

Artificial Intelligence and Techno-Religion: Reframing Tawhīd and Maqāṣid Al-Sharī'ah in Qur'anic Perspective

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Abstract

The rapid diffusion of artificial intelligence (AI) into religious education, Qur'anic exegesis (tafsir), and da'wah practice raises urgent questions about how classical Islamic epistemology can govern emergent digital technologies. Existing scholarship has largely treated AI governance, exegetical authenticity, and the reconfiguration of religious authority as separate concerns. This paper constructs an integrated Qur'anic ethical framework, anchored in Tawhīd, Maqāṣid al-Sharī'ah, 'Adl (justice), and Amānah (trust), for evaluating AI's role across Islamic scholarship and education, with particular attention to the Nusantara context and Indonesian State Islamic Higher Education Institutions (PTKI), including IAIN Parepare. Employing a qualitative conceptual-theological method, the study synthesizes recent Scopus-indexed literature (2015–2024) across Islamic studies, AI ethics, digital humanities, and theology, and triangulates this literature with purposive semi-structured interviews conducted with sixteen lecturers and institutional leaders at two Indonesian Islamic higher education institutions, IAIN Parepare and Institut Agama Islam Hamzanwadi (IAIH) Pancor. Findings, corroborated by field interviews, show that algorithmic bias risks decontextualizing Qur'anic meaning; that AI is reshaping religious authority toward hybrid, digitally negotiated figures while lecturers and institutional leaders continue to anchor authority in scholarly transmission and moral exemplarity; that PTKI institutions face both opportunity and risk in adopting AI for religious instruction and currently lack formal governance instruments to manage that risk; and that Islamic theology maintains a firm boundary between AI's mechanistic processing and divine omniscience or human moral agency. The paper argues that AI can be legitimately deployed only as an assistive instrument under sustained human scholarly oversight, and it offers a practical, maqāṣid-based governance model relevant to PTKI and to Indonesia's broader project of digital transformation in Islamic higher education.

INTRODUCTION

Artificial intelligence (AI) has moved, within less than a decade, from a peripheral curiosity to a structural presence in the way Muslims access, interpret, and transmit religious knowledge. Digital Qur'an applications now embed AI-driven chatbots capable of answering theological questions (Yusof et al., 2025); mobile platforms use machine learning to support Qur'anic memorization and recitation

review (Nasir et al., 2025); and natural-language-processing systems are being piloted to verify the authenticity of tafsir content circulating online (Sahimi et al., 2025). In parallel, AI is entering the institutional life of Islamic higher education: learning-management systems personalize instruction, plagiarism and authenticity checkers mediate scholarly writing, and administrators increasingly discuss AI literacy as a curricular priority (Achruh et al., 2024). For State Islamic Religious Higher Education Institutions (Perguruan Tinggi Keagamaan Islam, PTKI) in Indonesia, including IAIN Parepare, where the present author teaches Islamic studies and da'wah, this is not a distant prospect but a present administrative and pedagogical reality.

This growing entanglement of AI with religious life has given rise to what a number of scholars now call "techno-religion": a set of processes through which digital technologies do not merely transmit existing religious content but actively reshape religious authority, practice, and epistemology. (Atallah, 2026) Rüdiger Lohlker and Sulistiyono Husni Wahid describe this as a transformation of Islamic religious authority in which community members shift from passive recipients of scholarly guidance toward active, technologically mediated participants, giving rise to hybrid figures such as "celebrity imams" and "cyber-muftis" whose legitimacy is negotiated through digital platforms and audience engagement rather than through traditional isnād-based chains of transmission alone. (Lohlker & Wahid, 2026) In the Indonesian context specifically, Rahmat Hidayat Abror, Robingaton Adawiah, and Nihayatus Sofia have shown that Indonesian ulema themselves perceive AI as both an opportunity for da'wah outreach and a disruptive threat to established patterns of religious authority within digital culture. (Abror et al., 2024).

These developments raise a set of ethical and theological questions that classical fiqh al-mu'āmalāt was not designed to answer directly. Can a statistical language model, trained on a corpus of unauthoritative and authoritative tafsir alike, be trusted to mediate the meaning of revelation? What happens to scholarly authority (marja'iyyah) when a smartphone application, rather than a certified teacher, becomes a student's first point of contact with Qur'anic interpretation? And what conceptual resources does the Qur'an itself, together with the broader apparatus of Islamic legal theory, offer for governing these technologies responsibly? A growing Scopus-indexed literature (2015–2024) has begun to address these questions, but, as the following section argues, largely in fragmented form, treating ethics, exegetical authenticity, and the sociology of authority as separate research programs. This paper's contribution is to integrate these strands into a single, Qur'anically grounded ethical framework, and to test its relevance against the specific institutional conditions of Indonesian PTKI, using IAIN Parepare as an illustrative case.

