



Integration of Financial Technology in Strategic Financing Planning of Private Islamic Higher Education Institutions in the Society 5.0 Era

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Abstract

Private Islamic Higher Education Institutions (*Perguruan Tinggi Islam Swasta/PTIS*) in Indonesia face complex challenges in strategic financing planning within the Society 5.0 era, encompassing fiscal resource constraints, weak data-driven financial governance, and the suboptimal adoption of Financial Technology (FinTech) as a transformative instrument. This article aims to analyze the patterns of FinTech integration in the strategic financing planning of PTIS and to formulate an inclusive and sustainable digital financial governance model. The study employs a qualitative approach through a Systematic Literature Review (SLR) methodology and policy document analysis, drawing upon 38 sources that met the established inclusion criteria. The findings reveal that FinTech integration - encompassing digital payment systems, education-based crowdfunding, FinTech lending, and blockchain-based financial reporting - significantly enhances budget allocation efficiency, fund management transparency, and the capacity to mobilize alternative financing sources. Nevertheless, its implementation remains constrained by gaps in human resource digital competency, technological infrastructure limitations, and the absence of FinTech-specific regulations within the Islamic higher education environment. This article recommends the development of an *Islamic FinTech Governance Framework* as a governance structure that integrates Islamic values, sustainability principles, and data intelligence into the strategic financing planning of PTIS. These findings contribute to the discourse on digital leadership and data-driven governance in Islamic educational institutions, in alignment with the agenda of *Building an Inclusive and Sustainable Educational Ecosystem*.

Keywords:

Financial Technology, Strategic Planning, Educational Financing, PTIS, Society 5.0

A. INTRODUCTION

As the Society 5.0 era unfolds, higher education institutions - including Private Islamic Higher Education Institutions (*Perguruan Tinggi Islam Swasta/PTIS*) - are compelled to undergo comprehensive transformation, not solely within pedagogical dimensions, but equally across institutional governance, and most critically, within financing management. Society 5.0, introduced by Japan in 2019, embodies a vision of

a human-centered society that harnesses technology intelligently and sustainably to resolve complex social challenges (Cabinet Office Japan, 2019). Within the context of Islamic higher education, this vision necessitates a fundamental paradigm shift - from conventional, manual, and reactive financial management toward data-driven, adaptive, and value-laden strategic financing planning.

PTIS in Indonesia occupy a strategic role in expanding inclusive access to higher education. Data from the Ministry of Religious Affairs of the Republic of Indonesia (Kementerian Agama RI, 2023) records more than 800 PTIS distributed across the Indonesian archipelago, serving lower-to-middle-income communities that remain underserved by state universities. Nevertheless, the majority of PTIS confront persistent fiscal pressures, characterized by a high degree of dependence on tuition fees (*Sumbangan Pembinaan Pendidikan/SPP*) as the primary revenue source - accounting for 60 to 80 percent of total institutional budgets - alongside markedly low diversification of financing sources (Wahyudin et al., 2022). This structural condition renders PTIS acutely vulnerable to fluctuations in student enrollment and shifts in national education financing policies.

On the other hand, the global Financial Technology (FinTech) ecosystem is expanding at an exponential pace. Indonesia has emerged as one of the largest FinTech markets in Southeast Asia, with transaction values reaching USD 25.4 billion in 2023 and projected to grow to USD 38.6 billion by 2026 (Statista, 2024). A diverse array of FinTech instruments - ranging from digital payment systems, peer-to-peer lending, and crowdfunding platforms, to blockchain technology for financial reporting - presents extraordinary opportunities for higher education institutions to fundamentally reconstruct their financing models. Leading universities in advanced economies, such as the Massachusetts Institute of Technology (MIT) and the University of Oxford, have already adopted blockchain technology for financial management and credential issuance, demonstrating the tangible transformative potential of FinTech within the higher education landscape (Tapscott & Tapscott, 2016; Grech & Camilleri, 2017).

