

Islamic Fintech and Shariah Governance: A Conceptual Framework

Nabilah Wafa' Mohd Najib^{1*}, Siti Khalilah Basarud-din², Nurul Khofifah Abdullah³, Fatimah Noni Muhammad⁴

¹²³⁴Faculty of Muamalat, Management and Technology, Universiti Islam Antarabangsa Tuanku Syed Sirajuddin, Malaysia

*Corresponding Author

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ABSTRACT

The rapid development of financial technology has transformed the structure and delivery of financial services, including within the Islamic finance industry. Islamic fintech provides opportunities to enhance financial inclusion, improve operational efficiency, and expand access to Shariah-compliant financial products and services. However, the adoption of fintech in Islamic finance also creates Shariah, ethical, technological, and regulatory challenges. These include Shariah non-compliance risk, *gharar* and contractual uncertainty, data privacy concerns, cybersecurity threats, algorithmic bias, consumer protection issues, and operational and reputational risks. Therefore, this paper aims to conceptually examine the relationship between Islamic fintech and Shariah governance. Specifically, it discusses the role of Shariah governance in Islamic fintech development, identifies the main Shariah and ethical challenges arising from fintech adoption, and proposes how Shariah governance can be strengthened to support sustainable Islamic fintech. This study adopts a qualitative conceptual research design based on library-based research and thematic literature review. The paper synthesises previous studies, regulatory documents, Shariah governance standards, and Islamic fintech literature. The findings indicate that Shariah governance plays a central role as both a compliance mechanism and a trust-building mechanism in Islamic fintech. The study further finds that Islamic fintech requires a continuous and risk-based governance process rather than one-time Shariah approval. Accordingly, this paper proposes a Risk-Based Maqasid Shariah Governance Framework for Islamic Fintech, which integrates Islamic fintech innovation, Shariah and technology risks, risk-based Shariah governance processes, Maqasid al-Shariah principles, and sustainable Islamic fintech outcomes. This paper contributes to the Islamic finance literature by developing a conceptual framework that explains how Shariah governance can be strengthened to address the challenges of digital financial innovation.

Keywords: Islamic fintech; Shariah governance; Maqasid al-Shariah; Islamic finance; Digital financial innovation

INTRODUCTION

Financial technology (fintech) has transformed the structure and delivery of financial services by introducing digital platforms, mobile applications, blockchain, artificial intelligence (AI), big data analytics, crowdfunding, peer-to-peer financing, robo-advisory services, and digital payment systems. These technologies have improved efficiency, accessibility, speed, and convenience in financial transactions while creating new forms of digital financial intermediation. According to Zetzsche et al. (2017), fintech has reshaped financial markets by enabling data-driven financial activities while simultaneously creating new regulatory and governance challenges. The rapid digitalisation of financial services has also influenced the Islamic finance industry,

which increasingly adopts technological innovation to remain competitive and responsive to evolving consumer expectations.

Islamic fintech refers to the application of financial technology to deliver financial products and services that comply with Shariah principles (Mohd Haridan et al., 2023). It includes various innovations such as Islamic crowdfunding, peer-to-peer financing, Islamic digital banking, robo-advisory services, blockchain-based financial products, digital zakat and *waqf* platforms, takaful technology, and Shariah-compliant investment platforms. Islamic fintech offers significant opportunities to strengthen Islamic finance by expanding financial inclusion, improving operational efficiency, supporting small and medium enterprises, and increasing access to Shariah-compliant financial services. Oseni and Ali (2019) state that Islamic fintech possesses both theoretical and practical significance, particularly in promoting inclusive finance and supporting innovation within Muslim-majority economies. Recent studies further indicate that Islamic fintech has emerged as an increasingly important research area within Islamic finance literature, covering themes such as digital banking, crowdfunding, blockchain, and regulatory development (Alshater et al., 2022; Rabbani et al., 2021).

Despite its potential benefits, the integration of fintech into Islamic finance creates governance challenges that differ from those faced by conventional fintech. Islamic fintech institutions must ensure that their products, services, contracts, and operational models remain free from prohibited elements such as *riba*, *gharar*, *maysir*, injustice, and non-halal activities. The adoption of emerging technologies including artificial intelligence, blockchain, smart contracts, and automated decision-making systems introduces additional concerns relating to Shariah compliance, contractual uncertainty, cybersecurity threats, data privacy, algorithmic bias, consumer protection, and operational risk. Unlike conventional financial innovation, technological advancement within Islamic finance must align not only with commercial objectives but also with ethical principles, transparency, fairness, accountability, and Maqasid al-Shariah.

