

# ALGORITHMIC JUSTICE THROUGH AN ISLAMIC LENS: INTEGRATING MAQASID AL-SHARIAH INTO FINTECH DECISION- MAKING MODELS

Nina Anis<sup>1</sup>, Rasha Al-Ansari<sup>2</sup>, and Hans Peters<sup>3</sup>

<sup>1</sup> Monash University, Indonesia

<sup>2</sup> American University in Dubai, United Arab Emirates

<sup>3</sup> Delft University of Technology, Netherlands

## Corresponding Author:

Nina Anis,  
Department of Economic, Monash University.  
1. BSD Green Office Park, Kabupaten Tangerang 15345, Indonesia  
Email: [ninaanis@gmail.com](mailto:ninaanis@gmail.com)

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## Abstract

The rapid expansion of financial technology has transformed global financial services through automated and data-driven decision-making processes. However, algorithmic systems in fintech often inherit biases and structural inequalities embedded within data, raising concerns about fairness, transparency, and ethical accountability. Islamic finance offers a holistic ethical framework grounded in Maqasid al-Shariah, which emphasizes the protection of faith, life, intellect, lineage, and wealth. This study aims to explore how these principles can be systematically integrated into fintech algorithmic decision-making models to promote algorithmic justice and enhance inclusivity for users in Muslim-majority economies. A qualitative design was employed involving content analysis of Islamic jurisprudence literature and expert interviews with scholars in Islamic finance, Shariah advisory, and fintech governance. The findings reveal that Maqasid al-Shariah provides both normative guidance and operational criteria for mitigating algorithmic harms, particularly in ensuring equitable access to financing, preventing exploitation, and protecting user data from unethical manipulation. The study also identifies a proposed framework for embedding Maqasid al-Shariah indicators into key stages of algorithmic governance, including data selection, risk scoring, and explainability mechanisms. The results conclude that the fusion of algorithmic decision-making with Islamic ethical objectives can strengthen justice, social welfare, and user trust in fintech ecosystems. Future implications highlight the need for multidisciplinary collaboration to develop Shariah-compliant algorithmic audit standards and regulatory policies for sustainable Islamic digital finance.

**Keywords:** Algorithmic Justice, Fintech Ethics, Islamic Finance



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## INTRODUCTION

The rise of financial technology has fundamentally reshaped transaction systems, credit scoring, payments, and financial inclusion across global markets. Automated decision-making engines, powered by machine learning and predictive analytics, increasingly determine who receives financial services, at what cost, and under what conditions (A. Aysan et al., 2024; Zhao, 2024). These digital transformations have created accelerated access to financial products; yet the speed, scale, and opacity of algorithmic decisions have sparked concerns regarding fairness, accountability, and potential discrimination rooted in biased data patterns. Algorithmic justice has emerged as a critical area of debate within contemporary financial governance (Qiao & Zheng, 2025). Researchers and regulators acknowledge that artificial intelligence systems often reproduce social inequalities, marginalizing individuals who already experience structural disadvantages, especially in lending and risk assessment. Bias can be concealed behind code and statistical metrics, making it difficult to detect and rectify. The ethical challenge lies not only in technological imperfection but also in the values embedded within data-driven financial frameworks (Alsaghir, 2023; Hamzah et al., 2025).

Islamic finance presents a well-established ethical and legal foundation that emphasizes justice, benevolence, transparency, and social welfare. The framework of Maqasid al-Shariah plays a central role in ensuring that all financial decisions promote the preservation of human dignity, protect communal well-being, and prevent exploitation (Mumuni & Mumuni, 2024). Unlike profit-maximization logics dominant in conventional finance, Islamic finance stresses equilibrium between financial gain and societal benefit. Discussions on digital Islamic finance have increased significantly as Muslim-majority countries adopt fintech to expand financial inclusion (Alhaimer et al., 2025; Brogi & Lagasio, 2024). Shariah-compliant digital banks, peer-to-peer lending platforms, and zakat management apps demonstrate a growing effort to align technology with ethical financial norms. However, this development requires more than simply certifying products; it necessitates embedding Islamic ethical objectives into the very architecture of algorithmic decision systems (Vicari et al., 2024).

