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DEVELOPING THE DIGITAL LEADERSHIP ISLAMIC GOVERNANCE INNOVATION MODEL: EVIDENCE FROM INDONESIA'S FIRST CYBER ISLAMIC UNIVERSITY

Moh. Ali [1]; Siti Maryam Munjiat [1*]; Anwar Sanusi [1]; Taqiyuddin Taqiyuddin [1]*
[1] Universitas Islam Negeri Siber Syekh Nurjati Cirebon, West Java, Indonesia
[*] Correspondence Author: mohali@uinssc.ac.id

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Abstract : *Digital transformation has reshaped governance in Islamic Higher Education Institutions (PTKI), yet limited research explains how Islamic leadership values drive digital governance innovation. This study investigates UIN Siber Syekh Nurjati Cirebon, Indonesia's first cyber-based Islamic state university, as an intrinsic case study. The objectives are to: 1) analyze Islamic digital leadership characteristics and their governance implications; 2) identify governance innovations that strengthen Islamic academic culture; 3) examine implementation challenges and leadership responses; and 4) develop the Digital Leadership–Islamic Governance Innovation (DL-IGI) model. Data were obtained from 24 institutional documents and 32 peer-reviewed publications and analyzed using Miles and Huberman's interactive model supported by NVivo 14. Findings reveal five core Islamic digital leadership competencies — amanah-based vision, musyawarah-driven decision-making, ta'awun collaboration, tarbiyah-oriented change management, and mas'uliyyah cyber stewardship — and six governance innovations strengthening tafaqquh fi al-din practices. The proposed DL-IGI model offers a four-stage framework for PTKI digital transformation grounded in Islamic governance principles. This study contributes a contextually grounded framework that operationalizes established Islamic governance values within digital governance systems an empirical contribution absent from prior PTKI digital transformation literature.*

Keywords : *Digital Leadership; Islamic Education Governance; Cyber University; PTKIN.*

Abstrak : *Transformasi digital telah membentuk kembali tata kelola di Institusi Pendidikan Tinggi Islam (PTKI), namun penelitian yang menjelaskan bagaimana nilai-nilai kepemimpinan Islam mendorong inovasi tata kelola digital masih terbatas. Studi ini meneliti UIN Siber Syekh Nurjati Cirebon, universitas negeri Islam berbasis siber pertama di Indonesia, sebagai studi kasus intrinsik. Tujuan penelitian ini adalah: 1) menganalisis karakteristik kepemimpinan digital Islam dan implikasinya terhadap tata kelola; 2) mengidentifikasi inovasi tata kelola yang memperkuat budaya akademik Islam; 3) meneliti tantangan implementasi dan respons kepemimpinan; dan 4) mengembangkan model Kepemimpinan Digital–Inovasi Tata Kelola Islam (DL-IGI). Data diperoleh dari 24 dokumen institusional dan 32 publikasi yang ditelaah sejawat dan dianalisis menggunakan model interaktif Miles dan Huberman yang didukung oleh NVivo 14. Temuan mengungkapkan lima kompetensi inti kepemimpinan digital Islam dan enam inovasi tata kelola yang memperkuat praktik tafaqquh fi al-din. Model DL-IGI menawarkan kerangka empat tahap untuk transformasi digital PTKI. Kontribusi utama penelitian ini adalah kerangka kerja berbasis konteks yang mengoperasionalisasikan nilai-nilai tata kelola Islam dalam sistem tata kelola digital — kontribusi empiris yang belum tersedia dalam literatur transformasi digital PTKI sebelumnya.*

Kata Kunci : *Kepemimpinan Digital; Tata Kelola Pendidikan Islam; Universitas Siber; PTKIN.*

INTRODUCTION

Indonesia's first fully cyber-based Islamic university, UIN Siber Syekh Nurjati Cirebon, established under Kemenag Decree No. 97/2021, marks a pivotal turning point: Islamic higher education is no longer merely adapting to digital disruption but is pioneering a distinctly Islamic model of cyber governance (Ibrahimy et al., 2024; Keller et al., 2025). For State Islamic Religious Higher Education Institutions (PTKIN), digital transformation is not a neutral technical upgrade—it is a theologically charged governance challenge, requiring institutions to simultaneously embrace digital efficiency and preserve the Islamic epistemic and moral foundations that constitute their institutional identity (Mahsusi et al., 2024; Mustafa et al., 2024; Bahrani, 2023). The stakes are high: governance frameworks that fail to integrate Islamic values risk reducing *tafaqquh fi al-din* to a performative remnant within algorithmically managed institutions. How Islamic digital leadership navigates this tension is the central empirical problem this study investigates (Azra, 2020; Maksum, 2021; Nata, 2022).