Shariah governance plays an important role in maintaining the legitimacy and credibility of Islamic financial institutions. The Islamic Financial Services Board (IFSB, 2009) defines Shariah governance as institutional arrangements that ensure effective Shariah oversight and compliance within Islamic financial institutions. In Malaysia, Bank Negara Malaysia (2019) further strengthens governance requirements by clarifying responsibilities relating to Shariah oversight, accountability, and risk management. However, rapid fintech development creates additional governance complexity because digital financial services increasingly involve automated systems, platform-based transactions, algorithmic decision-making, and cross-border digital operations. Traditional governance approaches may therefore require adaptation to ensure continuous monitoring and effective management of technology-related Shariah risks.

Although Islamic fintech has attracted growing academic attention, existing studies predominantly focus on fintech adoption, crowdfunding, blockchain applications, financial inclusion, and digital banking development (Alshater et al., 2022; Rabbani et al., 2021). Comparatively limited attention has been given to how Shariah governance frameworks should evolve to address emerging technological risks associated with Islamic fintech innovation. Issues relating to digital contracts, artificial intelligence governance, data protection, cybersecurity, algorithmic accountability, and technology-related Shariah risks remain insufficiently conceptualised within existing literature. This gap highlights the need for a governance framework capable of supporting ethical, sustainable, and Shariah-compliant Islamic fintech development.

Therefore, this paper aims to conceptually examine the relationship between Islamic fintech and Shariah governance. Specifically, the study discusses the role of Shariah governance in Islamic fintech development, identifies major Shariah and ethical challenges arising from fintech adoption, and proposes approaches to strengthen governance mechanisms for sustainable Islamic fintech growth. To address these objectives, this paper proposes a Risk-Based Maqasid Shariah Governance Framework that integrates fintech innovation, technology-related risks, governance processes, and Maqasid al-Shariah principles. The framework contributes to Islamic finance literature by providing a conceptual governance model to support ethical digital financial innovation while preserving Shariah compliance and public trust. Based on the above discussion, this study seeks to answer the following research questions:

1. What is the role of Shariah governance in the development of Islamic fintech?
2. What are the main Shariah and ethical challenges arising from the adoption of fintech in Islamic finance?
3. How can Shariah governance be strengthened to support ethical, sustainable, and Shariah-compliant Islamic fintech development?

LITERATURE REVIEW

This section reviews the relevant literature on Islamic fintech, Shariah governance, fintech-related risks, Maqasid al-Shariah, and the Shariah implications of emerging technologies such as artificial intelligence, blockchain and smart contracts. The review is structured to support the development of the proposed Risk-Based Maqasid Shariah Governance Framework. It also provides the basis for answering the research questions by examining how Shariah governance can address the ethical, technological, and operational challenges associated with Islamic fintech innovation.

Islamic Fintech: Concept and Development

Islamic fintech refers to the use of financial technology to provide innovative financial products, services, processes, and platforms that comply with Shariah requirements. It is a niche area within the broader fintech industry and involves technologically enabled financial innovation that affects Islamic financial services while observing Shariah principles (Huddin, 2022; IADI, 2022). It covers a broad range of digital financial activities, including Islamic digital banking, Islamic crowdfunding, peer-to-peer financing, robo-advisory services, blockchain-based transactions, smart contracts, digital sukuk, takaful technology, and digital zakat and *waqf* platforms.

Oseni and Ali (2019) describe Islamic fintech as an important development that connects Islamic legal principles with financial innovation, particularly in expanding access to Shariah-compliant financial services and supporting inclusive finance. Arner et al. (2015) explain that fintech has evolved through the interaction of finance, technology, regulation, and post-crisis financial innovation. Lee and Shin (2018) further describe fintech as a system involving start-ups, technology developers, governments, financial institutions, and customers. In Islamic finance, this ecosystem is more complex because fintech innovation must also be aligned with Shariah principles, governance standards, and ethical requirements.

The growth of Islamic fintech reflects the wider digital transformation of financial services. Fintech has changed the nature of financial intermediation by allowing financial services to be delivered through platforms, data analytics, automated decision-making, and mobile applications (Zetsche et al., 2017). In Islamic finance, these innovations can strengthen competitiveness and expand access to Shariah-compliant products. Alshater et al. (2022) reviewed Islamic fintech literature from 2017 to 2022 and found that the field has developed around several research streams, including Islamic banking, crowdfunding, blockchain, financial inclusion, and regulation. This indicates that Islamic fintech has become an emerging but increasingly important area of Islamic finance research.

Islamic fintech also has a strong socio-economic role. Digital Islamic social finance platforms, such as zakat, *waqf*, and *sadaqah* platforms, can improve the collection, distribution, transparency, and monitoring of social funds. Rabbani et al. (2021) argue that Islamic fintech can support social innovation and strengthen the Islamic financial system, especially in addressing economic challenges and improving financial inclusion. Therefore, Islamic fintech should not be viewed merely as technological innovation, but as a potential mechanism for ethical finance, inclusive development, and social welfare.