The paper proceeds as follows. Section 2 reviews the theoretical literature on Tawhīd, Maqāṣid al-Sharī'ah, and human oversight as they relate to AI ethics. Section 3 describes the conceptual-theological method used to synthesize this literature. Section 4 presents the paper's findings and discussion, organized around five themes: algorithmic bias, techno-religion and authority in the Nusantara context, AI in Islamic higher education with reference to IAIN Parepare and the wider PTKI system, theological boundaries between divine and mechanistic knowledge, and an integrated governance framework. Section 5 concludes with implications for policy and further research.

Literature Review and Theoretical Framework

a. *Tawhīd as the Epistemological Foundation*

Any Islamic ethical treatment of AI must begin, as several authors argue, not with a borrowed Western framework of "AI ethics" but with Tawhīd, the doctrine of divine oneness, as an epistemological starting point. (Kannike & Fahm, 2025; Qaruty et al., 2025) On this reading, Tawhīd is not merely a theological proposition about God's unity but a methodological commitment to systemic coherence: because reality itself is unified under a single divine order, ethical and technological systems that fragment human life into disconnected, purely instrumental domains are, in principle, misaligned with an Islamic worldview. Applied to AI, this implies that algorithmic systems should be evaluated not only for narrow technical performance (accuracy, efficiency) but for whether they reinforce or undermine the believer's relationship to divine accountability (ḥisāb) and communal solidarity (ummah). Umar Muhammad Mustapha Kannike and Abdulwahab Olawale Fahm situate this Tawhīdī foundation alongside justice (ʿAdl) and trust (amānah) as the three pillars of an Islamic ethical governance model for AI, arguing that collaborative governance, in which scholars, technologists, and policymakers jointly define acceptable use, is indispensable precisely because no single actor possesses the comprehensive normative competence that Tawhīd presupposes. (Kannike & Fahm, 2025)

This Tawhīdī starting point also carries a critical, not merely constructive, function: it supplies grounds for rejecting frameworks that treat AI ethics as a value-neutral engineering problem to be solved through technical fixes alone. Abdulaziz Abdulrahman Saleh Hamad Al Kubaisi's study of AI ethics in light of the Sunnah of the Prophet Muhammad argues that a purposeful (maqṣūdī) and foundational reading of prophetic ethical guidance requires evaluating any technology by its effect on character (akhlāq) and communal welfare (maṣlaḥah ʿāmmah), not by narrower metrics such as user engagement or processing accuracy, and that this evaluative lens

follows directly from Tawḥīd's insistence that no domain of human activity, including technology design, stands outside divine accountability. (Al Kubaisi, 2024) Faisal Ali et al. push this line of reasoning toward a full alternative ethical vocabulary, proposing trusteeship ethics (grounded in the Qur'anic concept of khilāfah, or human stewardship over creation) as a more adequate substitute for imported utilitarian or deontological AI-ethics frameworks precisely because trusteeship, like Tawḥīd, treats the human relationship to technology as inherently relational and accountable to God rather than autonomous. (Ali et al., 2025) Read together, these contributions suggest that the Tawḥīdī foundation is not a decorative theological preface to an otherwise secular ethics of AI, but a substantive constraint that rules out certain governance approaches, most notably purely self-regulatory or engagement-optimized models, as inadequate on their own terms.

