incorporate emerging AI technologies into existing governance structures. In parallel, the growing literature on AI ethics and regulation addresses issues such as algorithmic transparency, explainability, accountability, fairness, privacy, and bias. While these studies offer valuable insights into the governance of AI systems, they are predominantly developed within conventional legal and regulatory frameworks and rarely consider the specific normative requirements of Islamic law, including *Maqasid al-Shariah*, amanah (trust), *mas'uliyyah* (responsibility), and Sharia-compliant financial conduct.

Despite the growing body of literature on Islamic FinTech, Sharia governance, and AI regulation, significant gaps remain. First, existing studies generally examine these fields separately rather than integrating them into a unified analytical framework. Second, limited attention has been devoted to the legal and governance challenges arising from the use of AI-driven compliance systems in Islamic digital payment environments. Third, current scholarship lacks

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a comprehensive Islamic legal framework capable of reconciling AI governance principles with Sharia requirements and *Maqasid al-Shariah* objectives.

Accordingly, the novelty of this study lies in the development of a contemporary Islamic law framework for AI-driven Sharia governance in digital payment systems. Unlike previous studies that primarily focus on technological innovation, fintech development, or conventional approaches to AI regulation, this research integrates Islamic legal theory, *Maqasid al-Shariah*, Sharia governance standards, and explainable artificial intelligence (XAI) principles into a comprehensive governance model specifically designed for Islamic digital finance. By positioning Islamic legal objectives as the normative foundation of AI governance, the study seeks to bridge the gap between rapid technological advancement and the ethical-legal requirements of Sharia compliance in the digital financial ecosystem.

This study addresses three interrelated research questions. First, it examines the legal and Sharia governance challenges arising from the integration of artificial intelligence into Islamic digital payment systems. Second, it investigates how Islamic legal principles and *Maqasid al-Shariah* can guide the governance of AI-assisted compliance mechanisms within Islamic finance. Third, it explores the design of an effective governance framework that ensures transparency, accountability, explainability, and meaningful human oversight in AI-driven Islamic digital payment environments. Through these inquiries, the study aims to provide a holistic understanding of the opportunities and risks associated with the adoption of AI technologies in Sharia-compliant financial services.

In line with these research questions, the study aims to achieve three primary objectives. It seeks to examine the legal, ethical, and Sharia governance implications of AI implementation in Islamic digital payment systems, analyze the applicability of Islamic legal principles and *Maqasid al-Shariah* to AI-assisted compliance mechanisms, and develop a contemporary Islamic law framework for AI-driven Sharia governance that promotes transparency, accountability, explainability, and effective human supervision. These objectives are intended to contribute to both theoretical discussions and the practical governance needs of Islamic financial institutions operating in increasingly digitalized environments. The significance of this study lies in its contribution to the expanding body of literature on Islamic finance, financial technology, and AI governance. By proposing a comprehensive framework for regulating AI-assisted compliance systems within Islamic digital payment ecosystems, the study offers valuable insights for Islamic financial institutions, regulators, Sharia Supervisory Boards, policymakers, and technology developers. The proposed framework provides practical guidance for integrating AI technologies while upholding the ethical and legal objectives of Islamic law. Furthermore, the study contributes to ongoing

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scholarly debates regarding the harmonization of technological innovation and Islamic legal principles, thereby supporting the development of responsible, transparent, and Sharia-compliant digital finance in the contemporary era.

METHOD

This study employs a qualitative doctrinal legal research method combined with a comparative legal approach. This methodology is adopted to critically examine Islamic legal principles, regulatory frameworks, and Sharia governance standards governing the application of Artificial Intelligence (AI) in Islamic digital payment systems. The research relies on secondary data collected through a systematic literature review and documentary analysis. Primary legal materials include the Qur'an, Sunnah, classical and contemporary fiqh literature, *Maqasid al-Shariah* principles, fatwas, and Sharia governance standards issued by international and national institutions, such as the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), the Islamic Financial Services Board (IFSB), and relevant Sharia regulatory authorities. Secondary legal materials include scholarly journal articles, books, policy reports, regulatory documents, conference proceedings, and other academic publications on artificial intelligence, Islamic finance, digital payment systems, fintech regulation, AI ethics, and Sharia governance.

The data were analyzed using thematic and comparative approaches. Initially, the collected materials were categorized into key themes, including AI governance, explainable artificial intelligence (XAI), Sharia compliance, digital payment regulation, accountability, transparency, and human oversight. These themes were subsequently examined through doctrinal interpretation of Islamic law to identify the principles of trustworthiness (amanah), responsibility (*mas'uliyyah*), justice (*'adl*), public interest (*maslahah*), and the higher objectives of Islamic law (*Maqasid al-Shariah*) relevant to AI governance. The findings were then compared with regulatory practices implemented in selected Islamic finance jurisdictions, namely Indonesia, Malaysia, Saudi Arabia, and Pakistan, to identify effective governance models and emerging regulatory challenges. To ensure the validity, credibility, and trustworthiness of the findings, the study employed source triangulation and data verification techniques, including cross-examination of legal materials, regulatory standards, and authoritative scholarly sources. This process enabled the development of a comprehensive, consistent, and academically rigorous framework for understanding the interaction between artificial intelligence, Sharia governance, and Islamic digital payment systems.

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Result and Discussion

Artificial Intelligence and the Transformation of Sharia Governance in Islamic Digital Payment Systems

The emergence of artificial intelligence (AI) has become one of the most transformative developments in the modern financial sector, fundamentally reshaping how financial institutions operate, manage risk, and deliver services. The rapid growth of digital technologies, coupled with increasing consumer demand for fast, secure, and efficient financial transactions, has accelerated the integration of AI into banking, financial technology (FinTech), and digital payment systems worldwide. AI technologies—including machine learning, natural language processing, predictive analytics, and automated decision-making systems—are increasingly used to optimize operational efficiency, enhance customer experiences, detect fraudulent activity, and strengthen regulatory compliance. Within this broader technological transformation, Islamic finance has also begun embracing AI-driven solutions to improve governance structures and maintain compliance with Sharia principles in an increasingly digitalized financial environment.[10]

The expansion of Islamic digital payment systems represents a significant milestone in the evolution of Islamic finance. Digital wallets, mobile banking applications, electronic fund transfers, QR-code payment systems, and blockchain-enabled financial services have become integral components of contemporary Islamic financial ecosystems. Countries such as Malaysia, Indonesia, Saudi Arabia, the United Arab Emirates, and Pakistan have witnessed substantial growth in Islamic FinTech initiatives that facilitate Sharia-compliant digital transactions. Islamic financial institutions increasingly recognize that technological innovation is essential for maintaining competitiveness within rapidly evolving financial markets. Consequently, many institutions have begun investing in AI-powered solutions to support customer onboarding, transaction monitoring, anti-money laundering procedures, and Sharia compliance assessments.[11]

The increasing adoption of AI within Islamic digital payment systems reflects a broader shift toward data-driven financial governance. Traditional financial management relied heavily on human expertise and manual review processes. However, the sheer volume of digital transactions generated within contemporary financial markets has made exclusive reliance on manual oversight increasingly impractical. Millions of transactions occur daily across digital

[10] Shareeful Islam et al., "Hybrid AI-Based Dynamic Risk Assessment Framework with Explainable AI Practices for Composite Product Cybersecurity Certification," *International Journal of Information Security* 25, no. 2 (2026): 51, https://doi.org/10.1007/s10207-026-01218-0.