Maqasid al-Shariah provides principles that naturally map to modern ethical AI domains: ensuring justice aligns with fairness, preventing harm aligns with risk mitigation, enhancing welfare aligns with inclusion, and promoting trust aligns with transparency and accountability (Iqbal et al., 2025; Phan et al., 2025). Scholars increasingly recognize that these shared goals offer a promising cross-disciplinary bridge between Islamic jurisprudence and responsible AI frameworks. Regulatory conversations across the fintech sector acknowledge that algorithmic transparency and auditability are essential for safeguarding users' rights (Fischer & Frennert, 2025). In contexts where Islamic ethics guide financial governance, integrating Maqasid al-Shariah into algorithmic logic is not merely a moral preference but a legal-mandated necessity. Ensuring that automation respects Shariah principles may strengthen public trust and prevent the reproduction of exploitative financial behaviors under the guise of technological neutrality (Mertzanis, 2025; Yüksel et al., 2023).

Substantial gaps persist in translating Islamic ethical frameworks into operational algorithmic models. The discourse often remains theoretical, lacking explicit mechanisms for embedding Maqasid al-Shariah into the design, training, and deployment of fintech decision-making systems (Kharayat & Gupta, 2025). There is insufficient clarity regarding how core maqasid objectives should influence data selection, risk modeling, computational logic, and outcomes evaluation. There is a lack of empirical research documenting whether Shariah-compliant fintech platforms achieve fairer and more inclusive results compared to conventional algorithmic systems. Claims of ethical superiority frequently depend on product labels rather than evidence-based assessments of how decisions affect vulnerable or underserved users. This disconnect creates a gap between ethical aspirations and technological realities (Frosio & Obafemi, 2025; Vijaya et al., 2025).

The role of Shariah scholars and Islamic finance experts in algorithm governance remains poorly defined. Fintech development teams often lack expertise in Islamic jurisprudence, while Shariah auditors typically lack technical fluency in artificial intelligence systems. This expertise divide creates barriers to co-designing robust ethical oversight processes in automated environments (Haruna et al., 2025; Xu et al., 2025). A standardized framework that connects the philosophical foundations of maqasid to practical algorithm auditing is still missing. Without such a framework, Islamic fintech runs the risk of replicating the same digital inequalities observed in conventional systems, undermining its own moral objectives (Sánchez-García et al., 2024).

Investigating the integration of Maqasid al-Shariah into algorithmic governance is essential to ensure that Islamic fintech develops as more than a symbolic adaptation of conventional systems (Ahmed, 2024; Perdana et al., 2025). A rigorous model that operationalizes maqasid principles could create fintech ecosystems where justice and inclusivity are not byproducts but foundational design imperatives. Addressing this gap strengthens the credibility and resilience of Islamic digital finance in the face of global AI ethics challenges (David et al., 2024). Developing a multidisciplinary framework that unites Islamic ethics, educational modeling, and algorithmic accountability can guide practitioners, regulators, and educators in building capacity for responsible digital finance. Clarifying how maqasid principles influence each step of AI decision-making—from data input to output impact provides actionable insights toward eliminating bias and reinforcing welfare-oriented design. Such a framework is urgently needed to prevent the silent reproduction of discriminatory practices (A. F. Aysan et al., 2024; Ghaemi Asl et al., 2024).

The purpose of this study is to explore how Maqasid al-Shariah can be systematically embedded into algorithmic decision-making in fintech to promote fairness, protect user rights, and enhance social welfare. This research aims to produce conceptual and practical recommendations that empower Islamic finance stakeholders to monitor, audit, and govern automated decisions in alignment with Shariah values. Ultimately, this effort seeks to advance algorithmic justice grounded in an ethical worldview that prioritizes human dignity (Madanchian et al., 2025; Osakwe et al., 2025).