Shariah Governance in Islamic Finance

Shariah governance refers to the institutional arrangements, processes, and control functions that ensure Islamic financial institutions comply with Shariah principles in their operations, products, services, and business activities. The Islamic Financial Services Board (IFSB, 2009) explains that Shariah governance involves structures and processes designed to ensure effective Shariah oversight in institutions offering Islamic

financial services. These structures commonly include the Shariah committee or Shariah supervisory board, Shariah review, Shariah audit, Shariah risk management, Shariah compliance, and Shariah research functions.

Shariah governance is important because the credibility of Islamic finance depends on public confidence that products and services are genuinely Shariah-compliant. Hasan (2010) argues that Shariah governance frameworks are necessary because Islamic financial institutions operate based on religious, ethical, and legal principles. Similarly, Grassa (2013) explains that the Shariah supervisory system is one of the most important features distinguishing Islamic financial institutions from conventional financial institutions as it ensures that products and operations comply with Shariah rules. In the Malaysian context, Bank Negara Malaysia (2019) strengthens Shariah governance by clarifying the responsibilities of the board, Shariah committee, senior management, and control functions in ensuring end-to-end Shariah compliance. This indicates that Shariah governance is not only a compliance requirement but also a mechanism of accountability, risk management, and institutional integrity.

Additionally, AAOIFI also strengthens the institutional foundation of Islamic finance by preparing accounting, auditing, governance, ethics, and Shariah standards for Islamic financial institutions and the Islamic finance industry. These standards are relevant to Islamic fintech because digital financial products require consistency, transparency, Shariah supervision, and sound governance arrangements.

In the context of Islamic fintech, Shariah governance becomes more complex because digital financial products often involve fast product development, automated processes, software updates, algorithms, cross-border platforms, and decentralised technologies. Traditional Shariah approval may not be sufficient when the operational features of a fintech product can change after launch. Therefore, Shariah governance in Islamic fintech should be continuous and risk-based, covering the stages of product design, Shariah review, digital implementation, Shariah audit, monitoring, and corrective action.

Shariah and Technology Risks in Islamic Fintech

Islamic fintech creates opportunities but also introduces Shariah and technology-related risks. One major risk is Shariah non-compliance risk, where a fintech product or process may involve *riba*, *gharar*, *maysir*, injustice, or non-permissible activities. In digital contracts, *gharar* may arise when contractual terms, ownership transfer, obligations, rights, or execution mechanisms are unclear. Smart contracts and blockchain-based transactions may improve transparency, but they still require Shariah scrutiny to ensure that the legal and Shariah substance of the contract is valid.

Another major risk is related to data and technology. Fintech relies heavily on data collection, platform infrastructure, algorithms, and automated decision-making. Zetzsche et al. (2017) note that data-driven finance creates new regulatory challenges because financial services increasingly depend on large-scale data processing. Lee and Shin (2018) also identify regulation, security, privacy, technology integration, and risk management as major challenges in the fintech ecosystem. In Islamic fintech, these issues are also ethical and Shariah governance concerns because unfair data use, weak cybersecurity, or algorithmic bias may harm customers and undermine justice, transparency, and consumer protection.

Algorithmic bias is particularly relevant in areas such as automated credit scoring, robo-advisory services, fraud detection, and risk profiling. If algorithms are not transparent or are trained on biased data, customers may be unfairly excluded from financing or receive unsuitable financial advice. This is inconsistent with the ethical objectives of Islamic finance, which concerns on fairness, justice, transparency, and the protection of wealth. Therefore, technology governance should be integrated into Shariah governance to ensure that Islamic fintech platforms are not only Shariah-compliant in form but also ethical and fair in operation.

Maqasid al-Shariah as the Ethical Foundation of Islamic Fintech

Maqasid al-Shariah refers to the higher objectives and purposes of Shariah, which are commonly associated with the protection of religion, life, intellect, lineage, and wealth. These objectives provide a comprehensive ethical foundation for Islamic law and Islamic financial practices. Kamali (2008) explains that Maqasid al-

Shariah represents the higher goals of Islamic law, which aim to protect benefits and improve the conditions of human life. Similarly, Auda (2008) views Maqasid al-Shariah as the heart of Islamic law because it emphasises justice, human welfare, public interest, and moral objectives. In the context of development, Chapra (2008) mentioned that Maqasid al-Shariah aims to promote human well-being by protecting faith, life, intellect, posterity, and wealth.

In Islamic finance, Maqasid al-Shariah provides an ethical foundation for ensuring that financial activities do not only comply with legal forms, but also promote justice, fairness, transparency, social welfare, and the prevention of harm. Dusuki and Abdullah (2007) argue that Maqasid al-Shariah and *maslahah* provide a broader framework for business and social responsibility, especially when organisations face changing circumstances and competing stakeholder interests. This is important because Islamic finance should not be limited to technical Shariah compliance but should also contribute to public benefit and socio-economic justice.