[11] Muryanto, "The Urgency of Sharia Compliance Regulations for Islamic Fintechs."

platforms, creating substantial challenges for compliance officers, auditors, and Sharia supervisory boards tasked with ensuring compliance with Islamic legal requirements. AI technologies offer a potential solution by enabling real-time analysis of vast datasets and identifying compliance risks that might otherwise go undetected by conventional auditing mechanisms.[12]

Historically, Sharia governance has served as a foundational pillar of Islamic finance. Unlike conventional financial systems, Islamic financial institutions are obligated to ensure that all financial products, services, and transactions comply with the principles of Islamic law. This responsibility is typically fulfilled through a comprehensive governance framework involving Sharia Supervisory Boards (SSBs), internal Sharia review units, external auditors, and compliance departments. These institutions evaluate financial activities to ensure that they do not involve prohibited elements such as riba (interest), *gharar* (excessive uncertainty), *maysir* (gambling), fraud, deception, or unjust enrichment. Through continuous oversight and legal review, Sharia governance mechanisms seek to preserve the ethical and legal integrity of Islamic financial institutions.[13]

Despite their importance, traditional Sharia governance mechanisms face increasing challenges in the digital era. The expansion of online financial services, cross-border digital transactions, decentralized payment systems, and algorithmic financial products has introduced unprecedented complexity into Islamic financial operations. Manual auditing procedures, which often rely on periodic reviews and human examination of financial records, may struggle to keep pace with the speed and scale of modern digital transactions. Furthermore, the emergence of innovative financial products frequently requires rapid compliance assessments that exceed the capacity of conventional governance structures. These challenges have generated growing interest in AI-driven governance models that support continuous monitoring and real-time compliance verification.[14]

Tabel 1. Legal and Sharia Governance Challenges in AI-Driven Islamic Digital Payments

Challenge	Impact	Sharia Principle
Black Box AI	Low transparency	Shafafiyyah
Algorithmic Bias	Unfair decisions	Adl

[12] Zainal Habib, "Ethics of Artificial Intelligence in Maqāṣid Al-Sharīa's Perspective," *KARSA Journal of Social and Islamic Culture* 33, no. 1 (2025): 105–34, https://ejournal.uinmadura.ac.id/index.php/karsa/article/view/19617.

[13] Bernd Wurth et al., "Entrepreneurial Ecosystem Mechanisms," *Foundations and Trends® in Entrepreneurship* 19, no. 3 (2023): 224–339, https://doi.org/10.1561/0300000089.

[14] Habib, "Ethics of Artificial Intelligence in Maqāṣid Al-Sharīa's Perspective."

Weak Human Oversight	Governance risk	Amanah
Accountability Gap	Liability issues	*Mas'uliyyah*
Data Privacy Risk	Consumer harm	Hifz al-Mal

Source: Author's Interpretation

The doctrinal analysis identified five principal governance challenges associated with the implementation of AI in Islamic digital payment systems. AI possesses several characteristics that make it particularly attractive for Sharia governance applications. Machine learning algorithms can analyze transactional patterns, identify anomalies, classify financial activities, and generate predictive insights based on historical data. Natural language processing technologies can examine contractual documents and identify potentially problematic clauses that may conflict with Sharia requirements. Similarly, advanced analytical systems can screen large volumes of financial transactions for indicators of prohibited practices, thereby assisting institutions in maintaining compliance with regulatory and religious obligations. These capabilities have significant implications for improving governance efficiency, reducing compliance costs, and strengthening institutional accountability.[15]

One of the most promising applications of AI within Islamic digital payment systems involves automated compliance monitoring. Traditional compliance assessments often occur after transactions have been completed, potentially allowing prohibited activities to go undetected until periodic audits are conducted. In contrast, AI-powered monitoring systems can evaluate transactions in real time, enabling immediate identification of potential compliance violations. Such systems may assist financial institutions in detecting interest-related transactions, identifying unusual contractual arrangements, monitoring transaction flows, and ensuring adherence to predetermined Sharia standards. The capacity to conduct continuous monitoring represents a significant advancement over traditional governance approaches and may substantially enhance the effectiveness of Sharia compliance mechanisms.[16]

Furthermore, AI technologies can improve risk management within Islamic financial institutions. Effective risk management is essential for maintaining financial stability and protecting stakeholder interests. By analyzing large datasets, AI systems can identify emerging risks, detect suspicious activities, and predict potential compliance failures before they occur. These capabilities

[15] Nadisah Zakaria et al., "Machine Learning In the Financial Industry: A Bibliometric Approach to Evidencing Applications," *Cogent Social Sciences* 9, no. 2 (2023): 2276609, https://doi.org/10.1080/23311886.2023.2276609.

[16] Azwar et al., "Artificial Intelligence and Islamic Finance."

are particularly valuable in digital payment environments where cyber threats, identity theft, financial fraud, and money laundering activities pose significant challenges. From an Islamic legal perspective, proactive risk management aligns closely with the objectives of Sharia, particularly the protection of wealth (hifz al-mal) and the prevention of harm (daf' al-darar).[17]

The growing integration of AI into Islamic financial governance also reflects broader developments in regulatory technology (RegTech). Regulatory authorities worldwide increasingly encourage the use of advanced technologies to strengthen compliance and supervisory processes. In Islamic finance, AI-driven RegTech solutions can support both regulatory compliance and Sharia governance. By automating routine compliance functions and facilitating real-time monitoring, these technologies may enhance institutional transparency and improve stakeholder confidence. Moreover, AI systems can generate detailed audit trails that assist regulators and Sharia scholars in reviewing governance decisions and verifying compliance outcomes.[18]

Nevertheless, incorporating AI into Sharia governance poses significant challenges. One of the most frequently discussed concerns relates to transparency and explainability. Many advanced AI systems operate through complex algorithms whose decision-making processes are difficult to understand or interpret. Such "black-box" systems may produce highly accurate results while providing limited insight into how conclusions are reached. This lack of transparency presents a serious challenge for Islamic governance frameworks, which emphasize accountability, justice, and informed decision-making. If an AI system determines that a particular transaction is non-compliant with Sharia principles, stakeholders must be able to understand the reasoning underlying that conclusion. Without adequate explainability, confidence in AI-generated compliance assessments may be undermined.[19]

Another critical concern involves the allocation of responsibility and accountability. Islamic law places considerable emphasis on personal responsibility, trustworthiness (amanah), and ethical conduct. When AI systems contribute to compliance decisions, questions arise regarding who should bear responsibility for errors or governance failures. If an algorithm incorrectly approves a prohibited transaction or rejects a permissible one, determining accountability becomes increasingly complex. Responsibility may potentially be

[17] Yüksel Akay Ünvan and Hala Alsokhni, "The Evolution of Artificial Intelligence Research in Finance: A Bibliometric Analysis of Trends and Future Directions," *Finance Research Open* 2, no. 1 (2026): 100083, https://doi.org/10.1016/j.finr.2025.100083.