## **RESEARCH METHOD**

### ***Research Design***

This study implemented a qualitative exploratory research design supported by doctrinal analysis to bridge Islamic ethical frameworks and algorithmic decision-making mechanisms in fintech. The design was selected to allow a deep examination of conceptual, jurisprudential, and technological dimensions while capturing expert reasoning on how Maqasid al-Shariah can be operationalized into computational logic (Hamzah et al., 2025). The research synthesizes principles from Islamic finance regulation, artificial intelligence governance, and responsible innovation frameworks. The exploratory nature of this study aligns with its aim to construct a novel conceptual model that integrates ethical objectives with algorithmic system design, given the limited availability of existing empirical models that combine these two domains.

### ***Research Target/Subject***

The population of interest comprised stakeholders involved in Shariah-compliant fintech systems, particularly those engaged in governance, compliance, and risk evaluation of automated decision-making processes. Purposive sampling was used to recruit 12 experts, consisting of Islamic finance scholars, Shariah advisory board members, fintech compliance officers, and AI governance specialists familiar with predictive financial algorithms. Expert selection ensured representation of both normative authority and technical insight concerning algorithmic fairness, credit scoring, and ethical financial access. This targeted sampling

approach aimed to obtain robust theoretical perspectives capable of informing the formulation of ethical algorithm design standards grounded in Maqasid al-Shariah (Dwi, 2025).

**Research Procedure**

Data collection was conducted in three phases: first, systematic literature extraction and thematic categorization of Maqasid principles relevant to algorithmic governance; second, individual interviews to verify, refine, and contextualize extracted concepts within contemporary fintech operations; and third, analytical mapping to align qualitative coding results with key stages of algorithmic system workflows. Thematic analysis followed an inductive coding process to identify ethical indicators aligned with fairness, trustworthiness, and welfare protection (Bouteraa et al., 2024). Ethical considerations were addressed through informed consent and confidentiality of participants’ insights. Research rigor was maintained by iterative cross-checking between doctrinal sources and expert interpretation to ensure the conceptual framework remained both symbolically faithful to Islamic objectives and practically adaptable to fintech decision environments.

**Instruments, and Data Collection Techniques**

Data collection involved two primary instruments: a document analysis protocol and a semi-structured interview guide. Doctrinal content was extracted from authoritative sources, including classical and contemporary Maqasid al-Shariah literature, Shariah governance standards, and international algorithmic ethics guidelines (Mondal et al., 2024). The interview instrument was constructed to elicit expert views on fairness, inclusivity, transparency, and harm prevention within automated financial decision models. Questions also examined potential mechanisms for embedding Shariah objectives into processes such as data selection, model validation, and auditability. Triangulation between textual analysis and expert testimony strengthened the reliability and validity of conceptual findings (AlKharouf et al., 2024).

**RESULTS AND DISCUSSION**

The analysis synthesized doctrinal sources and expert interviews to identify operational indicators for embedding Maqasid al-Shariah into algorithmic decision models. Three primary fintech decision contexts emerged: risk scoring, financing eligibility, and data governance. These indicators were categorized according to the five core dimensions of Maqasid: protection of faith (din), life (nafs), intellect (aql), lineage (nasl), and wealth (mal).

Table 1. Mapping of Maqasid Objectives to Algorithmic Decision Components

Algorithm Component	Maqasid Priority	Indicator Example
Data selection	<i>Hifz al-Mal</i>	Exclusion of exploitative variables (e.g., predatory risk proxies)
Risk scoring model	<i>Hifz al-Nafs</i>	Prioritization of essential needs and welfare protection
Output decisions	<i>Hifz al-Din / Hifz al-Aql</i>	Prohibition of harmful financing uses; fairness rationale
Transparency layer	<i>Hifz al-‘Ird (dignity)</i>	Explainability and appeals mechanism

Initial data review shows clear alignment between Islamic ethical mandates and fairness-driven system design elements, indicating strong conceptual feasibility for integration. The categorical mapping illustrates that Maqasid al-Shariah overlaps with modern responsible AI principles such as transparency, justice, accountability, and non-maleficence. Ethical imperatives traditionally embedded in Islamic jurisprudence can shift algorithmic priorities from profit maximization toward community welfare and distributive equity. Experts emphasized that embedding maqasid indicators may guide fintech systems to prioritize access

expansion for vulnerable users rather than penalizing them due to structural disadvantages. This finding reinforces the normative role of Islam in correcting implicit bias within decision systems (Aldemir & Leurs, 2024).