Existing scholarship has made important but partial progress in addressing digitalization in Islamic higher education. Studies on e-learning adoption document how LMS platforms, digital literacy programs, and online learning environments have expanded access to Islamic education (Hamid et al., 2022; Mailizar et al., 2020). Digital leadership theory, meanwhile, has evolved to emphasize organizational agility, data-driven innovation, and distributed authority (Haleem et al., 2024; Yela Aránega et al., 2023). However, these bodies of scholarship remain in productive isolation from each other and from Islamic educational governance theory: digital leadership studies emerge from corporate and secular institutional contexts where governance legitimacy derives from managerial performance, not moral-theological authority (Albannai et al., 2025; Eitan & Gazit, 2024), while PTKIN governance studies prioritize Islamic values without examining how those values are institutionalized within digital infrastructure (Mujib & Mudzakkir, 2022; Mulyono, 2021). The result is a theoretical fragmentation Kosim et al. (2023) that leaves practitioners without a validated framework for navigating the intersection of Islamic governance principles, digital leadership competencies, and institutional transformation.

Three specific gaps motivate this study and distinguish it from prior work. First, while PTKIN research has documented technology adoption barriers and e-learning outcomes, no study has empirically examined the mechanisms through which Islamic governance values amanah, musyawarah, ta'awun, tarbiyah, mas'uliyyah are operationalized within digital governance systems at the institutional architecture level.

Second, existing digital leadership models are structurally insufficient for PTKIN governance contexts where institutional legitimacy is grounded in Islamic moral authority rather than managerial performance metrics (Bellis et al., 2024; Larson & DeChurch, 2020). Third, no empirically grounded developmental framework exists for guiding PTKI institutions through cyber governance transformation while simultaneously strengthening rather than eroding Islamic academic culture (Lutfauziah et al., 2024; Sulhan & Hakim, 2023). These gaps are not merely theoretical; they carry practical consequences for the 76 PTKIN institutions in Indonesia navigating the post-pandemic governance imperative without a contextually anchored roadmap.

This study contributes three specific analytical advances. First, it integrates Distributed Leadership Theory Spillane (2006) and the Technology Acceptance Model (Venkatesh & Bala, 2008) with Islamic governance principles as constitutive not supplementary analytical variables, constructing a contextually grounded framework for understanding digital governance transformation in PTKIN institutions. Second, it introduces the concept of 'epistemological digitalization' distinguishing governance systems that embed Islamic knowledge frameworks at the architectural level from those that merely digitize existing administrative procedures. Third, it proposes the Digital Leadership–Islamic Governance Innovation (DL-IGI) model as a four-stage developmental framework grounded in documentary evidence from UIN Siber Syekh Nurjati Cirebon's transformation during 2022–2025. Together, these contributions address the fragmentation between digital leadership theory, Islamic governance studies, and PTKI institutional practice.

Based on this analytical framework, this study pursues four objectives: 1) analyze the characteristics of Islamic digital leadership and their governance implications; 2) identify governance innovations that actively strengthen Islamic academic culture; 3) examine implementation barriers and the leadership responses deployed to address them; and 4) formulate and validate the DL-IGI model as an empirically grounded framework for Islamic higher education digital governance transformation. The findings are expected to contribute theoretically to Islamic educational governance scholarship and practically to PTKIN digital transformation policy in Indonesia.

METHOD

This study employs a qualitative single-site documentary case study design—a methodological choice grounded in the analytical power of documentary evidence for

examining institutional governance transformation (Creswell & Plano Clark, 2018; Tisdell et al., 2025). Rather than labeling this an 'intrinsic case study' in the classical sense (which typically requires multi-method field data), this study is more precisely characterized as a qualitative documentary case study: a systematic, theory-guided analysis of institutional documents and literature to reconstruct governance patterns, leadership frameworks, and transformation dynamics at a single, theoretically significant site. UIN Siber Syekh Nurjati Cirebon is selected because it constitutes Indonesia's first and only fully cyber-based Islamic state university a bounded institutional system of inherent analytical significance for understanding Islamic digital governance. A constructivist epistemological orientation guides the inquiry, acknowledging that governance practices and leadership frameworks are socially constructed through institutional documents, policies, and organizational narratives (Miles, 1994).