In the context of Islamic fintech, Maqasid al-Shariah can guide the development and governance of digital financial services. The protection of religion requires Islamic fintech products to comply with Shariah principles and avoid prohibited elements such as *riba*, *gharar*, *maysir*, and non-permissible activities. The protection of wealth requires fintech providers to prevent fraud, ensure fair contracts, promote responsible financing, protect customer funds, and strengthen cybersecurity. The protection of intellect requires transparency, disclosure, digital literacy, and explainable decision-making so that customers can understand financial products and make informed choices.

Furthermore, the protection of life and lineage can be linked to consumer welfare, responsible innovation, financial inclusion, and the protection of vulnerable groups. Islamic fintech has the potential to expand access to Shariah-compliant financial services, support small businesses, and strengthen Islamic social finance through digital *zakat*, *waqf*, and *sadaqah* platforms. However, these benefits can only be achieved if fintech innovation is governed according to ethical principles and public interest. Therefore, Maqasid al-Shariah strengthens the normative foundation of Islamic fintech governance by ensuring that digital financial innovation is evaluated not only based on efficiency and profitability, but also based on its contribution to Shariah compliance, fairness, consumer protection, protection of wealth, and socio-economic well-being.

Shariah Implications of Artificial Intelligence, Blockchain and Smart Contracts

Artificial intelligence creates specific Shariah governance concerns because automated systems may influence financing approval, credit scoring, customer profiling, investment recommendations, fraud detection, and risk assessment. In the broader fintech context, data-driven finance creates new regulatory challenges because financial services increasingly depend on large-scale data processing and automated decision-making (Zetzsche et al., 2017). In Islamic finance, the use of AI requires careful governance because Islamic financial institutions must ensure that automated decisions remain consistent with Shariah principles, ethical accountability, fairness, and protection of wealth. Sarea et al. (2021) highlight that AI has practical applications in Islamic financial institutions, particularly in financial risk management, while recent discussions on AI and Islamic finance emphasise the need to consider institutional, ethical, and Shariah governance implications of AI adoption. If AI systems are trained using biased or incomplete data, they may produce unfair outcomes, exclude vulnerable customers, or provide unsuitable financial recommendations. Such outcomes may conflict with the Islamic principles of justice, fairness, transparency, accountability, and protection of wealth. Therefore, AI-driven Islamic fintech should be supported by algorithmic transparency, explainability, human oversight, Shariah review, and clear accountability mechanisms. This is also consistent with global AI governance principles that stress on trustworthy AI, human-centred values, fairness, transparency, and accountability (OECD, 2019; OECD, 2024).

Blockchain technology may enhance transparency, traceability, immutability, and record-keeping in Islamic finance. These features may support Islamic finance by improving auditability and reducing information asymmetry. However, the Shariah acceptability of blockchain-based Islamic financial products depends on the nature of the underlying asset, the contractual structure, the transfer of ownership, and the economic substance

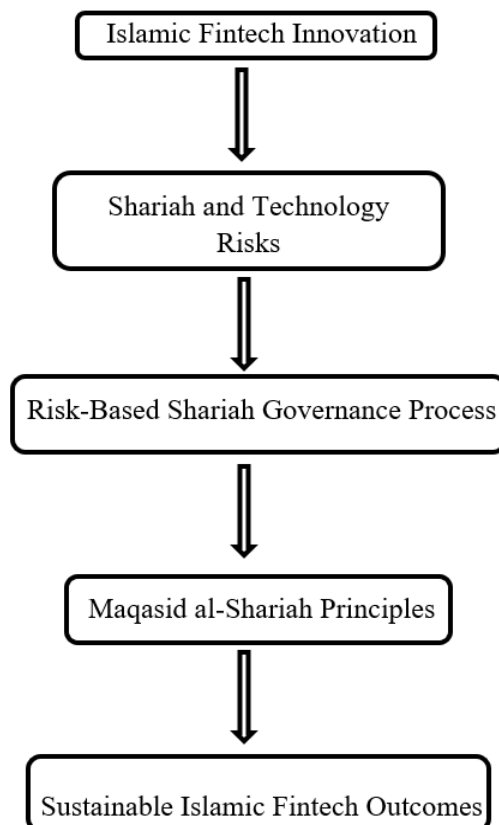
of the transaction. Blockchain-based Islamic financial products should be reviewed to ensure that they do not involve *riba*, *gharar*, *maysir*, excessive speculation, or non-permissible activities. This is particularly important for blockchain-based *sukuk*, tokenised assets, digital payment instruments, and platform-based investment products. Studies on blockchain and Islamic finance stress that blockchain and smart contracts may support transparency and efficiency, but their Shariah compliance depends on the structure and substance of the transaction rather than the technology itself (Oseni & Ali, 2019; Zulkepli, 2023).