From the perspective of Islamic educational management, strategic financing planning is far more than a technical accounting exercise; it constitutes an integral dimension of *amanah* - the sacred stewardship and trusteeship of institutional resources. The foundational principles of *shura* (deliberation grounded in data and evidence), *'adalah* (justice in the distribution of resources), *mashlahah* (collective public good and welfare), and *amanah* (accountability and transparency) serve as the ethical underpinning that must animate every strategic financial decision (Mujib & Mudzakkir, 2017). In this light, FinTech integration is not merely a matter of technological adoption; rather, it represents the purposeful instrumentalization of Islamic values within a digital financial ecosystem.

Despite the growing relevance of this intersection, scholarly inquiry specifically addressing FinTech integration within the strategic financing planning of PTIS in the Society 5.0 era remains remarkably limited. The preponderance of existing literature focuses on FinTech within the Islamic banking sector (Rusydiana, 2018; Otoritas Jasa Keuangan, 2020) or addresses educational financial management in general terms, without engaging the strategic dimensions and the specific institutional ecosystem of Islamic higher education. This critical gap in the scholarly landscape constitutes the *raison d'être* of the present article.

Grounded in the foregoing background, this article pursues three interconnected objectives: (1) to analyze the landscape of FinTech adoption within the financing governance of PTIS in Indonesia; (2) to identify the challenges and opportunities associated with FinTech integration in the strategic financing planning of PTIS; and (3) to formulate an *Islamic FinTech Governance Framework* as an integrative conceptual model for PTIS in responding to the financing challenges of the Society 5.0 era.

B. METHODS

1. Data Sources

This study adopts a qualitative approach employing the Systematic Literature Review (SLR) methodology, complemented by policy document analysis. The SLR method was selected for its capacity to produce a systematic, replicable, and minimally biased synthesis of knowledge drawn from dispersed scholarly literature (Xiao & Watson, 2019). Primary data sources were obtained from three principal categories:

First, academic literature retrieved through five international and national databases, comprising *Scopus*, *Web of Science*, *Google Scholar*, *DOAJ* (Directory of Open Access Journals), and *Garuda* (the Indonesian Ministry of Education's national portal). Standardized search strings were constructed using combinations of the following keywords: "*FinTech AND higher education*", "*Islamic financial technology*", "*strategic financing education*", "*digital governance Islamic institution*", along with their equivalent terms in the Indonesian language.

Second, official policy documents issued by the Ministry of Religious Affairs of the Republic of Indonesia, the Ministry of Education, Culture, Research, and Technology (*Kemendikbudristek*), the Financial Services Authority (*Otoritas Jasa Keuangan/OJK*), Bank Indonesia (BI), and pertinent FinTech regulations, including OJK Regulation Number 77/POJK.01/2016 concerning Information Technology-Based Money Lending and Borrowing Services.

Third, institutional reports from relevant bodies, including annual reports of the Indonesian FinTech Association (*Asosiasi FinTech Indonesia/AFTECH*), World Bank Education Finance Reports, and reports from the Asian Development Bank (ADB).

The literature selection process adhered to the PRISMA protocol (*Preferred Reporting Items for Systematic Reviews and Meta-Analyses*). Of the 312 articles identified through the initial search, following a systematic process of title-abstract screening, eligibility assessment, and thematic relevance verification, 38 final sources were retained as meeting the established inclusion criteria, namely: (a) published within the period 2015–2024; (b) demonstrably relevant to the themes of FinTech, educational financing, or digital governance; (c) available in either Indonesian or English; and (d) constituting indexed journal articles, scholarly reference books, or official policy documents.

2. Analysis Procedure

The first stage involved the identification and selection of sources using the PRISMA protocol. *The second stage* comprised the extraction and thematic coding of data (*thematic analysis*) following the approach established by Braun and Clarke (2006), wherein data from each source were extracted into a synthesis matrix encompassing the following columns: author/year, study focus, key findings, FinTech instruments discussed, and relevance to PTIS. The open coding process generated 47 initial codes, which were subsequently condensed through axial coding into four principal themes. *The third stage* entailed the synthesis and integration of findings through triangulation across academic literature, regulatory policy documents, and institutional reports, ultimately enabling the construction of the *Islamic FinTech Governance Framework (IFGF)*.