Data sources were selected through purposive document sampling across five institutional domains: 1) strategic governance documents Rector's Decrees and the University Strategic Plan (Renstra 2023–2027); 2) IT governance documentation master plans and IT audit reports (Q3 2023, Q4 2024); 3) academic quality assurance manuals and BAN-PT accreditation submissions; 4) Islamic Studies curriculum documents and *tafaqquh fi al-din* program frameworks; and 5) published institutional reports and policy white papers. This yielded 24 primary institutional documents. Complementing these, a systematic literature review of 32 peer-reviewed publications was conducted spanning digital leadership theory, Islamic educational governance, technology acceptance models in PTKIN contexts, and cyber university governance frameworks. Secondary data were drawn from the Kemenag EMIS database and Directorate General of Islamic Higher Education (Ditjen Pendis) PTKIN digitalization reports. All documents are publicly accessible through official institutional repositories or regulatory archives, ensuring full transparency and verifiability.

Data analysis followed Miles and Huberman's interactive model, operationalized through NVivo 14. Systematic condensation generated 312 initial codes consolidated into 48 sub-categories across three analytical domains: Islamic digital leadership characteristics (13 sub-categories), governance innovations (20 sub-categories), and implementation barriers and leadership responses (15 sub-categories), yielding 12 major thematic categories. Data display employed thematic matrices, temporal governance maps, and conceptual network diagrams. Conclusion drawing involved iterative theorizing guided by Islamic governance principles as sensitizing concepts *amanah, musyawarah, ta'awun, tarbiyah, mas'uliyyah* alongside the Technology Acceptance Model (Davis, 1989) and Distributed Leadership

Theory (Spillane, 2006) as analytical lenses. A structured coding protocol was developed from these sensitizing concepts and reviewed through peer debriefing with two senior scholars of Islamic education management, with discrepancies resolved iteratively until conceptual agreement was achieved.

Credibility was established through four strategies aligned with Lincoln and Guba's (1985) trustworthiness framework: 1) source triangulation cross-referencing institutional documents, peer-reviewed literature, and secondary EMIS data; 2) analytical member checking systematically cross-referencing findings with published institutional self-assessment reports and external accreditation evaluations to detect inconsistencies; 3) negative case analysis actively seeking published evidence of digital governance failure or Islamic value compromise in PTKIN contexts; and 4) thick description enabling reader-assessed transferability. An audit trail documented all analytical decisions, coding revisions, and interpretive choices across the six-month research period. Reflexive analytical memos maintained critical balance between institutional achievement narratives and governance tensions, ensuring the analysis did not become a promotional account of institutional success.

RESULT AND DISCUSSION

1. Results

The findings of this study indicate that digital transformation in Islamic Religious Higher Education (PTKI) is not only a process of technological adaptation, but also a transformation of governance driven by leadership and shaped by Islamic values and institutional identity as follows;

a) Islamic Digital Leadership Characteristics at UIN Siber Syekh Nurjati Cirebon

The analysis identified a distinct pattern of Islamic digital leadership that underpins the governance transformation process at UIN Siber Syekh Nurjati Cirebon. The findings indicate that digital transformation is not implemented solely as a technological modernization agenda but is embedded within Islamic governance principles that guide institutional policies, decision-making processes, stakeholder engagement, and digital innovation. Across the data corpus, leadership practices consistently reflected the integration of religious values with digital governance objectives, resulting in a governance model that combines technological advancement with institutional accountability and social responsibility.

A systematic examination of the institutional documents revealed five core competencies that characterize the institution's approach to digital leadership: 1) *amanah*-based digital vision, 2) *musyawarah*-driven data governance, 3) *ta'awun* orchestration, 4) *tarbiyah*-oriented change management, and 5) *mas'uliyyah* cyber stewardship. These competencies emerged repeatedly across strategic planning documents, governance policies, implementation reports, and organizational records, indicating their central role in shaping the institution's digital transformation trajectory. Table 1 summarizes the competency framework identified through the analysis before each competency is discussed in detail.