Smart contracts can automate Islamic financial transactions, but they may raise Shariah issues relating to offer and acceptance, contractual clarity, enforceability, rights and obligations, errors in execution, and dispute resolution. Previous studies explain that smart contracts may be used in Islamic business transactions if they fulfil the basic legal elements required under Shariah principles and if the underlying transaction is permissible. However, automated execution may create concerns if the contract terms are unclear, if the coding logic does not reflect the Shariah-approved contract, or if there is no mechanism to resolve mistakes and disputes. In such situations, the transaction may involve *gharar* or cause harm to contracting parties. Zulkepli (2023) also notes that blockchain-based smart contracts raise issues related to immutability and the need for solutions that align with Shariah and Islamic banking operations. Thus, smart contracts in Islamic fintech should be designed with clear contractual terms, Shariah-approved logic, audit trails, dispute resolution procedures, and post-implementation monitoring.

Proposed Conceptual Framework

Based on the reviewed literature, this study proposes a Risk-Based Maqasid Shariah Governance Framework for Islamic Fintech. The framework is designed to explain how Islamic fintech innovation should be governed through a risk-based Shariah governance process and guided by Maqasid al-Shariah principles. The framework responds to the research gap identified in the introduction, namely the limited conceptual discussion on how Shariah governance should be adapted to address digital contracts, algorithmic decision-making, data privacy, cybersecurity, cross-border fintech operations, and consumer protection issues.

Figure 1: Risk-Based Maqasid Shariah Governance Framework for Islamic Fintech



Source: Developed by the authors.

The framework begins with Islamic fintech innovation, which includes digital banking, Islamic crowdfunding, peer-to-peer financing, robo-advisory, blockchain, smart contracts, and digital zakat and *waqf*. These innovations can improve efficiency, access, transparency, and inclusion. However, they also create Shariah and technology risks, such as Shariah non-compliance risk, *gharar* and contract uncertainty, data privacy risk, cybersecurity risk, algorithmic bias, consumer protection risk, and operational and reputational risk.

The framework then proposes a risk-based Shariah governance process consisting of three stages. At the pre-product stage, Shariah review, contract screening, and product approval are required to ensure that the product structure and business model comply with Shariah principles. At the implementation stage, Shariah compliance, technology governance, cybersecurity control, and data protection should be embedded into the digital platform. At the post-implementation stage, Shariah audit, Shariah risk management, and continuous monitoring are required to detect, report, and correct any Shariah or technology-related risks.

The framework is anchored in Maqasid al-Shariah principles, which provide the ethical foundation for Islamic fintech development. By integrating risk-based governance with Maqasid al-Shariah, Islamic fintech can achieve sustainable outcomes such as public trust, financial inclusion, ethical innovation, consumer protection, protection of wealth, and sustainable Islamic fintech development. Therefore, the framework argues that Islamic fintech should be assessed not only by technological efficiency and market growth but also by its contribution to Shariah compliance, justice, transparency, and public benefit.

METHODOLOGY

This study adopts a qualitative conceptual research design to examine the relationship between Islamic fintech and Shariah governance. A conceptual research design is appropriate because the objective of this paper is not to test statistical relationships or measure empirical effects, but to develop a theoretical and governance-based understanding of how Shariah governance can be strengthened in response to Islamic fintech innovation. This approach is suitable for clarifying key concepts, synthesising existing literature, identifying research gaps, and proposing a conceptual framework for future research.

The study is based on library-based research using secondary sources. The sources include peer-reviewed journal articles, academic books, regulatory documents, industry standards, and policy documents related to Islamic fintech, Islamic finance, Shariah governance, fintech regulation, technology risk, artificial intelligence, blockchain, smart contracts, and Maqasid al-Shariah. The literature was selected based on its relevance to five main areas: Islamic fintech development, Shariah governance, fintech-related risks, Maqasid al-Shariah, and digital financial innovation. These areas were chosen because they directly support the research questions and provide the foundation for developing the proposed Risk-Based Maqasid Shariah Governance Framework for Islamic fintech.

The selection of literature was guided by several criteria. First, the literature had to discuss Islamic fintech or digital financial innovation in the context of Islamic finance. Second, studies on Shariah governance were included to understand the role of Shariah committees, Shariah review, Shariah audit, Shariah risk management, and Shariah compliance in ensuring Shariah-compliant financial practices. Third, studies related to fintech risks were reviewed to identify key challenges such as Shariah non-compliance risk, contractual uncertainty, data privacy, cybersecurity, algorithmic bias, consumer protection, operational risk, and reputational risk. Fourth, literature on Maqasid al-Shariah was included to provide the ethical foundation for evaluating Islamic fintech beyond legal and technical compliance. Finally, regulatory and institutional documents were reviewed to support the discussion on governance expectations and practical implementation.

A thematic literature review approach was used to organise and analyse the selected literature. The reviewed materials were grouped into several themes: the concept and development of Islamic fintech, the role of Shariah governance, Shariah and technology-related risks, the Shariah implications of emerging technologies, Maqasid al-Shariah as an ethical foundation, and governance requirements for sustainable Islamic fintech. Through this thematic synthesis, the study identifies the need for a governance approach that integrates Shariah compliance, technology governance, risk management, consumer protection, and Maqasid al-Shariah.