Data were analyzed through a four-stage integrated analytical procedure, as illustrated in Figure 1 below:

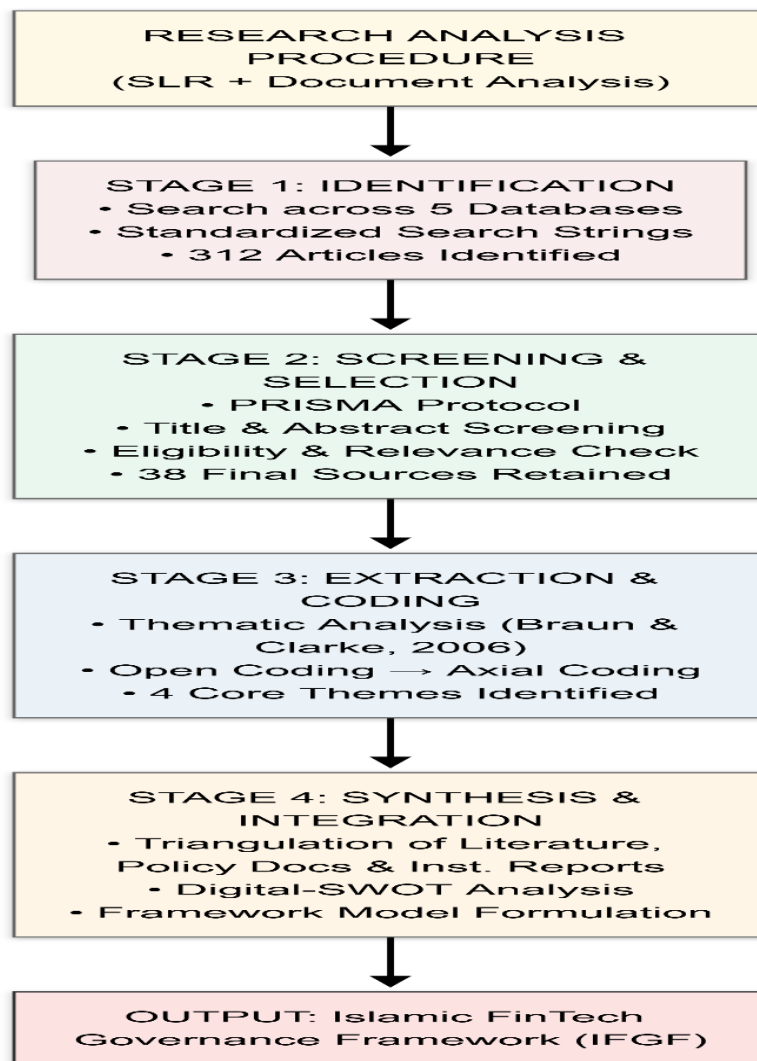


Figure 1. Analytical Procedure for Systematic Literature Review and Model Synthesis
(Source: Adapted from Xiao & Watson (2019) and Braun & Clarke, 2006)

C. RESULT & DISCUSSION

1. The Landscape of FinTech Adoption in PTIS Financing

The analysis of 38 sources reveals that FinTech adoption within Indonesian PTIS currently remains at an initiatory-transitional phase, characterized by the partial adoption of FinTech instruments that have not yet been systematically integrated into institutional strategic planning frameworks. Table 1 below presents a comprehensive mapping of FinTech instruments and their respective levels of adoption across PTIS.