[18] K. P. Jaheer Mukthar et al., "Research Dynamics in AI and Fintech: A Bibliometric Investigation Using R," *Discover Internet of Things* 5, no. 1 (2025): 19, https://doi.org/10.1007/s43926-025-00111-x.

[19] Mohamed and Otake, "The Role of Islamic FinTech in Digital Financial Inclusion and Sustainable Development Post Covid-19."

attributed to software developers, financial institutions, compliance officers, Sharia supervisory boards, or regulatory authorities. The absence of clear accountability mechanisms may create legal and ethical uncertainties that require careful regulatory attention.[20]

Figure 1. Proposed AI-Driven Sharia Governance Framework

Framework Component	Function	Sharia Objective
Human-Centered Sharia Supervision	Human scholars retain final authority over AI-generated assessments	Preservation of legitimate ijtihad and accountability
Explainable Artificial Intelligence (XAI)	AI decisions must be transparent and understandable	Transparency (*Shafafiyyah*) and justice (*ʿAdl*)
Maqasid al-Shariah Compliance	AI systems align with the higher objectives of Islamic law	Public welfare (*Maslahah*) and protection of wealth
Continuous Sharia Auditing	Real-time monitoring of transactions and compliance risks	Prevention of harm and market integrity
Regulatory Accountability	Clear allocation of responsibility among stakeholders	Trust (*Amanah*) and responsibility (*Mas'uliyyah*)

Source: Author's Interpretation

This framework outlines the essential components required to ensure that AI-driven Islamic financial systems operate in accordance with both technological governance principles and Sharia objectives. *Human-Centered Sharia Supervision* ensures that qualified Sharia scholars retain ultimate authority over AI-generated assessments, thereby preserving the legitimacy of *ijtihad* and maintaining accountability in religious decision-making. *Explainable Artificial Intelligence (XAI)* requires AI systems to provide transparent and understandable reasoning for their outputs, supporting the Islamic values of transparency (*shafafiyyah*) and justice (*ʿadl*). *Maqasid al-Shariah Compliance* serves as the normative foundation of the framework by ensuring that AI applications advance the higher objectives of Islamic law, particularly the promotion of public welfare (*maslahah*) and the protection of wealth (*hifẓ al-mal*). *Continuous Sharia Auditing* enables ongoing monitoring of transactions, algorithms, and compliance risks, helping to prevent harm and safeguard market integrity. Finally, *Regulatory Accountability*

[20] Dwi Fidhayanti et al., "Exploring The Legal Landscape of Islamic Fintech in Indonesia: A Comprehensive Analysis of Policies and Regulations," *F1000Research* 13 (June 2024): 21, https://doi.org/10.12688/f1000research.143476.2.

establishes clear lines of responsibility among financial institutions, developers, regulators, and Sharia supervisory bodies, reinforcing the principles of trust (*amanah*) and responsibility (*mas'uliyyah*). Collectively, these components create a comprehensive governance structure that balances technological innovation with ethical oversight, legal compliance, and the fundamental objectives of Islamic law.

AI-Based Detection of Riba, *Gharar*, and Financial Misconduct: An Islamic Legal Perspective

The increasing integration of artificial intelligence (AI) into Islamic digital payment systems has created new opportunities to enhance Sharia compliance through automated monitoring, predictive analytics, and intelligent decision-making. As Islamic financial institutions continue their digital transformation, ensuring compliance with the fundamental prohibitions of Islamic commercial law remains a central governance objective. Among the most important challenges facing contemporary Islamic finance are the effective detection and prevention of riba (interest), *gharar* (excessive uncertainty), and various forms of financial misconduct. These prohibited elements undermine the ethical foundations of Islamic economic transactions and threaten the legitimacy of Islamic financial institutions. In this context, AI has emerged as a potentially transformative tool capable of strengthening compliance mechanisms and supporting Sharia governance in increasingly complex digital financial environments.[21]

AI and the Detection of Riba in Digital Financial Transactions

The prohibition of riba constitutes one of the most fundamental principles of Islamic commercial law. The Qur'an explicitly condemns riba and distinguishes lawful trade from unlawful interest-based transactions. Islamic scholars have consistently regarded the prohibition of riba as essential for preserving economic justice, preventing exploitation, and promoting equitable wealth distribution. In modern financial systems, however, identifying interest-based elements is often far more complex than detecting explicit interest charges. Contemporary financial products frequently involve sophisticated contractual structures, layered transactions, hidden fees, variable pricing mechanisms, and hybrid financial arrangements that may conceal interest-like characteristics beneath legally complex frameworks. The rapid growth of digital payment systems further complicates the identification of riba. Electronic transactions occur instantly across multiple platforms and jurisdictions, generating vast amounts of transactional data that exceed the capacity of traditional compliance monitoring systems. Manual auditing processes may struggle to identify prohibited elements embedded within large-scale digital payment networks.

[21] Azwar et al., "Artificial Intelligence and Islamic Finance."