No primary data collection, survey, interview, or statistical analysis was conducted because this article is conceptual in nature. Instead, the study relies on critical review, interpretation, and synthesis of existing literature. The outcome of the methodology is the proposed Risk-Based Maqasid Shariah Governance Framework for Islamic fintech, which explains how Islamic fintech innovation can be governed through a continuous risk-based process involving pre-product review, implementation-stage controls, and post-implementation monitoring. The framework may serve as a basis for future empirical research, policy development, and practical governance implementation in Islamic fintech.

FINDINGS AND DISCUSSION

This section presents the findings of the conceptual review based on the research questions formulated in the introduction. Since this study is conceptual in nature, the findings are derived from the synthesis of previous studies, Shariah governance standards, regulatory documents, and Islamic fintech literature. The discussion is organised according to the three research questions of the study.

Role of Shariah Governance in Islamic Fintech Development

The first research question examines the role of Shariah governance in the development of Islamic fintech.

The findings indicate that Shariah governance plays a central role in ensuring that Islamic fintech products, services, platforms, and business models comply with Shariah principles. Islamic fintech differs from conventional fintech because it must not only achieve efficiency, innovation, and accessibility, but must also ensure that its operations avoid prohibited elements such as *riba*, *gharar*, *maysir*, injustice, exploitation, and non-halal activities. This is consistent with IFSB (2009), which highlights that Shariah governance provides the institutional arrangements through which Islamic financial institutions ensure effective oversight of Shariah compliance.

Shariah governance also functions as a trust-building mechanism in Islamic fintech. Since Islamic financial services are based on religious and ethical principles, users must have confidence that digital products are genuinely Shariah-compliant. Hasan (2010) states that Shariah governance is important in maintaining the credibility and legitimacy of Islamic financial institutions, particularly because Islamic finance operates within both legal and religious expectations. Similarly, Bank Negara Malaysia (2019) emphasises that effective Shariah governance requires clear accountability among the board, Shariah committee, senior management, and control functions.

In the context of Islamic fintech, Shariah governance should not be limited to product approval only. Instead, it should cover the entire product life cycle, including product design, Shariah review, contract screening, platform implementation, Shariah audit, risk management, and continuous monitoring. This is important because Islamic fintech products may involve complex technologies such as blockchain, smart contracts, robo-advisory, digital banking, crowdfunding, and peer-to-peer financing. Oseni and Ali (2019) explain that fintech in Islamic finance raises important legal, regulatory, and Shariah issues because technology changes the way Islamic financial transactions are structured and delivered.

Therefore, the finding for the first research question shows that Shariah governance acts as both a compliance mechanism and a legitimacy mechanism. It ensures that Islamic fintech innovation remains consistent with Shariah principles while strengthening consumer trust, institutional credibility, and sustainable industry development.

Shariah and Ethical Challenges Arising from Islamic Fintech Adoption

The second research question identifies the main Shariah and ethical challenges arising from the adoption of fintech in Islamic finance.

The findings show that Islamic fintech creates several Shariah, ethical, technological, and regulatory challenges. One of the main challenges is Shariah non-compliance risk. Islamic fintech products may be

developed rapidly through digital platforms, but without proper Shariah supervision, they may involve elements of *riba*, *gharar*, *maysir*, or non-permissible activities. Alshater et al. (2022) found that Islamic fintech literature has expanded into areas such as Islamic banking, crowdfunding, blockchain, financial inclusion, and regulation, but governance-related issues remain an important area that requires further attention.

Another important challenge is contractual uncertainty, especially in relation to smart contracts, blockchain-based transactions, digital assets, peer-to-peer financing, and Islamic crowdfunding. Although these technologies may improve speed and efficiency, they may also raise concerns regarding offer and acceptance, ownership, enforceability, contractual clarity, and the existence of *gharar*. Oseni and Ali (2019) argue that Islamic fintech requires careful legal and Shariah assessment because digital innovation can alter traditional contract structures in Islamic finance.

The findings also show that Islamic fintech faces ethical challenges related to data privacy, cybersecurity, algorithmic bias, and consumer protection. Fintech platforms often collect and process large amounts of customer data. If this data is not properly protected, customers may be exposed to privacy violations, fraud, identity theft, and financial loss. Zetsche et al. (2017) explain that data-driven finance creates new regulatory challenges because financial services increasingly rely on big data, automation, and digital platforms. In Islamic fintech, these concerns are not only regulatory issues but also ethical and Shariah-related issues because Islamic finance emphasises fairness, trust, transparency, and the prevention of harm.