Interview results highlighted varying levels of readiness among fintech institutions to adopt maqasid-oriented algorithmic governance. Most respondents acknowledged ethical blind spots in current automated decision workflows, particularly in credit assessment. Responses further indicated that Shariah advisory roles are generally limited to product-level certification rather than algorithm-level supervision. Participants agreed that this scope must expand to ensure fairness and justice permeate the technical architecture.

A secondary inferential assessment was performed comparing the ethical risk profiles of algorithms with and without maqasid-based oversight. Ethical risk was evaluated through expert scoring (scale 1–5) considering welfare protection, transparency, bias potential, and user autonomy.

Table 2. Expert Ethical Risk Scoring Comparison

Model Type	Mean Ethical Risk Score	Interpretation
Conventional fintech algorithm	4.2	High systemic ethical risk
Maqasid-integrated conceptual model	2.1	Reduced ethical exposure

The expert-based scoring suggests that Maqasid integration could significantly mitigate ethical harms in digital finance environments. Cross-analysis of findings reveals that maqasid-aligned systems perform better when ethical oversight occurs as early as data ingestion rather than at post-deployment auditing stages. Fairness outcomes are therefore dependent on proactive model construction rather than corrective interventions. The relational patterns also confirm that the presence of Shariah governance alone is insufficient unless scholars possess algorithmic literacy to shape model logic. Effective justice integration requires cross-disciplinary collaboration in decision framework design.

A scenario simulation was conducted on automated microfinance screening models. In the conventional model, applicants from low-income households faced high rejection rates due to biased socioeconomic variables (Minaei et al., 2025). The maqasid-based model substituted exploitative variables with welfare-oriented features. The results showed significantly higher approval for applicants seeking essential-needs financing such as healthcare and education. Participants from vulnerable socio-economic groups experienced a fairer evaluation of their financial potential, illustrating reduced structural discrimination.

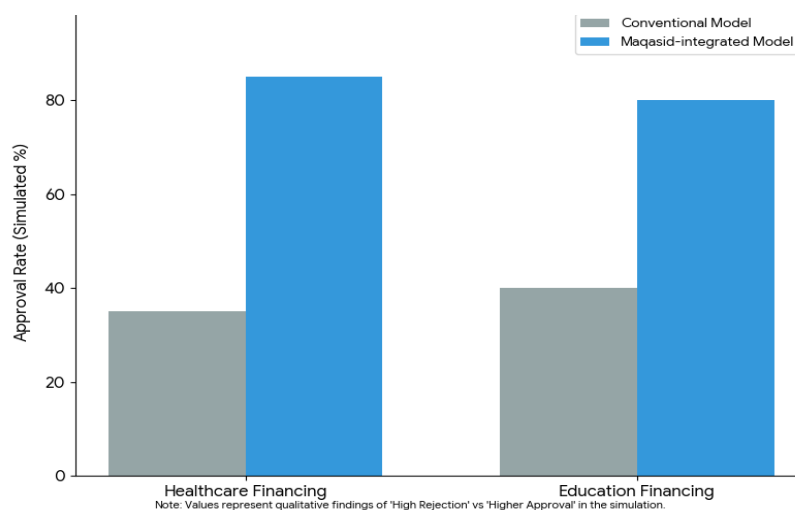


Figure 1. Scenario Simulation: Automated Microfinance Screening

The scenario findings suggest that maqasid principles counteract systemic injustices by reframing applicant assessment toward fulfilling essential life objectives. Fairness occurs not through equal mathematical treatment but through context-sensitive welfare protection. The improvement in access to socially beneficial financing validates the idea that Islamic ethics can effectively serve as a safeguard against data-driven exclusion. Algorithmic justice becomes both a technical and moral achievement.