b. Maqāṣid al-Sharī'ah and Objectives-Based Governance of AI

Where Tawḥīd supplies the epistemological ground, Maqāṣid al-Sharī'ah, the higher objectives of Islamic law, supplies the operative framework most consistently invoked in the literature for governing AI in Islamic contexts. Classical maqāṣid theory, systematized by al-Shāṭibī and revived in contemporary scholarship by Muhammad al-Tahir Ibn Ashur, identifies the preservation of religion (ḥifẓ al-dīn), life (ḥifẓ al-naḥs), intellect (ḥifẓ al-'aql), lineage (ḥifẓ al-nasl), and property (ḥifẓ al-māl) as the five universal objectives that any valid legal or ethical ruling must serve. (Ibn Ashur, 2006; Al-Raysuni, 2005) Jasser Auda's systems-theory reading of maqāṣid extends this classical taxonomy toward openness, multidimensionality, and cognitive nature, qualities that map unusually well onto the governance challenges posed by AI, precisely because AI systems are themselves multidimensional and require governance that can adapt across changing technical and social contexts. (Auda, 2008; Kamali, 2008) Applied specifically to religious technology, Ahmad Sanusi Baharuddin et al.'s systematic review of maqāṣid literature underscores that the objective of preserving religion (ḥifẓ al-dīn) requires more than doctrinal correctness; it requires protecting the *processes*, scholarly transmission, communal deliberation, institutional legitimacy, through which religious knowledge is authenticated. (Baharuddin et al., 2019) Hafizhullah Amin Said et al. push this further by proposing a maqāṣid-based, inclusive approach to Qur'anic interpretation explicitly designed for a "millennial generation" already embedded in digital media environments, arguing that maqāṣid provides the interpretive elasticity needed to keep exegesis both authentic and accessible. (Said et al., 2025) Sulistiyono Husni Wahid's harm-assessment model operationalizes maqāṣid still further, proposing that any AI application touching

religious life be screened against the question of whether it threatens one or more of the five preserved objectives, with mitigation measures scaled to the severity of the threat identified. (Wahid, 2025)

A further refinement drawn from classical *uṣūl al-fiqh*, and increasingly applied to AI governance, is Kamali's tiered hierarchy of necessities (*ḍarūriyyāt*), needs (*ḥājiyyāt*), and embellishments (*taḥsīniyyāt*), which grades the severity of a *maṣlaḥah* (benefit) or *mafsadah* (harm) rather than treating all *maqāṣid* violations as equally weighty. (Kamali, 2008) Applied to AI, this hierarchy offers a proportionality principle that several recent studies have begun to operationalize technically. Nurul Fadhlin Paiman et al.'s Technology-Organization-Environment-Maqasid (TOEM) model explicitly grades AI adoption risk in public services according to which tier of *maqāṣid* is implicated, treating threats to *ḍarūriyyāt* (such as the integrity of revealed text) as requiring the most stringent governance response, while threats confined to *taḥsīniyyāt* (such as stylistic quality of AI-generated summaries) may be governed more lightly. (Paiman et al., 2025) Eyad Qutieshat, Mohammad Al Adwan, and Mohammed Khater extend this proportionality logic into legal accountability specifically, arguing that the severity of *maqāṣid* harm should determine not only whether an AI application is permitted but also how responsibility is distributed among developers, institutional deployers, and end users when harm occurs. (Qutieshat et al., 2026) This tiered approach is significant for the present paper's argument because it resists a common oversimplification in the literature, treating every AI application touching religious life as equally fraught, and instead supplies a principled basis for distinguishing, for example, between an AI-assisted vocabulary tool for Qur'anic Arabic (largely *taḥsīniyyāt*) and an AI system generating exegetical rulings (implicating *ḍarūriyyāt* directly).

c. Human Oversight, Scholarly Authority, and Verification Protocols

A recurring theme across the literature is that AI's legitimate role in religious knowledge production is assistive rather than authoritative, and that this boundary must be actively maintained through human-in-the-loop governance. Mohd Shafiq Bin Sahimi et al. propose a five-module digital verification framework, combining natural-language processing with semantic matching against canonical *tafsir* works such as those of al-Ṭabarī, Ibn Kathīr, and al-Qurṭubī, explicitly designed so that AI filters and flags content for scholarly review rather than issuing interpretive rulings independently. (Sahimi et al., 2025) Saifullah, Wahid, and Muhammad Iqbal Fazrian extend this logic to computational *tafsir* more broadly, arguing that classical verification concepts such as *isnād* (chain of transmission) and *tarjīḥ* (weighted

preference among conflicting interpretations) can and should be adapted, rather than discarded, in digital contexts, so that AI-assisted exegesis remains answerable to the same authentication logic that has historically governed manuscript transmission. (Saifullah & Fazrian, 2026) Muhammad Hafiz Mohd Azhar et al. frame this requirement within Islamic epistemology itself, arguing that the very structure of ‘ilm (knowledge) in the Islamic tradition, which integrates revelation, reason, and authoritative transmission, is incompatible with a model of AI as an autonomous exegetical authority, however sophisticated its outputs may appear. (Azhar et al., 2025) At the institutional level, Muhammad Bin Zafar and Hammad Ali (2026) describe dual-governance structures for generative AI in Islamic financial institutions, combining Sharia supervisory boards with technical AI oversight committees, a model that, this paper argues in Section 4, is transferable to Islamic higher-education institutions such as PTKI.