Table 1: Islamic Digital Leadership Competency Framework at UIN Siber Syekh Nurjati Cirebon

Competency (Islamic Principle)	Key Leadership Behaviors	Governance Impact	Evidence Source
Amanah-Based Digital Vision	Mission-technology narrative as ibadah; cyber equity mandate; long-range planning	Reduced existential resistance; staff alignment with cyber Islamic mission	Renstra 2023–2027; Rector's Decrees; Rachman & Faturrohman (2022); Wahab et al. (2022)
Musyawarah-Driven Data Decision	Dashboard-enriched deliberation; evidence-based policy with collegial validation	73% data-referenced decisions (2023–2025) vs. 31% (pre-2021)	IT Audit Q4 2024; Governance Meeting Minutes; Mulyono (2021)
Ta'awun Orchestration	Cross-domain joint governance teams; IT-ulama co-design; boundary-spanning	Reduced implementation resistance; higher adoption rates	Curriculum Committee Records; IT Governance Board Minutes; Rouf & Bukhori (2023)
Tarbiyah Change Management	Digital literacy halaqah; mentoring pairs; reframing technology as ibadah	47-point literacy gain (halaqah) vs. 12-point (non-participant)	HR Records; UPT IT Pre-Post Tests 2025; Hamid et al. (2022)
Mas'uliyyah Cyber Stewardship	Proactive data privacy governance; equity-centered design; cybersecurity as moral obligation	Zero major data breaches 2022–2025; UU PDP No. 27/2022 compliant	IT Audit Reports Q3 2023 & Q4 2024; Mujib & Mudzakkir (2022)

Source: Documentary Analysis of Institutional Records and Systematic Literature Review, 2025

Table 1 reveals a pattern that distinguishes Islamic digital leadership from secular digital governance models**:** each competency functions simultaneously as a

governance mechanism and a theological practice. This dual function explains why Islamic digital leadership generates legitimacy that purely technocratic governance approaches cannot—the competencies embed technological change within Islamic moral frameworks that faculty, students, and community stakeholders already recognize as authoritative. The 47-point digital literacy improvement among halaqah participants (versus 12-point among non-participants) provides the most direct evidence that tarbiyah-oriented change management produces measurably superior outcomes compared to compliance-driven approaches, a finding with practical implications for all PTKI undergoing digital governance transitions.

The first competency, *amanah*-based digital vision, reflects the institution's commitment to positioning digital transformation as a responsibility to expand access to Islamic higher education. Strategic planning documents consistently describe cyber-based education as a mechanism for reaching communities that face geographical and infrastructural barriers to higher education access. The findings show that digital transformation is framed not merely as organizational modernization but as part of the institution's broader mission of educational service and social inclusion.

The second competency, *musyawarah*-driven data governance, demonstrates the integration of data analytics within consultative decision-making processes. Institutional records indicate that governance decisions increasingly rely on digital data and institutional dashboards while maintaining collective deliberation as the primary decision-making mechanism. Data are utilized to support discussions, provide evidence, and strengthen institutional accountability without replacing collegial governance structures.

The third competency, *ta'awun* orchestration, refers to the leadership's ability to coordinate digital transformation through collaborative engagement among diverse institutional stakeholders. Documentary evidence shows the establishment of interdisciplinary teams consisting of Islamic scholars, lecturers, information technology specialists, administrators, and student representatives. These collaborative structures played an important role in the design and implementation of major governance and academic system innovations.

The fourth competency, *tarbiyah*-oriented change management, highlights leadership efforts to facilitate organizational adaptation during the digital transformation process. Institutional records identify several forms of resistance,

including concerns related to technological adaptation, changes in work routines, and perceptions of digital monitoring. In response, the institution implemented digital literacy programs, mentoring schemes, and continuous professional development activities designed to strengthen digital competencies while reinforcing educational values.

The fifth competency, *mas'uliyyah* cyber stewardship, reflects the institution's emphasis on accountability in managing digital infrastructure and information systems. Policy documents demonstrate a strong commitment to data protection, cybersecurity, and responsible technology governance. The findings show that digital security is treated not only as a technical requirement but also as an institutional responsibility toward students, staff, and other stakeholders whose information is managed within the university's digital ecosystem.

b) Governance Innovations Strengthening Islamic Academic Culture

The findings reveal that digital transformation at UIN Siber Syekh Nurjati Cirebon extends beyond administrative modernization and encompasses the development of governance innovations designed to reinforce Islamic academic culture. Rather than positioning technology as a value-neutral instrument, the institution integrates digital systems with its religious and educational mission, ensuring that governance reforms contribute to the preservation and enhancement of Islamic scholarly traditions. This integration is reflected in a range of innovations that support academic activities, strengthen institutional accountability, facilitate religious learning, and expand access to Islamic knowledge within digital environments.

Analysis of the data identified six major governance innovations that contribute to the strengthening of Islamic academic culture. These innovations demonstrate how digital governance mechanisms can be aligned with institutional values while simultaneously improving effectiveness, accessibility, and stakeholder engagement. Together, they illustrate the institution's efforts to create a digitally enabled academic ecosystem that supports both technological advancement and the continuity of Islamic intellectual traditions. Table 2 presents the governance innovations identified in this study before each innovation is discussed in detail.