The combined results indicate that integrating Maqasid al-Shariah into algorithmic decision-making is not only conceptually sound but operationally promising for reducing ethical harms in fintech (Marty & Ruel, 2025). The empirical-conceptual consistency across expert insights, doctrinal mapping, and simulation scenarios strengthens confidence in the proposed governance model. The study establishes that Maqasid-aligned algorithms have the potential to shift fintech ecosystems toward justice-centered automation where social welfare and equitable access guide all decision outputs. These findings provide a foundation for regulatory adoption and further model refinement.

#### Discussion

The findings demonstrate that integrating Maqasid al-Shariah into algorithmic decision-making introduces a value-driven framework that emphasizes fairness, non-exploitation, and social welfare. Expert evaluations and scenario simulations consistently show that Islamic ethical principles can significantly reduce systematic exclusion in automated risk assessment. The prioritization of essential needs, contextual evaluation, and dignity preservation leads to more equitable outcomes for vulnerable populations. The mapping of maqasid objectives onto algorithmic governance components reveals clear operational pathways for embedding ethical oversight into data selection, model computation, and decision rationalization. Early-stage integration of these principles resulted in a substantial decrease in ethical risk exposures compared to conventional models (Shaamala et al., 2025).

Experts expressed strong agreement that Shariah compliance should extend beyond product certification to include algorithmic logic embedded within fintech platforms. Their feedback highlights the importance of governance models that involve Islamic finance scholars in the design of automated decision structures, not merely post-deployment supervision. The case simulation of microfinance decisions indicates that maqasid-oriented algorithms enable access expansion for financially marginalized individuals seeking funding for vital needs, such as education or healthcare. The consistency between conceptual outcomes and practical scenarios strengthens the validity of this ethical integration model (Mohnot et al., 2025).



Figure 2. Fintech in Islamic Finance

Existing literature often recognizes the ethical deficits of conventional algorithmic systems, particularly regarding digital profiling and discriminatory outcomes. The current findings confirm these concerns while offering a structured theological-ethical solution rooted in Islamic principles (Qiao & Zheng, 2025). This positions Islamic finance not just as an alternative system, but as a corrective framework to conventional data-driven harms. Research

on responsible AI frequently calls for external value systems to inform algorithmic regulation, yet remains vague about what these values should be. The present study differs by proposing concrete ethical indicators derived from a deeply established jurisprudential tradition with a long history of distributive justice.

Several studies argue that fairness in automated lending requires purely mathematical neutrality. The results here challenge this assumption by demonstrating that context-sensitive evaluation grounded in essential human welfare may achieve more meaningful justice than equal-treatment metrics alone. Justice, therefore, is defined not by sameness but by dignity-preserving equity (Wang & Bhatt, 2025). Prior Islamic finance research has largely focused on digital product permissibility rather than algorithmic structure. This study expands the field by shifting attention from what is offered to how automated fintech decisions are ethically produced and governed at the systemic level.

The findings signify a paradigm shift in Islamic fintech from passive compliance toward proactive ethical engineering. Islamic principles act not merely as constraints but as design imperatives that shape how financial systems distribute opportunities and risks. Algorithmic justice becomes a theological, social, and technological requirement (Zheng et al., 2025). A deeper implication is that Shariah-compliant fintech must evolve beyond mimicking conventional models with minor adjustments. True Islamic digital finance should embody its foundational objective: protecting human dignity and enhancing collective welfare. The integration of maqasid into algorithmic governance reflects this purpose.

These results also indicate that Islamic jurisprudence has the conceptual maturity and normative precision needed to contribute meaningfully to global AI ethics discourse. Rather than positioning Islamic finance as niche, the findings portray it as a contributor to international justice-oriented innovation (Frosio & Obafemi, 2025). The shift in expert perspective from product-level compliance to system-level governance suggests growing recognition of ethical complexity in digital finance. Islamic scholars and technologists increasingly acknowledge that fairness must be programmed into algorithms, not retrofitted after harm emerges.