Consequently, Islamic financial institutions increasingly require advanced technological tools capable of continuously and accurately analyzing transactions. AI offers significant advantages in this regard. Machine learning algorithms can examine large datasets, identify recurring transactional patterns, and detect anomalies associated with interest-based activities. By analyzing contractual terms, payment schedules, profit distributions, and financing structures, AI systems can identify characteristics commonly associated with riba. For example, algorithms can be trained to recognize fixed guaranteed returns, predetermined profit rates unrelated to commercial risk, penalty structures resembling interest charges, or financing arrangements that replicate conventional lending practices.[22]

Machine Learning and the Identification of *Gharar*

Alongside the prohibition of riba, Islamic commercial law also prohibits *gharar*, which refers to excessive uncertainty, ambiguity, deception, or ignorance regarding essential contractual elements. The prohibition of *gharar* seeks to ensure fairness, transparency, and informed consent within commercial transactions. Islamic jurisprudence requires contracting parties to possess sufficient knowledge concerning the subject matter, price, rights, obligations, and risks associated with a transaction. Contracts characterized by excessive uncertainty may create disputes, facilitate exploitation, and undermine market stability. The digitalization of financial services has introduced new forms of contractual complexity that challenge traditional methods of identifying *gharar*. Smart contracts, algorithmic financial products, digital assets, peer-to-peer payment systems, decentralized finance platforms, and automated investment arrangements often involve highly technical structures that may be difficult for ordinary consumers to understand. Consequently, assessing the presence of *gharar* in modern financial transactions requires sophisticated analytical tools capable of evaluating multiple contractual variables simultaneously. AI technologies have considerable potential to address this challenge. Natural language processing systems can examine contractual documents, identify ambiguous clauses, and evaluate the clarity of contractual provisions. Machine learning algorithms may analyze transaction structures and identify indicators associated with excessive uncertainty, hidden risks, or incomplete disclosure. These technologies can help financial institutions ensure that contractual arrangements meet the transparency requirements set out in Islamic commercial law.[23]

[22] Mohamed and Otake, "The Role of Islamic FinTech in Digital Financial Inclusion and Sustainable Development Post Covid-19."

[23] Hamadou et al., "Unleashing the Power of Artificial Intelligence in Islamic Banking."

Moreover, AI can contribute to consumer protection by identifying potentially misleading financial practices before products are introduced into the marketplace. Automated compliance systems may evaluate new digital payment products against predefined Shariah parameters and issue warnings when contractual structures exhibit characteristics of *gharar*. Such preventive mechanisms closely align with the objectives of Islamic law by promoting fairness and reducing the likelihood of future disputes. Nevertheless, determining *gharar* often involves qualitative assessments that cannot be fully reduced to quantitative measurements. Islamic jurists frequently distinguish between minor uncertainty that is tolerated and excessive uncertainty that invalidates a transaction. Such distinctions depend upon contextual factors, commercial customs, and jurisprudential interpretation. Therefore, while AI can significantly enhance the identification of potential *gharar*-related risks, final determinations should remain subject to human scholarly review.[24]

Tabel 2. AI Detection of Sharia Non-Compliance

AI Application	Indicators Detected	Expected Outcome
Riba Detection	Fixed returns, interest charges, and penalty interest	Identification of interest-based transactions
Gharar Detection	Ambiguous terms, hidden risks, excessive uncertainty	Reduction of contractual uncertainty
Financial Misconduct Detection	Fraud, money laundering, cybercrime	Enhanced transaction integrity
Compliance Screening	Automated review of transaction data	Early warning alerts
Human Sharia Review	Scholarly verification of AI findings	Final Sharia compliance decision

Source: Author's Interpretation

The table illustrates how artificial intelligence can support Sharia governance by identifying potential violations of Islamic financial principles and enhancing compliance monitoring within digital financial systems. In the area of *Riba Detection*, AI is programmed to recognize indicators such as fixed returns, interest charges, and penalty interest, enabling the identification of transactions that may involve prohibited interest-based elements. For *Gharar Detection*, AI analyzes contractual provisions to identify ambiguous terms, hidden risks, and excessive uncertainty, thereby reducing uncertainty and improving contractual fairness. Through *Financial Misconduct Detection*, AI can identify suspicious activities such as fraud, money laundering, and cybercrime, thereby strengthening

[24] Dona Budi Kharisma et al., "AI Meets Shariah: Ensuring Robo-Advisors for Compliance in Islamic Mutual Funds," *Journal of Islamic Accounting and Business Research*, November 4, 2025, 1–14, https://doi.org/10.1108/JIABR-10-2024-0388.

transaction integrity and financial security. The *Compliance Screening* function automates the review of large volumes of transaction data, generating early warning alerts when potential compliance issues are detected. However, despite these advanced capabilities, AI does not replace human judgment in Islamic finance. The final stage, *Human Sharia Review*, ensures that qualified Sharia scholars verify and evaluate AI-generated findings before making a definitive Sharia compliance decision.

Tabel 3. Key Findings on AI Governance Requirements

Requirement	Finding
Explainability	Essential
Human Oversight	Mandatory
Accountability	Necessary
Continuous Auditing	Recommended
Maqasid Alignment	Required

Source: Author's Interpretation

The findings demonstrate that effective AI governance requires a combination of technological and Sharia-based safeguards.

AI as a Tool for Preventing Financial Misconduct

Beyond detecting riba and *gharar*, AI is increasingly important in combating financial misconduct in Islamic digital payment systems. Financial misconduct encompasses a broad range of activities, including fraud, money laundering, terrorist financing, cybercrime, identity theft, market manipulation, and other unlawful activities that threaten the integrity of financial markets. The expansion of digital financial services has created new opportunities for such misconduct, requiring more sophisticated governance mechanisms to identify emerging threats. AI technologies are particularly effective in detecting suspicious behavioral patterns that may indicate fraudulent activity. By continuously analyzing transactional data, machine learning systems can identify unusual payment patterns, abnormal account behavior, unauthorized access attempts, and potentially fraudulent transactions. These systems can adapt to evolving threats by learning from new data and refining their detection capabilities over time. Preventing financial misconduct closely aligns with several foundational principles of Islamic law. One particularly relevant principle is سد الذرائع (*Sadd al-Dhara'i*), which emphasizes preventing actions that may lead to harm, corruption, or unlawful outcomes. Rather than merely responding to misconduct after it occurs, Islamic law encourages preventative measures that reduce opportunities for wrongdoing. AI-powered monitoring systems embody this preventative approach by identifying risks before significant harm occurs.[25]

[25] Hamadou et al., "Unleashing the Power of Artificial Intelligence in Islamic Banking."

Similarly, the objectives of Sharia (*Maqasid al-Shariah*) support efforts to protect wealth (hifz al-mal), maintain social order, and safeguard public interests. Financial fraud, cybercrime, and money laundering undermine these objectives by facilitating injustice, economic instability, and the unlawful transfer of wealth. By strengthening fraud detection and risk management capabilities, AI contributes to the realization of these broader Sharia objectives.