Documentary analysis identified six governance innovations at UIN Siber Syekh Nurjati Cirebon, each characterized by an explicit design intent to strengthen Islamic academic culture rather than merely modernize administrative procedures. Table 2 presents the complete typology, contrasting each innovation's conventional counterpart with its Islamic cyber governance design, before each is elaborated below:

Table 2: Governance Innovations: Conventional vs Islamic Cyber Governance

Innovation	Conventional Approach	Islamic Cyber Innovation	Islamic Educational Value Added
SIMAK-UIN	Generic academic management; credit-hour accounting	*Tauhid*-based curriculum integration; Islamic epistemological framework	Islamic Studies academic identity preserved in digital governance
IAQA	Periodic audit; content-neutral quality metrics	Real-time Islamic outcome monitoring; *akhlaq* & *tafaqquh* metrics	Islamic educational mission embedded in quality governance
DISH	General digital library; no Islamic scholarly focus	Curated *kitab kuning*, fatwa DB, *maqasid* framework, live *pengajian*	Digital *tafaqquh fi al-din*; cyber-era Islamic scholarship
Financial Dashboard	Quarterly reports; general accountability	Real-time *wakaf* tracking; *hisab*-principle transparency	Islamic financial stewardship (*amanah*) strengthened
Virtual Ta'lim System	Physical attendance; geographically constrained	Province-spanning virtual *ta'lim*; staff Islamic learning circles	*Thalabul 'ilm* barriers removed; communal learning extended
DCEMS	Academic grades only; no character tracking	Digital *akhlaq* monitoring; holistic *tarbiyah* assessment	Whole-person Islamic education; *tarbiyah nabawiyah* in digital form

Source: Documentary Analysis of Institutional Records and Systematic Literature Review, 2025

SIMAK-UIN (Sistem Informasi Manajemen Akademik UIN) is documented in the IT Governance Master Plan and Q4 2024 audit as a cloud-native platform integrating academic management, financial administration, HR, and library services through Single Sign-On architecture. IT audit data confirm that 94.7% of previously paper-based administrative transactions are now processed digitally, reducing average processing time from 5.2 to 0.8 days. Critically, the Islamic Studies curriculum management module embedded within SIMAK-UIN operationalizes tauhid-based curriculum integration recognizing *Aqidah-Akhlaq* as epistemologically distinct from secular Ethics rather than treating all academic content as administratively equivalent**.** This represents the most direct documentary evidence of epistemological digitalization in the dataset.

The Automated Islamic Academic Quality Assurance (IAQA) system is documented in Academic Quality Assurance Center records (2025) and cross-verified with BAN-PT submission files. IAQA integrates monitoring within the LMS to generate real-time data on instructional quality, Quran memorization progress, student engagement with Islamic study materials, and *akhlaq* formation indicators. Accreditation documentation confirms that IAQA reduces preparation time from an average of eight months to three months. More significantly, IAQA's inclusion of akhlaq formation metrics extends quality governance beyond academic performance institutionalizing what identify as the holistic character of Islamic educational excellence within a digitally automated quality system.

The Digital Islamic Studies Hub (DISH) is described in the University Digital Governance White Paper (2024) as 'the soul of the cyber university' a designation that signals its institutional centrality. DISH provides a curated repository of *kitab kuning* (classical Islamic texts), fatwa databases, hadith authentication tools, *maqasid al-shariah* analytical frameworks, and live-streamed *pengajian* sessions integrated into the LMS. Institutional policy documents frame DISH as the mechanism through which tafaqquh fi al-din is preserved and deepened in the cyber context evidence that digital infrastructure is being deployed in service of Islamic scholarly identity rather than as a replacement for it.

The Transparent Islamic Financial Governance Dashboard is documented in Finance Directorate audit records (Q4 2024–Q2 2025). It provides real-time access to budget performance, expenditure patterns, and *wakaf* fund utilization aligned with *hisab* (Islamic accountability) principles. Audit records document that budget deviation identification time decreased from 47 days (quarterly paper reporting) to 3 days (continuous monitoring), while wakaf fund tracking contributed to a 23% expansion in wakaf contributions between 2023 and 2025 evidence that amanah-based financial transparency generates measurable donor confidence.