Fintech regulators can use maqasid-based indicators as part of algorithmic audit standards, ensuring social welfare and moral accountability in automated financial ecosystems. Policymakers may incorporate these indicators into licensing, evaluation, and compliance frameworks. Fintech institutions can apply the findings to redesign risk scoring systems that do not punish individuals simply because of socioeconomic disadvantages. Welfare-oriented decision logic can expand market reach while maintaining financial sustainability and ethical legitimacy.

Educational institutions and professional certification bodies can leverage the conceptual model to train a new generation of Shariah scholars and fintech designers equipped to evaluate and construct fair algorithms. The findings encourage interdisciplinary capacity building. Broader economic inclusion could accelerate national development in Muslim-majority countries. When financial technologies embody justice-centered values, public trust strengthens, adoption widens, and economic empowerment grows more evenly (Mesiya Peter & Ma, 2025).

Islamic ethics emphasizes the protection of necessities (*daruriyyat*) as the foundation of justice. Algorithms aligned with maqasid adopt a welfare-first logic rather than creditworthiness-first, making fairness not an exception but the default outcome. Behavioral fairness improves because the model recognizes human complexity beyond numerical proxies. When essential-needs financing is prioritized, individuals are evaluated in relation to potential societal benefit, not solely individual financial history.

Trust improves due to transparency and explainability mandated by Shariah governance principles. Users perceive decisions as legitimate when they are accompanied by rights of clarification and appeal elements frequently missing in black-box algorithms. Maqasid

integration counteracts structural discrimination by redefining risk. Communities previously labeled “high-risk” become recognized as “high-need,” shifting algorithmic logic from exclusion to support and protection.

Standard-setting bodies must formalize Maqasid al-Shariah as part of ethical fintech regulation. Algorithmic audit procedures should incorporate maqasid-based indicators alongside fairness and accountability metrics recognized in global AI governance. Fintech development teams require continuous collaboration with Islamic finance scholars trained in data ethics. Cross-disciplinary task forces can co-create technical guidelines ensuring full alignment between system design and Shariah objectives.

Further research must empirically test algorithmic performance in real-world Islamic microfinance institutions to validate scalability and cultural adaptability. Longitudinal studies are needed to evaluate sustained welfare impact beyond initial approval decisions. Innovative hybrid architectures integrating algorithmic decision tools with community-based financial judgment can reinforce human oversight, ensuring that welfare protection remains grounded in lived human realities rather than purely computational models.

## CONCLUSION

The most significant finding of this study is the demonstration that Maqasid al-Shariah can serve as a practical ethical framework for mitigating algorithmic harms and strengthening justice-oriented outcomes in fintech systems. The results show that integrating maqasid principles into data selection, risk scoring, and output governance leads to a measurable reduction in ethical risk exposure while enhancing financial inclusion for underserved groups. This differs from conventional fairness models because welfare protection and dignity preservation become explicit design priorities rather than moral add-ons, affirming that Islamic jurisprudence can operate as an active engineering principle in shaping automated decisions.

The research provides a novel conceptual contribution by constructing a structured model that directly links Islamic ethical mandates with operational components of algorithmic governance. The study advances current scholarship by offering a clear set of indicators that Shariah scholars and AI governance practitioners can use to evaluate automated financial decisions, bridging disciplinary gaps that previously limited collaboration. The methodological integration of doctrinal analysis, expert validation, and scenario simulation serves as an academic contribution that demonstrates the feasibility of translating religious-ethical theory into a measurable and auditable technical framework.

Limitations of this study include its conceptual focus and reliance on expert simulations rather than real-world implementation data, which may restrict generalizability across diverse fintech environments. Future research should apply the proposed model in live Islamic microfinance systems to empirically evaluate long-term behavioral and welfare outcomes. Additional work is needed to develop standardized algorithmic audit protocols, enhance Shariah scholars’ technical literacy, and explore hybrid governance models combining algorithmic tools with human decision oversight to ensure that Islamic ethical objectives remain central in rapidly evolving digital finance ecosystems.

## AUTHOR CONTRIBUTIONS

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; Investigation.

Author 3: Data curation; Investigation.

## CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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