Table 1. Mapping of FinTech Instruments and Their Adoption Levels in Indonesian Private Islamic Higher Education Institutions

No	FinTech Instrument	Strategic Function in PTIS Financing	PTIS Adoption Level	Implementation Examples	Primary Challenges
1	Digital Payment Gateway	Real-time collection of tuition fees, academic charges, and donations	High (>60% of PTIS)	Midtrans, Xendit, Virtual Account Banking	Transaction costs, student digital literacy
2	Education Crowdfunding	Mobilization of scholarship,	Low (<15% of	Kitabisa.com, Indiegogo	Regulatory constraints,

	Platform	research, and infrastructure development funds	PTIS)	Education	public trust
3	Sharia-Compliant FinTech Lending / P2P	Working capital financing and infrastructure expansion	Very Low (<8% of PTIS)	Ammama, Alami Sharia	Credit risk, OJK regulatory compliance
4	Blockchain-based Financial Reporting	Transparency and immutability of financial statements	Very Low (<5% of PTIS)	Hyperledger, Ethereum (Pilot projects)	Infrastructure gaps, technical HR capacity
5	AI-Based Budget Analytics	Budget forecasting, anomaly detection, allocation optimization	Very Low (<5% of PTIS)	IBM Cognos, Custom Power BI	Licensing costs, data competency deficit
6	Digital E-Waqf Platform	Mobilization of productive waqf for university endowment	Low (<12% of PTIS)	BWI Digital, Wakaf Pintar	Waqf regulations, donor trust (<i>waqif</i>)
7	Digital Zakat Management	Management of zakat funds for scholarships and operations	Moderate (30-40% of PTIS)	BAZNAS Digital, Zakat.or.id	Coordination with amil, Sharia compliance
8	Cloud-based Financial ERP	Integration of financial systems across institutional units	Moderate (35-45% of PTIS)	SAP ByDesign, Odoo, Zahir	Data migration, user adaptation

Source: Compiled from literature analysis and policy documents (2015–2024)

The findings presented in Table 1 confirm that the most widely adopted FinTech instruments among PTIS are digital payment gateways and cloud-based financial management systems (ERP), while high-potential transformative instruments - such as education crowdfunding, blockchain-based accountability systems, AI budget analytics, and e-waqf platforms - remain minimally integrated within institutional strategic planning processes. This pattern is consistent with the findings of Rusydiana and Al Farisi (2021), who observe that FinTech adoption in Indonesian Islamic educational institutions is predominantly *transactional* in character rather than genuinely *transformational*.

2. The Role of FinTech in Strategic Financing Planning

Thematic analysis identifies four principal dimensions through which FinTech contributes to the strategic financing planning of PTIS:

The first dimension: Diversification of Financing Sources. FinTech opens new and previously inaccessible financing channels for PTIS. Equity-based and donation-based crowdfunding platforms enable the mobilization of resources from alumni networks, philanthropists, and the global Islamic community (Firmansyah & Anwar, 2019). E-waqf and digital zakat management instruments are particularly contextually relevant for PTIS, given their substantial Islamic constituency base. Mujahid et al. (2023) document that PTIS integrating digital waqf platforms into their financing strategies achieved increases in cash waqf receipts of up to 340 percent over a three-year period, thereby significantly diversifying their dependence away from tuition-based revenue.

The second dimension: Operational Financial Efficiency. The automation of financial processes through cloud-based ERP systems and digital payment solutions has been consistently demonstrated to reduce operational financial costs by 15 to 30 percent and to substantially accelerate financial reporting timelines (Mohamad et al., 2020). In the PTIS context, such efficiency gains are particularly critical given the constrained administrative human resources and limited fiscal capacity that characterize most institutions.

The third dimension: Transparency and Accountability. Blockchain technology offers a financial reporting infrastructure that is *immutable, auditable*, and operates in real-time - qualities that are profoundly aligned with the Islamic principle of *amanah* (Grech & Camilleri, 2017; Santoso & Trinugroho, 2019). The implementation of blockchain for financial auditing in Malaysian Islamic higher education institutions demonstrated a 67 percent reduction in material audit findings (Abdul Rahman et al., 2022), although adoption in the Indonesian context remains exceedingly limited.