The Virtual Ta'lim and Governance Participation System is evidenced in institutional attendance records (2025) verified against LMS access logs. The system enables geographically distributed *ta'lim* (Islamic learning sessions) and governance participation regardless of physical location. Records document a 34% increase in academic senate participation and a 41% increase in monthly ta'lim attendance for staff institutional evidence that digital platforms can expand rather than contract communal Islamic learning (*thalabul 'ilm*) when designed around Islamic participatory values.

The Digital Character Education Monitoring System (DCEMS) documented in faculty mentoring program records and Islamic Studies curriculum policy tracks non-cognitive Islamic educational outcomes: prayer regularity (*shalat*), Quran recitation development, social service participation, and *akhlaq* formation through faculty-validated digital self-assessment. DCEMS constitutes the study's clearest example of epistemological digitalization: it embeds tarbiyah nabawiyah (Prophetic educational model) within institutional digital infrastructure while ensuring that human mentorship not algorithmic scoring remains the primary interpretive authority.

Across these six innovations, a consistent pattern emerges from the documentary record: each governance system is explicitly designed to embed Islamic knowledge frameworks, values, and mentorship structures within digital architecture rather than treating digital tools as value-neutral administrative instruments. This pattern supports the distinction introduced in this study between procedural digitalization (digitizing existing workflows) and epistemological digitalization (redesigning governance architectures around Islamic epistemological priorities). Institutional documents across all six innovations consistently deploy Islamic governance language amanah, tarbiyah, tafaqquh fi al-din, hisab as design criteria rather than post-hoc justifications, suggesting that Islamic value integration is a constitutive feature of the institution's governance design philosophy rather than a rhetorical overlay.

c) Barriers and Leadership Responses in the Cyber Transformation Process

Documentary evidence across IT audit reports, HR records, and institutional white papers identifies three categories of barriers that moderated the pace and scope of digital governance implementation, alongside documented institutional responses to each.

The first barrier is the asymmetry of digital infrastructure. Kemenag EMIS database statistics confirm that approximately 23% of PTKIN-enrolled students in Java and 41% in eastern Indonesian provinces experience persistent bandwidth limitations that affect LMS access quality. Students from traditional *pesantren* communities are disproportionately affected. The IT Governance Master Plan (2024 revision) documents a three-pronged institutional response: a) negotiated agreements with three telecommunications providers for subsidized campus SIM cards; b) development of offline-capable LMS modules specifically for Islamic Studies content; and c) establishment of a digital equity fund providing hardware subsidies for

students below the poverty threshold. This response is consistent with equity-centered cyber governance design principles applicable to Indonesian Islamic higher education contexts.

The second barrier is the leadership response in the form of proactive regulatory involvement. establishing a dedicated Kemenag liaison team, participating in national working groups on digital PTKIN regulatory frameworks, and documenting innovations in white papers shared with the Directorate General of Islamic Higher Education. This proactive stance converted UIN Siber Syekh Nurjati from a regulatory outlier into a de facto policy laboratory informing national PTKIN digital governance standards, consistent with framework of institutional policy entrepreneurship in Islamic higher education governance.

The third barrier is the intergenerational digital competency gap and identity-governance tensions. HR competency records document a pre-training mean digital literacy score of 41/100 among staff aged 50+, rising to 88/100 following *halaqah*-format program completion a 47-point improvement compared to a 12-point improvement among non-participants. Institutional training records attribute this differential to the culturally embedded design of the program: framing digital literacy as a contemporary fardhu kifayah (collective religious obligation) and providing elder-sensitive halaqah-format instruction rather than generic ICT training. A second cultural barrier documented in faculty mentoring program records and DCEMS policy documentation involves concern that algorithmic monitoring threatens the collegial and spiritually-oriented character of Islamic academic life. The institutional response, as documented in DCEMS governance guidelines, explicitly addresses this concern by positioning human faculty mentorship not algorithmic scoring as the primary interpretive authority for character formation data: DCEMS generates reports, but faculty mentors provide relational interpretation and follow-up. This human-centered design choice reflects the institution's documented commitment to ensuring that technology serves rather than supplants the usrah (Islamic mentoring relationship).

2. Discussion

The first major finding of this study demonstrates that Islamic governance values function as foundational design principles in digital governance innovation rather than merely serving as a cultural backdrop for technology adoption (Bunjak et al., 2022; Joshi, 2024). The findings indicate that digital transformation within PTKI is not driven solely by managerial efficiency or technological modernization (Baharun et al., 2025; Hilbert,

2020). Instead, governance innovations are developed and implemented through institutional values rooted in *amanah, musyawarah, ta'awun, tarbiyah,* and *mas'uliyyah*, which shape both organizational processes and the architecture of digital systems.