Artificial intelligence and robo-advisory services also create concerns regarding transparency and accountability. Automated systems may influence financing approval, investment recommendations, customer profiling, and risk assessment. If the algorithm is biased, unclear, or not explainable, it may lead to unfair treatment of customers. This contradicts the Islamic principles of justice, fairness, and accountability. Therefore, Islamic fintech providers need governance mechanisms that ensure algorithmic decisions are transparent, explainable, and aligned with Shariah principles.

The findings for the second research question indicate that Islamic fintech is exposed to both traditional Shariah risks and new technology-related risks. These include Shariah non-compliance, *gharar*, digital contract uncertainty, cybersecurity threats, data privacy risk, algorithmic bias, consumer protection issues, operational risk, and reputational risk. Therefore, Islamic fintech requires an integrated governance approach that combines Shariah governance, technology governance, ethical accountability, and regulatory supervision.

Strengthening Shariah Governance for Sustainable Islamic Fintech

The third research question addresses how Shariah governance can be strengthened to support ethical, sustainable, and Shariah-compliant Islamic fintech development.

The findings suggest that Shariah governance can be strengthened through a risk-based and Maqasid-oriented governance approach. A risk-based approach is suitable because Islamic fintech products involve various risks throughout the product life cycle. These risks may arise before the product is launched, during implementation, and after the product has been introduced to the market. Therefore, Shariah governance should not be treated as a one-time approval process, but as a continuous governance mechanism.

At the pre-product stage, Islamic fintech products should undergo Shariah review, contract screening, product structuring, and Shariah approval. This ensures that the product's legal structure, contractual arrangement, business model, and operational process comply with Shariah principles before being offered to customers. This is consistent with IFSB (2009), which emphasises the need for effective ex-ante Shariah governance processes in Islamic financial institutions.

At the implementation stage, Shariah compliance should be embedded into the digital platform. This includes ensuring that the platform operates according to the approved Shariah structure, uses valid Islamic contracts, protects customer data, provides transparent disclosure, and applies cybersecurity controls. Bank Negara Malaysia (2019) highlights that Shariah compliance should be supported by effective control functions,

including Shariah risk management, Shariah review, and Shariah audit. In the fintech context, these functions should be integrated with technology governance to address digital risks.

At the post-implementation stage, Islamic fintech providers should conduct Shariah audit, Shariah risk management, continuous monitoring, and corrective action where necessary. This is important because fintech products may change over time due to system updates, platform modifications, algorithmic changes, or regulatory developments. Continuous monitoring can help detect Shariah non-compliance and technology-related risks at an early stage.

In addition, the findings suggest that Shariah governance should be guided by Maqasid al-Shariah. Chapra (2008) explains that Maqasid al-Shariah aims to promote human well-being by protecting religion, life, intellect, lineage, and wealth. In Islamic fintech, the protection of religion is achieved through Shariah compliance, the protection of wealth is achieved through fraud prevention and fair financial practices, the protection of intellect is supported through transparency and informed decision-making, and the protection of society is promoted through financial inclusion and consumer protection.

Rabbani et al. (2021) also highlight that Islamic fintech can support social innovation and socio-economic development. However, this potential can only be realised if Islamic fintech is governed effectively. Therefore, the findings indicate that Islamic fintech should integrate Shariah governance, technology governance, risk management, consumer protection, and Maqasid al-Shariah to achieve sustainable outcomes.

The finding for the third research question shows that Shariah governance can be strengthened by adopting a Risk-Based Maqasid Shariah Governance Framework. This framework ensures that Islamic fintech innovation is reviewed, implemented, monitored, and audited in a way that supports Shariah compliance, ethical responsibility, public trust, financial inclusion, protection of wealth, and sustainable Islamic fintech development.

Summary of Findings

Table 1 summarises the main findings of the study based on the research questions and supporting literature.

Table 1: Summary of Findings

Research Question	Main Finding	Supporting Literature	Implication for Islamic Fintech
RQ1: What is the role of Shariah governance in the development of Islamic fintech?	Shariah governance acts as a compliance and trust-building mechanism.	IFSB (2009); Hasan (2010); Bank Negara Malaysia (2019); Oseni and Ali (2019)	Islamic fintech providers should integrate Shariah governance throughout product design, approval, implementation, monitoring, and audit processes.
RQ2: What are the main Shariah and ethical challenges arising from the adoption of fintech in Islamic finance?	Islamic fintech creates new Shariah, ethical, technological, and regulatory risks.	Zetsche et al. (2017); Oseni and Ali (2019); Alshater et al. (2022)	Islamic fintech requires stronger governance mechanisms combining Shariah supervision, technology governance, risk management, data protection, and consumer protection.
RQ3: How can Shariah governance be strengthened to support ethical, sustainable, and Shariah-compliant Islamic fintech development?	Shariah governance should be strengthened through a risk-based and Maqasid-oriented approach.	Chapra (2008); IFSB (2009); Bank Negara Malaysia (2019); Rabbani et al. (2021)	Islamic fintech can achieve sustainable outcomes such as public trust, financial inclusion, ethical innovation, consumer protection, protection of wealth, and long-term sustainability.