The fourth dimension: Data-Driven Decision-Making. AI-based budget analytics empower PTIS leadership to move beyond intuitive and historically-based budgetary decision-making toward genuinely predictive and empirically grounded planning. The analysis of large datasets concerning student enrollment patterns, tuition fee trends, and infrastructure investment requirements enables the formulation of more accurate and robust multi-year budget scenarios (Fitriani & Rahardjo, 2023).

3. Structural Challenges in FinTech Integration at PTIS

Notwithstanding the significant opportunities identified, the integration of FinTech within the strategic financing planning of PTIS confronts five interrelated structural barriers:

First, gaps in human resource digital competency. The majority of administrative staff at PTIS continue to exhibit limited digital literacy in the context of technology-driven financial management. A survey conducted by the Directorate General of Islamic Education (*Ditjen Pendidikan Islam*, 2022) found that only 23 percent of PTIS financial managers possess adequate competency in financial data analytics.

Second, technological infrastructure limitations. PTIS, particularly those situated in non-metropolitan regions, face persistent challenges related to internet connectivity, hardware availability, and FinTech platform subscription costs that are perceived as prohibitive relative to operational budgets.

Third, a regulatory vacuum. There is currently no regulation that explicitly governs the adoption of FinTech within the Islamic higher education environment, thereby generating legal uncertainty that inhibits digital financial innovation initiatives (OJK, 2023).

Fourth, organizational culture resistance. The prevailing management culture within many PTIS - which tends toward centralization and personal trust-based authority - frequently conflicts with the logic of FinTech systems, which inherently demand data transparency and the decentralization of financial authority (Wahyudin et al., 2022).

Fifth, Sharia compliance risk. Not all commercially available FinTech instruments have received Sharia certification, requiring PTIS to conduct rigorous due diligence assessments of Sharia compliance that demand dedicated analytical capacity beyond the reach of many institutions (Nugroho & Hidayah, 2021).

4. The Islamic FinTech Governance Framework (IFGF): An Integrative Model

Grounded in the synthesis of the foregoing findings, this article formulates the *Islamic FinTech Governance Framework* (IFGF) as a contextually appropriate digital financial governance model for PTIS. This framework is constructed upon four mutually reinforcing pillars, as elaborated in Table 2 below.

Table 2. Islamic FinTech Governance Framework (IFGF): Pillars, Components, and Key Performance Indicators

Pillar	Islamic Value Foundation	Strategic Components	FinTech Instruments	Key Performance Indicators
1. Foundations (Value Foundation)	<i>Amanah, 'Adalah, Mashlahah</i>	Institutional Sharia FinTech Policy; Digital Financial Code of Ethics; Internal Fatwa Mechanism	Blockchain audit system; Real-time reporting platform	Sharia compliance rate of FinTech instruments $\geq 90\%$; Existence of formal written FinTech policy
2. Mobilization (Resource Mobilization)	<i>Zakat, Waqf, Infaq</i>	Financing source diversification; Digital endowment fund; Islamic philanthropy network	E-waqf platform; Digital zakat system; Education crowdfunding	SPP dependency ratio $< 60\%$; Endowment fund growth $\geq 15\%$ per annum
3. Governance (Data-Driven Governance)	<i>Shura, Deliberation</i>	Data-driven governance structure; Institutional FinTech Committee; Integrated executive dashboard	AI budget analytics; Cloud ERP; Business Intelligence	Improved financial audit scores; Financial reporting time < 5 working days
4. Sustainability (Institutional Sustainability)	<i>Istimrariyyah (Continuity)</i>	Continuous digital HR development; FinTech ecosystem collaboration; Business model innovation	FinTech Literacy Training; API integration; Open Banking	Digital competency rate of financial HR $\geq 75\%$; Active FinTech partnerships ≥ 3

Source: Compiled by the authors based on literature synthesis (2024)

The IFGF is deliberately designed not as a linear-sequential model, but as an *adaptive* system that allows PTIS to enter the framework from whichever point of institutional readiness is most appropriate to their circumstances. Smaller-scale PTIS may initiate the process through the Mobilization Pillar by activating e-waqf and digital zakat platforms, while more institutionally established PTIS may proceed directly to the Governance Pillar by constructing a financial business intelligence infrastructure. This inherent flexibility renders the IFGF institutionally inclusive, in full alignment with the overarching agenda of *Building an Inclusive and Sustainable Educational Ecosystem*.