This finding challenges the dominant assumption within digital governance literature that technological systems operate as value-neutral managerial instruments (Bunjak et al., 2022; W. Wang et al., 2024). Existing frameworks generally emphasize efficiency, standardization, automation, and data-driven decision making as the primary objectives of governance innovation (Alghanmi & Alkhudhayr, 2024; Fawaid et al., 2025; Ibrahimy et al., 2024). However, the present study suggests that digital governance in Islamic higher education institutions is inseparable from the moral and epistemological foundations of the institution itself (Costan et al., 2021; Famularsih et al., 2022). Digital technologies therefore function not only as administrative tools but also as mechanisms for realizing religiously informed educational missions.

The findings support previous studies emphasizing the importance of Islamic values in organizational governance and digital transformation. Nevertheless, much of the existing literature has focused on conceptual discussions of Islamic governance or the cultural adaptation of technology within Islamic institutions. This study extends the literature by demonstrating how Islamic governance principles are translated into concrete governance structures, digital infrastructures, and decision-making processes. Rather than operating as symbolic organizational values, these principles become embedded within everyday governance practices.

From a theoretical perspective, the findings contribute to digital governance scholarship by positioning institutional values as constitutive elements of governance innovation (Bibi et al., 2024; Lynch & Sweeney, 2024). This perspective broadens current understandings of digital transformation, which have largely been developed within secular organizational contexts (Boehme et al., 2024; Zahari et al., 2024). Consequently, digital governance in PTKI should be understood as a value-embedded process in which technological innovation and Islamic governance principles evolve simultaneously rather than independently.

Practically, the findings suggest that PTKI leaders should prioritize the alignment between governance innovation and institutional values. Digital initiatives that reinforce Islamic educational missions are likely to achieve greater organizational legitimacy and stakeholder acceptance than those introduced solely on the basis of administrative

efficiency. As a result, value-based digital governance may provide a more sustainable pathway for digital transformation within Islamic higher education.

The second major finding reveals that governance innovation contributes not only to institutional effectiveness but also to the strengthening of Islamic academic culture. The identified governance innovations demonstrate that digital transformation can simultaneously support organizational modernization and the preservation of Islamic educational values (Adeoye, 2025; Solehah & Manshur, 2025). Rather than creating a divide between technology and religious identity, the innovations examined in this study illustrate how digital systems can facilitate religious learning, academic engagement, scholarly interaction, and institutional accountability.

This finding emerged because governance innovations were designed to serve both operational and educational objectives. Digital systems were not introduced merely to improve service delivery or administrative performance but also to expand access to Islamic knowledge, strengthen academic participation, and support the transmission of Islamic values within digital learning environments. Technology therefore became integrated into the institution's educational mission rather than functioning as a separate managerial instrument.

The findings align with previous studies that highlight the role of digital governance in improving higher education performance and organizational effectiveness. However, existing studies have predominantly emphasized efficiency, service quality, and institutional competitiveness. In contrast, the present study demonstrates that governance innovation within PTKI can perform broader cultural and educational functions. The findings therefore extend current digital governance literature by showing that technological systems can contribute to the preservation and development of institutional values while simultaneously improving governance outcomes.

From the perspective of Islamic Governance Theory, governance innovation should be viewed as a mechanism for realizing institutional objectives grounded in Islamic principles (Y. Wang et al., 2024). Digital governance systems become effective not only because they enhance coordination and accountability but also because they facilitate the institutionalization of values such as *amanah, musyawarah, ta'awun*, and *tarbiyah*. This perspective enriches existing governance frameworks by emphasizing the integration of technological capability and value-based institutional development.

The study contributes to the literature by demonstrating that governance innovation can strengthen Islamic academic culture when technological systems are

intentionally aligned with educational missions and religious values. Practically, PTKI leaders should evaluate digital innovations not only in terms of efficiency gains but also in terms of their capacity to support Islamic learning, academic culture, and institutional identity. Such an approach may help ensure that digital transformation enhances rather than weakens the distinctive character of Islamic higher education institutions.

The development of the Digital Leadership–Islamic Governance Innovation (DL-IGI) Model, a four-stage framework that explains how digital transformation can be pursued within PTKI while preserving Islamic identity and governance values (Aini et al., 2025; Sumanti et al., 2024). Rather than conceptualizing digital transformation as a linear process of technology adoption, the model highlights the interaction between leadership competencies, governance innovation, and Islamic institutional values. As such, the framework offers a context-sensitive perspective for understanding digital transformation in faith-based higher education settings.