Aligning AI Systems with the Objectives of Islamic Law

Despite the substantial benefits offered by AI technologies, the effectiveness of AI-driven compliance systems ultimately depends upon their alignment with Islamic legal principles. A significant concern within contemporary scholarship is that many AI systems are designed primarily to achieve technical efficiency rather than ethical compliance. Algorithms may successfully identify predefined risk indicators while failing to appreciate the broader moral and jurisprudential considerations that underpin Islamic financial regulation. Consequently, AI systems used in Islamic digital payment environments must be developed in accordance with explicitly defined Sharia governance standards. Compliance models should incorporate Islamic legal principles, *Maqasid al-Shariah* objectives, and jurisprudential guidelines rather than relying exclusively on conventional financial risk metrics. Furthermore, algorithmic decisions must remain transparent, explainable, and subject to human oversight. The future of AI-driven Sharia governance, therefore, depends upon achieving an appropriate balance between technological innovation and Islamic legal integrity. AI can significantly enhance the detection of riba, *gharar*, and financial misconduct, providing Islamic financial institutions with powerful tools for improving compliance and governance. However, these technologies must operate within a framework that preserves the central role of human judgment, scholarly interpretation, and ethical accountability. Only through such an integrated approach can AI effectively contribute to the development of trustworthy, transparent, and Sharia-compliant digital payment systems that meet the challenges of the modern financial landscape.[26]

Explainable Artificial Intelligence and Accountability in Sharia Governance

The increasing adoption of artificial intelligence (AI) within Islamic financial institutions has created significant opportunities to enhance operational efficiency, strengthen compliance monitoring, and improve risk management. As digital payment systems become more sophisticated, AI technologies are

[26] Madiha Baharuddin, "Bridging Islamic Technological Heritage with Modern Innovations: Ethical and Practical Perspectives," *Journal of Al-Tamaddun* 21, no. 1 (2026): 71–94, https://doi.org/10.22452/JAT.vol21no1.5.

increasingly used to automate decision-making processes for transaction screening, fraud detection, customer due diligence, anti-money laundering compliance, and Sharia governance. While these technological advancements offer substantial benefits, they also introduce complex legal, ethical, and governance challenges. Among the most significant concerns is explainability, commonly referred to as Explainable Artificial Intelligence (XAI). In the context of Islamic finance, explainability is not merely a technical requirement but a fundamental legal and ethical necessity rooted in the principles of transparency, justice, accountability, and trust that underpin Islamic commercial law. One of the defining characteristics of many contemporary AI systems is their reliance on advanced machine learning algorithms that process vast amounts of data and generate highly accurate predictions. However, these systems often operate as so-called "black boxes," meaning that while they can produce decisions or recommendations, the internal reasoning processes that lead to those outcomes remain difficult or impossible for human users to understand. This lack of transparency has become a major concern among regulators, legal scholars, and policymakers worldwide. In sectors such as finance, healthcare, and law, decisions generated by AI may significantly affect individuals and institutions. Consequently, stakeholders increasingly demand mechanisms that explain how and why particular decisions are reached. In Islamic digital payment systems, the challenge of explainability assumes even greater importance, as Sharia governance requires that financial decisions be transparent, verifiable, and subject to independent review. Islamic commercial law emphasizes clarity in transactions, informed consent among contracting parties, and accountability for financial conduct. If an AI system determines that a transaction violates Sharia principles, stakeholders must be able to understand the legal and factual basis of that determination. Without adequate explanation, it becomes impossible to verify whether the system's conclusions genuinely reflect Islamic legal requirements or merely represent algorithmic outputs lacking meaningful jurisprudential justification.[27]

The importance of explainability is closely connected to the concept of Sharia governance itself. Islamic financial institutions operate under a dual compliance framework. In addition to complying with national financial regulations, they must also satisfy religious requirements established by Islamic law. This responsibility is typically fulfilled through Sharia Supervisory Boards (SSBs), internal Sharia review departments, compliance officers, and external auditors. These governance structures are designed to ensure that financial products and services remain free from prohibited elements such as riba

[27] Muhammad Bilal Zafar and Hassnian Ali, "Shariah Governance Standard on Generative AI for Islamic Financial Institutions," preprint, SSRN, 2025, https://doi.org/10.2139/ssrn.5143165.

(interest), *gharar* (excessive uncertainty), *maysir* (gambling), fraud, and unjust enrichment. Traditionally, Sharia-compliance decisions have been based on legal reasoning by qualified scholars who evaluate financial transactions in light of established jurisprudential principles. These scholars are expected to provide clear legal justifications for their rulings and recommendations. The introduction of AI into this governance framework raises important questions about whether algorithmic decisions can meet the same standards of transparency and legal accountability. If AI-generated compliance assessments cannot be explained in understandable terms, their compatibility with established Sharia governance practices becomes highly questionable. The issue becomes particularly significant when AI systems classify transactions as either compliant or non-compliant with Sharia requirements. Consider a scenario in which an AI-powered compliance platform identifies a digital payment transaction as containing elements of riba. Financial institutions, regulators, customers, and Sharia scholars would naturally seek to understand the basis for this conclusion. Was the determination based on contractual terms, payment structures, profit calculations, or transaction patterns? Which legal criteria were applied? How did the algorithm weigh different factors? Without access to such information, meaningful review and verification become impossible. This challenge has contributed to the growing importance of Explainable Artificial Intelligence (XAI). XAI refers to a collection of technological methods and governance principles designed to make AI-generated decisions understandable to human users. Rather than simply providing conclusions, explainable systems offer insights into the reasoning processes, variables, and analytical pathways that influence decision outcomes. In financial services, XAI enables institutions to identify why a particular transaction was flagged, how risk assessments were generated, and which factors contributed most significantly to compliance determinations. From an Islamic legal perspective, explainability directly supports several foundational principles of Sharia. One such principle is transparency (shafafiyyah), which requires openness and clarity in commercial dealings. Islamic law seeks to eliminate ambiguity and deception by ensuring that parties possess adequate knowledge concerning the nature and consequences of their transactions. Black-box algorithms that conceal decision-making processes may undermine this objective by creating uncertainty regarding the basis of compliance determinations.[28]

Another relevant principle is justice (*'adl*), which occupies a central position within Islamic legal thought. The Qur'an repeatedly emphasizes the obligation to uphold justice in all aspects of social and economic life. Fair

[28] Amrullah Amrullah and Richard Richard, "Islamic Legal Reform In Facing The Challenges of The Digital Economy And The Islamic Financial System," *Dialog Legal: Jurnal Syariah, Jurisprudensi Dan Tata Negara* 2, no. 1 (2025): 97–106, https://doi.org/10.64367/dialoglegal.v2i1.135.

treatment requires that individuals understand the reasons behind decisions that affect their rights and interests. If AI systems generate compliance assessments without providing intelligible explanations, affected parties may be denied meaningful opportunities to challenge, review, or verify those decisions. Consequently, explainability becomes essential for preserving procedural fairness and protecting stakeholder rights. Closely related to transparency and justice is the concept of amanah (trust). Trust is a fundamental ethical value in Islamic finance and underpins relationships among financial institutions, customers, regulators, and society. Stakeholders are more likely to trust AI-driven governance systems when decision-making processes are transparent and understandable. Conversely, opaque algorithms may generate skepticism, reduce confidence, and undermine the credibility of Sharia governance mechanisms. Therefore, explainability serves not only a legal function but also an important role in maintaining institutional legitimacy and public trust. Alongside explainability, accountability represents another major challenge associated with AI implementation in Islamic digital payment systems. Accountability refers to the ability to identify responsible actors and assign responsibility for decisions, actions, or outcomes. In traditional governance frameworks, accountability structures are relatively straightforward because human decision-makers can be identified and held responsible for their conduct. However, the increasing reliance on AI complicates these arrangements by introducing algorithmic actors into decision-making processes.[29]