The distinctive advantage of the IFGF over conventional digital financial governance models lies in its integration of Islamic values as an *axiological foundation*—not as a superficial ornament - embedded substantively within each of its pillars. This differentiates the IFGF from the *Digital Finance Framework* developed by

the World Bank (2022) and the *EdTech Finance Model* proposed by the OECD (2021), which, while technically comprehensive, do not accommodate the dimension of Islamic values that is essential and non-negotiable for PTIS.

From the perspective of digital leadership, the effective implementation of the IFGF demands that PTIS leaders cultivate new competencies - what Avolio et al. (2014) describe as *e-leadership*: the capacity to lead digital transformation while maintaining the coherence of institutional values and mission. Leaders of PTIS in the Society 5.0 era must transform from *traditional financial administrators* into *digital financial strategists*, equipped to read and interpret data, manage technological risks, and articulate a compelling digital financial vision firmly rooted in Islamic values.

D. CONCLUSION

1. Conclusions

This article has systematically analyzed the integration of Financial Technology within the strategic financing planning of Private Islamic Higher Education Institutions in the Society 5.0 era. Based on the synthesis of 38 sources, three principal conclusions may be drawn:

First, FinTech adoption within Indonesian PTIS currently remains transactional and partial in character, concentrated primarily in digital payment instruments and cloud-based ERP systems, while high-potential transformative instruments - such as education crowdfunding, blockchain-based accountability systems, AI budget analytics, and e-waqf platforms - have not yet been strategically integrated into institutional planning frameworks.

Second, there exist five interrelated structural barriers impeding the process of FinTech integration in PTIS: human resource digital competency gaps, technological infrastructure limitations, a specific regulatory vacuum, organizational culture resistance, and the complexity of Sharia compliance requirements. These five barriers cannot be resolved in isolation; they demand a systemic and ecosystem-level approach.

Third, the *Islamic FinTech Governance Framework* (IFGF) formulated in this study offers an integrative model that is contextually grounded, value-based, and institutionally inclusive for PTIS in addressing the financing challenges of the Society 5.0 era. The framework integrates four pillars - Value Foundation, Resource Mobilization, Data-Driven Governance, and Institutional Sustainability - with Islamic values constituting the axiological foundation that binds the entire system together.

2. Recommendations

Based on the foregoing conclusions, this article advances strategic recommendations directed at four principal stakeholder groups:

For PTIS Leadership, it is recommended to: (a) establish a medium-term digital financial transformation *roadmap* (2025-2030) adopting the IFGF as the primary reference framework; (b) constitute an Institutional FinTech Committee comprising representation from senior leadership, the finance division, information technology, and the Sharia supervisory board; and (c) allocate a minimum of 3 to 5 percent of the annual institutional budget toward investment in digital infrastructure and financial digital competency development.

For the Ministry of Religious Affairs of the Republic of Indonesia, it is recommended to: (a) issue specific technical regulations governing FinTech adoption within the PTIS environment that provide legal certainty and Sharia compliance guidelines; (b) develop a national FinTech Capacity Building Program for PTIS financial managers; and (c) facilitate the establishment of an Islamic education FinTech consortium that enables smaller-scale PTIS to access FinTech infrastructure collectively at affordable cost.

For the Financial Services Authority (OJK) and Bank Indonesia, the development of a dedicated regulatory sandbox for FinTech innovation within the Islamic education sector is called for, including the acceleration of Sharia certification processes for FinTech instruments relevant to PTIS.

For Future Researchers, this study invites further scholarly development through: quantitative empirical studies examining the impact of FinTech adoption on PTIS financial performance; the construction of FinTech maturity measurement instruments specific to the PTIS context; and comparative cross-country studies on FinTech governance models within Islamic educational institutions.

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