The model proposes four interrelated stages: Initiation (Visi *Amanah*), Consolidation (*Ta'awun* Integration), Optimization (*Musyawarah*-Data Governance), and Transformation (*Tarbiyah* Digital Culture). Collectively, these stages illustrate that successful digital transformation depends not only on technological readiness but also on the gradual institutionalization of Islamic governance principles within digital systems and organizational practices.

The Initiation stage emphasizes the importance of establishing value alignment before implementing large-scale digital reforms. The Consolidation stage highlights collaborative governance and stakeholder participation as critical mechanisms for sustaining transformation efforts (Rosyadi et al., 2020). The Optimization stage demonstrates how data-driven decision making can complement consultative governance traditions through *musyawarah*-based processes. Finally, the Transformation stage represents the institutionalization of digital governance values within organizational culture, where digital infrastructure continuously reinforces Islamic educational identity.

Theoretically, the DL-IGI model extends existing digital leadership and digital governance frameworks, which have predominantly been developed within secular organizational settings (Kickbusch et al., 2021; Reia & Cruz, 2021). The model introduces Islamic governance values as active mechanisms shaping digital transformation processes and outcomes (Schiuma, 2022; Sharma & Anil, 2024). Rather than treating religion as an external contextual factor, the framework positions Islamic values as

drivers of governance innovation, leadership behavior, stakeholder engagement, and organizational change. In doing so, the study contributes a contextually grounded framework that expands current understandings of digital transformation within higher education.

The findings also provide an important extension to distributed leadership and technology adoption theories. While existing frameworks emphasize organizational structure, technological capability, and perceived usefulness, the DL-IGI model suggests that theological-cultural alignment functions as an additional mechanism influencing technology acceptance and governance innovation in PTKI contexts. This insight highlights the need for greater theoretical sensitivity to the role of institutional values in shaping digital transformation trajectories.

From a practical perspective, the DL-IGI model offers PTKI leaders a developmental roadmap for managing digital transformation. The framework suggests that successful transformation requires not only technological investment but also leadership capable of aligning governance innovation with Islamic values, collaborative participation, and long-term cultural development. Such an approach enables Islamic higher education institutions to pursue digital modernization while preserving their distinctive educational and religious character.

CONCLUSION

This study demonstrates that UIN Siber Syekh Nurjati Cirebon's cyber transformation constitutes a governance innovation model in which Islamic values amanah, musyawarah, ta'awun, tarbiyah, mas'uliyyah function as constitutive design principles rather than institutional decorations. The five Islamic digital leadership competencies identified from the documentary record constitute a contextually grounded framework advancing digital leadership theory for the PTKIN context. The six governance innovations demonstrate that digital governance can actively strengthen Islamic academic culture when Islamic epistemological priorities are placed at the center of system design—a finding that challenges the frequently voiced secularization concern in traditional religious educational communities. These findings position UIN Siber Syekh Nurjati Cirebon not merely as a technological pioneer but as an institutional laboratory for Islamic digital governance theory.

The DL-IGI model makes three contributions appropriate to its single-institution, documentary research design. Theoretically, it offers an empirically grounded framework that integrates Islamic governance principles as constitutive not supplementary elements of

digital leadership in PTKI contexts, filling a gap not addressed by existing digital leadership or Islamic governance literatures separately. Empirically, it provides the first systematic documentary analysis of an Indonesian cyber Islamic university's governance transformation across a three-year period, generating evidence-based insights about how Islamic values operate within digital governance systems. Practically, it offers PTKI leaders and Kemenag policy-makers an analytically grounded though context-specific developmental framework for cyber governance planning that centers Islamic identity preservation alongside institutional effectiveness. These contributions represent starting points for a broader research program, not definitive conclusions.

Several limitations bear directly on the scope of the findings. The single-institution design means the DL-IGI model is best understood as a theoretically informed analytical framework grounded in one pioneering case, not a validated universal model. The documentary and secondary data basis while systematically collected and triangulated cannot capture leadership intentionality, faculty experience, or student perspectives that primary fieldwork would illuminate. These limitations mean that claims about governance effectiveness should be read as evidence-supported propositions rather than established conclusions. Future research should: 1) conduct comparative DL-IGI framework testing across multiple PTKI institutions of varying scales and regional contexts; 2) integrate primary interview data to enrich and potentially challenge the documentary findings; and 3) conduct longitudinal studies to assess whether governance innovations documented here sustain Islamic educational quality outcomes over five or more years.

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