When AI systems incorrectly approve prohibited transactions or unjustly reject permissible ones, determining responsibility becomes significantly more difficult. Multiple actors may be involved in the design, implementation, operation, and oversight of AI technologies. These actors include software developers, technology vendors, financial institutions, compliance departments, Sharia Supervisory Boards, and regulatory authorities. Consequently, questions arise concerning who should bear responsibility when governance failures occur. Islamic law places considerable emphasis on the principle of *mas'uliyyah* (responsibility). Individuals entrusted with authority are expected to exercise that authority responsibly and remain accountable for the consequences of their actions. This principle is closely linked to the broader objectives of justice and ethical conduct. From an Islamic perspective, responsibility cannot simply be transferred to autonomous technologies. Because AI systems lack moral agency and legal personality, ultimate accountability must remain with the human actors who design, deploy, supervise, and govern them. This perspective has important implications for the future regulation of AI-driven Sharia governance. Financial institutions should not rely exclusively on automated systems when making

[29] H. Shalhoob, *The Role of AI in Enhancing Shariah Compliance: Efficiency and Transparency in Islamic Finance*, n.d., https://doi.org/10.24294/jipd11239.

compliance decisions. Instead, AI should function as a decision-support mechanism operating under meaningful human oversight. Human experts must retain authority to review algorithmic outputs, assess contextual factors, and exercise independent judgment when necessary. Such an approach ensures that accountability remains clearly defined and consistent with established principles of Islamic law.[30]

Recent global regulatory developments further reinforce the importance of explainability and accountability. Emerging AI governance frameworks increasingly emphasize transparency, risk management, human oversight, and algorithmic accountability. These principles align closely with the objectives of Sharia governance and provide valuable guidance for Islamic financial institutions seeking to integrate AI into their operations. However, Islamic finance requires an additional normative layer grounded in Islamic legal principles, ethical values, and *Maqasid al-Shariah* considerations. Ultimately, the successful integration of AI into Islamic digital payment systems depends upon the development of governance frameworks that prioritize explainability, accountability, and human oversight. Explainable Artificial Intelligence offers a promising mechanism for ensuring that algorithmic decisions remain transparent, auditable, and understandable. At the same time, clear accountability structures are essential for preserving trust, protecting stakeholder rights, and maintaining the integrity of Sharia governance. By embedding these principles within AI governance frameworks, Islamic financial institutions can harness the benefits of technological innovation while remaining faithful to the ethical and jurisprudential foundations of Islamic law. Such an approach not only enhances compliance effectiveness but also contributes to the broader objectives of justice, transparency, responsibility, and public welfare that lie at the heart of the Islamic legal tradition.[31]

The Limits of Artificial Intelligence in Ijtihad, Fatwa, and Sharia Decision-Making

The rapid advancement of artificial intelligence (AI) has generated significant interest across various disciplines, including law, finance, healthcare, education, and public administration. In Islamic finance, AI has demonstrated considerable potential to enhance compliance monitoring, risk management,

[30] Aimi Aisyah Abu Bakar et al., "Communicating Shariah and Regulatory Frames for AI-Powered Halal Auditing," *Al-i'lam - Journal of Contemporary Islamic Communication and Media* 5, no. 1 (2025), https://doi.org/10.33102/jcicom.vol5no1.138.

[31] Bagus Khusfi Satyo, S.H., M.Kn. and Bagus Agung Yuda Prasetyo, S.H., M.Kn, "Artificial Intelligence and the Future of Human Rights: Legal Accountability for Algorithmic Decision-Making in Democratic Societies.," *International Journal of Law and Social Sciences* 2, no. 1 (2026): 54–74, https://doi.org/10.65960/ijlss.2.1.2026.12.

fraud detection, and regulatory oversight. These developments have led some scholars and practitioners to explore whether AI could eventually perform more sophisticated functions traditionally undertaken by Islamic jurists, such as ijtihad, fatwa issuance, and Sharia decision-making. While contemporary AI systems possess remarkable computational capabilities and can process vast quantities of information with unprecedented speed and accuracy, substantial jurisprudential, ethical, and legal concerns remain regarding their ability to perform higher-level functions of Islamic legal reasoning. The question is not merely whether AI can analyze legal texts, but whether it can genuinely participate in the interpretive, moral, and intellectual processes that characterize Islamic jurisprudence. At the heart of this debate lies the concept of ijtihad. In Islamic legal theory, ijtihad refers to the exertion of intellectual effort by qualified jurists to derive legal rulings from the primary sources of Islamic law, namely the Qur'an and the Sunnah, when explicit guidance is not available. Historically, ijtihad has played a central role in enabling Islamic law to respond to changing social, economic, political, and technological realities. Through ijtihad, jurists have addressed emerging issues by interpreting legal texts, applying legal principles, considering public interests, and balancing competing objectives of Sharia. The process requires extensive knowledge of Arabic, Qur'anic exegesis, Hadith sciences, principles of jurisprudence (usul al-fiqh), legal maxims (qawa'id fiqhiyyah), objectives of Sharia (*Maqasid al-Shariah*), and scholarly consensus.[32]

Importantly, ijtihad involves much more than the mechanical application of predefined legal rules. Islamic legal reasoning requires contextual understanding, ethical reflection, critical judgment, and awareness of social realities. Jurists must evaluate the circumstances surrounding a particular issue, assess its potential consequences, and determine how Islamic principles should be applied in light of contemporary conditions. In many cases, multiple juristic opinions may exist regarding a particular matter, requiring scholars to engage in comparative analysis and reasoned evaluation. Consequently, ijtihad represents a dynamic intellectual process that combines legal expertise, moral reasoning, and practical wisdom.[33] Contemporary AI systems, despite their growing sophistication, operate fundamentally differently from human jurists. Machine learning algorithms can analyze enormous datasets, identify patterns, process legal documents, and generate recommendations based on programmed parameters. Advanced natural language processing models can search legal

[32] Faheem Ullah Al Azhari et al., "The Role of Islamic Economic Principles in Family Law: A Study on Inheritance and Property Rights within the Context of Child Protection," *Global Islamic Research Journal* 1, no. 1 (2025): 59–76, https://doi.org/10.65960/girj.1.1.2025.2.