LIMITATIONS AND RECOMMENDATIONS OF THE STUDY

Limitations of the Study

This study has several limitations. First, the article is conceptual in nature and does not use primary data. Therefore, the proposed framework is based on literature synthesis rather than empirical testing. Future studies are required to validate the framework using surveys, interviews, case studies, or mixed-method research.

Second, the study discusses Islamic fintech in general and does not focus on a specific jurisdiction or regulatory environment. Islamic fintech governance may differ across countries due to differences in Shariah interpretation, legal systems, regulatory maturity, fintech ecosystem development, and institutional capacity. Therefore, the framework may require adjustment when applied to specific jurisdictions such as Malaysia, Indonesia, GCC countries, or other Islamic finance markets.

Third, the study covers several types of Islamic fintech innovation, including crowdfunding, P2P financing, robo-advisory, blockchain, smart contracts, and digital Islamic social finance. However, each of these areas has its own technical and Shariah issues. A single conceptual framework may not capture all product-specific complexities. Future research may develop more specialised frameworks for particular fintech segments.

Lastly, the study does not examine the readiness of Shariah committees, Islamic financial institutions, fintech firms, or regulators in implementing technology-related Shariah governance. Practical implementation may require technical expertise, regulatory support, data governance capacity, and institutional resources that differ across organisations.

Recommendations of the Study

Based on the proposed Risk-Based Maqasid Shariah Governance Framework, this study provides three recommendations. First, Islamic fintech providers should adopt a continuous risk-based Shariah governance process that covers the pre-product, implementation, and post-implementation stages. This is important to ensure that Shariah compliance is not treated as a one-time approval process but is continuously monitored throughout the product life cycle. Such an approach can help Islamic fintech providers identify, manage, and correct Shariah and technology-related risks, including Shariah non-compliance, contractual uncertainty, data privacy issues, cybersecurity threats, and consumer protection concerns.

Second, Shariah governance in Islamic fintech should be strengthened through greater technological capacity and regulatory support. Since Islamic fintech products often involve algorithms, data processing, smart contracts, robo-advisory services, cybersecurity, and digital platforms, Shariah committees should be supported with technical knowledge and interdisciplinary collaboration. At the same time, regulators should provide clearer guidance on Shariah governance for Islamic fintech, particularly in relation to digital contracts, data governance, platform accountability, cybersecurity, outsourcing, and consumer protection. This can reduce uncertainty and support responsible innovation in the Islamic fintech industry.

Finally, Islamic fintech providers should integrate Maqasid al-Shariah into product design, governance processes, and performance assessment. Islamic fintech products should not only be evaluated based on legal and Shariah compliance, but also on their contribution to fairness, transparency, financial inclusion, consumer protection, protection of wealth, and social welfare. Future empirical studies should test the proposed framework by examining the perspectives of Shariah committee members, fintech providers, regulators, customers, and Islamic financial institutions. This would help identify which governance mechanisms are most effective in supporting ethical, sustainable, and Shariah-compliant Islamic fintech development.

CONCLUSION

This conceptual paper examined the relationship between Islamic fintech and Shariah governance by proposing a Risk-Based Maqasid Shariah Governance Framework. Islamic fintech has significant potential to improve financial inclusion, enhance operational efficiency, support Islamic social finance, and expand access

to Shariah-compliant financial services. However, its development also creates Shariah and technology-related risks, including Shariah non-compliance, *gharar* and contractual uncertainty, data privacy issues, cybersecurity threats, algorithmic bias, consumer protection concerns, and operational and reputational risks.

The paper highlights that effective Shariah governance is essential to ensure that Islamic fintech develops in an ethical, sustainable, and Shariah-compliant manner. The proposed framework suggests that Islamic fintech innovation should be governed through a continuous risk-based process involving pre-product review, implementation-stage controls, and post-implementation monitoring. This approach is important because Islamic fintech products may change over time due to technological updates, platform modifications, algorithmic processes, and regulatory developments.

The main contribution of this paper is the development of a conceptual framework that integrates Islamic fintech innovation, Shariah and technology risks, risk-based Shariah governance processes, Maqasid al-Shariah principles, and sustainable Islamic fintech outcomes. The framework emphasises that Islamic fintech should not be evaluated solely based on technological advancement or market growth but also based on its ability to promote Shariah compliance, transparency, fairness, consumer protection, protection of wealth, public trust, and socio-economic well-being.

Overall, Islamic fintech can contribute positively to the future of Islamic finance if it is supported by strong Shariah governance, technology governance, regulatory supervision, and ethical accountability. Future research should empirically validate the proposed framework and examine its applicability across different jurisdictions, Islamic fintech operating models (e.g., crowdfunding, peer-to-peer financing, digital banking, and robo-advisory services), and Islamic financial institutions.

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