[33] Aishat Abdul-Qadir Zubair et al., "EXISTING LEGAL & REGULATORY FRAMEWORK FOR SOVEREIGN *SUKUK* IN NIGERIA," *Global Islamic Research Journal* 2, no. 1 (2026): 36–73, https://doi.org/10.65960/girj.2.1.2026.8.

databases, summarize scholarly opinions, identify relevant precedents, and even generate legal explanations. In the context of Islamic finance, AI can assist institutions by screening contracts, detecting compliance risks, and organizing legal information for review by Sharia scholars. However, these capabilities should not be confused with genuine legal reasoning. AI systems do not possess consciousness, intentionality, moral awareness, or independent judgment. They process information according to mathematical models and statistical relationships rather than engaging in intellectual deliberation. While AI may identify similarities between legal cases or retrieve relevant jurisprudential opinions, it does not understand the ethical significance of those opinions as human scholars do. Consequently, AI lacks the capacity to exercise ijtihad as traditionally understood within Islamic jurisprudence. One of the most significant limitations of AI relates to the concept of legal consciousness. Islamic legal decision-making is not solely concerned with determining whether an action conforms to a particular rule. Rather, it seeks to promote justice, prevent harm, preserve human dignity, and achieve the higher objectives of Sharia. These objectives frequently require nuanced judgments that extend beyond textual interpretation. For example, jurists may consider social customs ('urf), public welfare (*maslahah*), necessity (darurah), hardship (mashaqqah), and changing societal conditions when formulating legal opinions. Such considerations often involve qualitative assessments that cannot be fully captured through algorithmic analysis.[34]

The concept of *maslahah* provides a particularly important example. Throughout Islamic legal history, scholars have relied upon considerations of public welfare to address novel issues not explicitly discussed in classical sources. Determining what constitutes public welfare requires careful evaluation of social consequences, economic impacts, ethical concerns, and community needs. These assessments involve value judgments and contextual reasoning that remain beyond the capabilities of contemporary AI systems. Although AI can provide relevant information to support decision-making, it cannot independently determine what best serves society's interests from an Islamic legal perspective. Similar challenges arise in issuing fatwas. A fatwa is a non-binding legal opinion provided by a qualified scholar in response to a specific question or situation. Effective fatwa issuance requires understanding not only the legal issue itself but also the circumstances of the individual or institution seeking guidance. Muftis frequently consider factors such as cultural context, economic conditions, personal circumstances, and potential consequences before providing legal advice. This process often involves dialogue, clarification, and ethical judgment.

[34] Muhammad Azam et al., "Religious Diversity in the Digital Economy: Interfaith Legal Pathways to Harmonize Sharia, Christian Ethics, and International Law," *Contemporary Issues on Interfaith Law and Society* 4, no. 2 (2025): 207–64, https://doi.org/10.15294/ciils.v4i2.33011.

AI systems may assist by identifying relevant legal sources and organizing scholarly opinions, but they cannot fully replicate the human interaction that characterizes the fatwa process. Unlike human scholars, AI lacks empathy, moral sensitivity, and contextual awareness. It cannot appreciate the complexities of human experiences or understand the broader social implications of legal advice. Consequently, many contemporary scholars argue that AI-generated fatwas should not be regarded as authoritative legal rulings but rather as informational tools that support human decision-making.[35]

Towards a Contemporary Islamic Law Framework for AI-Driven Sharia Governance

The increasing integration of artificial intelligence (AI) into Islamic digital payment systems necessitates the development of a contemporary Sharia governance framework that balances technological innovation with Islamic legal principles. While AI offers significant benefits in enhancing compliance monitoring, fraud detection, and risk management, it also raises concerns regarding transparency, accountability, and legal authority. To address these challenges, this study proposes a five-pillar Islamic law framework for AI-driven Sharia governance.[36]

Figure 3. Governance Outcomes Model

Input	Governance Mechanism	Output
Artificial Intelligence	Human-Centered Supervision	Ethical Finance
Digital Payment Systems	Explainable AI (XAI)	Transparency
Sharia Governance Standards	Continuous Auditing	Accountability
Regulatory Frameworks	Regulatory Accountability	Trustworthy Islamic Finance
Maqasid al-Shariah	Integrated Compliance Monitoring	Public Welfare

Source: Author's Interpretation

The table illustrates a governance framework for AI-driven Islamic digital payment systems. On the *input* side, five key elements are identified: Artificial Intelligence (AI), digital payment systems, Sharia governance standards,

[35] Saleh Hashem Al-Farjani et al., "Digital Innovation, Legal Reform, and Social Justice: Interdisciplinary Approaches to Law, Technology, and Human Rights," *International Journal of Law and Social Sciences* 1, no. 1 (2025): 91–129, https://doi.org/10.65960/ijlss.1.1.2025.5.

[36] Faheem Ullah Al Azhari and Sajid Iqbal Al Azhari, "Contemporary Challenges in Harmonizing Sharia, National Legal Systems, and International Law in a Rapidly Changing World," *International Journal of Law and Social Sciences* 1, no. 1 (2025): 130–50, https://doi.org/10.65960/ijlss.1.1.2025.4.

regulatory frameworks, and the principles of *Maqasid al-Shariah*. These components do not, in themselves, produce a Sharia-compliant financial ecosystem; therefore, effective *governance mechanisms* are required to bridge the gap between technological inputs and desired outcomes. AI must operate under *human-centered supervision* to ensure that algorithmic decisions remain aligned with ethical and Islamic values. Digital payment systems require *Explainable AI (XAI)* to enhance transparency and enable stakeholders to understand how decisions are generated. Sharia governance standards should be supported by *continuous auditing* to maintain ongoing compliance with Islamic principles. Regulatory frameworks must be reinforced through *regulatory accountability* to ensure legal certainty and institutional responsibility. Meanwhile, the objectives of *Maqasid al-Shariah* are operationalized through *integrated compliance monitoring*, ensuring that financial activities achieve not only formal compliance but also the broader goals of Islamic law.

Human-Centered Sharia Supervision

The first pillar is Human-Centered Sharia Supervision. Although AI can process large volumes of data and identify potential compliance risks, it cannot perform independent legal reasoning or exercise moral judgment. Therefore, AI should function as a supportive tool rather than a replacement for qualified Sharia scholars. Final decisions concerning Sharia compliance must remain under the authority of Sharia Supervisory Boards and human experts to ensure that legal rulings are based on proper jurisprudential analysis and ethical considerations.[37]

Explainable Artificial Intelligence (XAI)

The second pillar is Explainable Artificial Intelligence (XAI). Islamic law emphasizes transparency, clarity, and accountability in financial transactions. Therefore, AI-generated compliance assessments must be understandable, traceable, and open to independent verification. If an AI system identifies a transaction as involving riba, *gharar*, or other prohibited elements, stakeholders should be able to understand the reasoning behind that determination. Explainability enhances trust, strengthens accountability, and ensures that AI decisions remain consistent with Sharia principles.[38]

***Maqasid al-Shariah* Compliance**

The third pillar is *Maqasid al-Shariah* Compliance. AI systems should not be designed solely to maximize efficiency or profitability but should also promote the higher objectives of Islamic law. These objectives include justice,

[37] Bagus Khusfi Satyo, S.H., M.Kn. and Bagus Agung Yuda Prasetyo, S.H., M.Kn, "Artificial Intelligence and the Future of Human Rights."

[38] Emad Abdel Rahim Dahiyat, "A Legal Framework for Online Commercial Arbitration in UAE: New Fabric but Old Style!," *Information & Communications Technology Law* 26, no. 3 (2017): 272–92, https://doi.org/10.1080/13600834.2017.1374055.

transparency, protection of wealth, prevention of harm, and public welfare. AI applications in Islamic finance should help prevent exploitation, reduce financial misconduct, protect consumers, and foster ethical financial practices. A Maqasid-based approach ensures that technological development remains aligned with the broader moral goals of Sharia.[39]

Continuous Sharia Auditing

The fourth pillar is Continuous Sharia Auditing. Traditional Sharia audits are often conducted periodically and may not adequately address the complexity of modern digital payment systems. AI technologies enable real-time monitoring of transactions, allowing institutions to identify compliance risks as they occur. Continuous auditing improves governance efficiency, reduces operational risks, and strengthens consumer confidence. This approach reflects the Islamic principle of hisbah, which emphasizes ongoing supervision and the prevention of harmful practices within the marketplace.[40]

Regulatory Accountability

The fifth pillar is Regulatory Accountability. Since AI systems lack legal personality and moral responsibility, accountability must remain with human actors and institutions. Clear responsibilities should be established for software developers, financial institutions, regulators, and Sharia Supervisory Boards. Effective governance requires transparent mechanisms for identifying responsibility when compliance failures occur. Such accountability promotes trust, protects stakeholders, and ensures the legitimacy of AI-driven Sharia governance systems.[41] Unlike previous studies that separately discuss Islamic FinTech, AI regulation, or Sharia governance, this study integrates Islamic legal theory, *Maqasid al-Shariah*, Explainable AI, and regulatory accountability into a unified AI-driven Sharia governance framework specifically designed for Islamic digital payment systems.

CONCLUSION

This study examined the implications of artificial intelligence (AI) for Sharia governance in Islamic digital payment systems and found that AI can significantly strengthen compliance monitoring, fraud detection, risk assessment,

[39] Azam et al., "Religious Diversity in the Digital Economy."

[40] Muhammad Azam et al., "Harmonizing Contemporary International Commercial Law with Sharia-Based National Legal Systems: A Comparative Study of Pakistan, Turkey, Indonesia, Malaysia, and Saudi Arabia," *MILRev: Metro Islamic Law Review* 4, no. 2 (2025): 1074–96, https://doi.org/10.32332/milrev.v4i2.11334.

[41] Muhammad Azam et al., "E-Contract Withdrawal Rights in E-Commerce: A Comparative Analysis of the Egyptian Consumer Protection Law and Islamic Jurisprudential Perspectives," *Ulul Albab: Jurnal Studi Dan Penelitian Hukum Islam* 8, no. 2 (2025): 215, https://doi.org/10.30659/jua.v8i2.44766.

and transaction auditing within Islamic financial institutions. However, the analysis demonstrates that AI remains incapable of independently performing essential functions of Islamic legal reasoning, including ijtihad, ethical judgment, and contextual interpretation. Consequently, AI should operate as a supportive governance mechanism under continuous human supervision rather than as an autonomous authority in Sharia decision-making. The principal contribution of this study lies in the development of a contemporary Islamic law framework for AI-driven Sharia governance based on five interconnected pillars: Human-Centered Sharia Supervision, Explainable Artificial Intelligence (XAI), *Maqasid al-Shariah* Compliance, Continuous Sharia Auditing, and Regulatory Accountability. By integrating Islamic legal principles with emerging AI governance standards, the study contributes to the growing scholarship on Islamic FinTech, digital finance, and technology regulation. The findings have practical implications for regulators, Islamic financial institutions, Sharia Supervisory Boards, and technology developers seeking to implement AI-based solutions while preserving compliance with Islamic legal and ethical requirements. The proposed framework may serve as a reference for developing governance policies and regulatory standards for AI-enabled Islamic financial services. This study is subject to certain limitations. It is primarily doctrinal and normative and does not include empirical data from financial institutions, regulators, technology developers, or Sharia scholars. In addition, the analysis focuses mainly on Islamic digital payment systems and does not comprehensively examine other sectors of Islamic FinTech, such as blockchain-based finance, digital asset platforms, or decentralized financial services. Future research may build upon this study through empirical investigations involving Islamic financial institutions and regulatory authorities, comparative assessments of AI governance practices across different jurisdictions, and evaluation of the practical implementation of explainable AI systems within Islamic financial environments. Such research would further enhance understanding of how technological innovation can be harmonized with the objectives and principles of Islamic law in the evolving digital economy.

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AUTHOR CONTRIBUTIONS STATEMENT

Muhhamad Azam was responsible for the conceptualization and design of the study, literature review, data collection, data analysis, interpretation of findings, and manuscript preparation. The author also conducted the critical revision of the manuscript, ensured the accuracy and integrity of the research, and approved the final version for publication. The author takes full responsibility for all aspects of the work and confirms that all contributions presented in this study were carried out in accordance with academic and ethical research standards.

CONFLICT OF INTEREST

The author declares that there are no conflicts of interest regarding the publication of this article. The research was conducted independently without any financial, commercial, institutional, or personal relationships that could have influenced the study design, data collection, analysis, interpretation of findings, or the preparation of the manuscript. The author has reviewed and approved the final version of the manuscript and affirms that the study was carried out in accordance with academic integrity, ethical research standards, and principles of transparency. Any funding or institutional support received for this research did not affect the objectivity or outcomes of the study.

AI USAGE STATEMENT

The author acknowledges the use of artificial intelligence (AI) tools during the preparation of this manuscript. AI-assisted technologies were used solely to support language refinement, grammar checking, editing, and improving writing clarity. All conceptual development, research design, data collection, data analysis, interpretation of findings, and scholarly conclusions were conducted independently by the authors. The author carefully reviewed, verified, and revised all AI-generated suggestions to ensure their accuracy, relevance, and compliance with academic standards. The author takes full responsibility for the content of this manuscript, including its originality, integrity, and adherence to ethical research and publication practices. No AI system was listed as an author, and AI tools did not contribute to the intellectual decision-making or substantive scholarly arguments presented in this study.

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