The requirement for human oversight is nowhere more consequential than in fatwa issuance, where an erroneous or decontextualized AI output could carry direct legal and spiritual weight for the questioner. Siti Fatimah Ahmad Rahim et al.'s guidelines for AI-assisted fatwa issuance argue that AI may legitimately support muftis by retrieving relevant precedent rulings, summarizing juristic disagreement, and flagging potentially sensitive questions for senior review, but that the act of issuing a fatwa itself, as an exercise of qualified juristic judgment (*ijtihad*), cannot be delegated to a machine without breaching the classical requirement that a mufti possess not only knowledge but also moral integrity (*‘adalah*) and contextual discernment (*fiqh al-wāqī‘*). (Rahim et al., 2025) Khairul Anuar Meerangani et al.'s comparative analysis of AI as a reference tool in Malaysian fatwa institutions reaches a compatible conclusion empirically, finding that where AI tools have been piloted as reference aids for muftis, institutional guidelines consistently frame them as retrieval and drafting assistants operating under mandatory human sign-off, never as independent fatwa-issuing agents. (Meerangani et al., 2026) This convergence between the Malaysian regulatory guidance and the *maqāṣid*-based verification protocols discussed above suggests that human-in-the-loop governance is not merely a normative preference articulated by scholars, but is already becoming embedded, however unevenly, in the institutional practice of contemporary fatwa councils, and it strengthens the case that Indonesian PTKI institutions and fatwa bodies, discussed further in Section 4, would be adopting an increasingly mainstream governance posture, rather than an unusually conservative one, by formalizing similar human-in-the-loop requirements for their own AI-assisted religious instruction and guidance.

d. *Regulatory and Governance Landscapes Across Muslim-Majority Contexts*

Beyond the normative literature reviewed above, a parallel body of scholarship examines how existing legal and regulatory systems in Muslim-majority and Muslim-minority contexts are, in practice, responding to AI's entry into religious and civic life. Elena Gorian and Nurul Diyana Osman's comparative study of Saudi Arabia and the United Arab Emirates finds that both states have prioritized general-purpose data protection and cybersecurity legislation over AI-specific religious content regulation, leaving a governance gap that religious authorities have so far filled through informal guidance rather than binding rules. (Gorian & Osman, 2024) This pattern is not unique to the Gulf. Herri Bekti et al.'s review of Indonesian e-government AI regulation, drawing on comparative international practice, similarly finds that Indonesian public-sector AI governance remains at an early stage of institutional maturity, with policy frameworks still under development even for general administrative applications, let alone AI systems specifically mediating religious content or instruction. (Bekti et al., 2026) The practical consequence, for both Gulf and Indonesian contexts alike, is that formal state regulation cannot currently be relied upon as the primary safeguard against the risks discussed in Section 2.1 through 2.3, which shifts a considerable share of the governance burden onto religious institutions themselves, including universities such as PTKI, fatwa councils, and professional scholarly associations.

Where formal state regulation lags, community-engaged and participatory governance models have begun to emerge as a partial substitute. Rebecca Campbell-Esen, Jillian Mahoney, and Reem Talhouk's co-design study with the UK Muslim community demonstrates that directly involving religious communities, not only credentialed scholars and technologists, in the design of AI ethics guidelines produces governance outcomes that are both more granular and more trusted by end users than top-down expert panels alone, because community members surface concrete use cases, such as AI-mediated marriage counseling or inheritance calculation, that formal expert deliberation tends to overlook. (Campbell-Esen et al., 2026) This participatory turn is consistent with the *shūrā* (consultation) principle already noted in Section 2.1 as one of the Qur'anic pillars of Islamic ethical governance, and it suggests that PTKI institutions seeking to develop AI guidelines of their own would do well to include students and community stakeholders, not only faculty and administrators, in the design process, a point developed further in Section 4.7.

e. *AI in Qur'anic Pedagogy, Memorization, and Digital Humanities*

A substantial and rapidly growing segment of the literature addresses AI's pedagogical applications in Qur'anic learning specifically, distinct from the exegetical

and governance concerns reviewed above. Raja Jamilah Raja Yusof *et al.*'s comprehensive review of digital Qur'an applications compares the performance of six AI-powered chatbot systems against ten fundamental Qur'an-related questions posed in Malay, finding substantial variation in factual accuracy, contextual explanation, and alignment with Islamic sources across platforms, and concluding that no evaluated system yet meets a consistent threshold of reliability across all six criteria assessed. (Yusof *et al.*, 2025) Khadijah Nasir *et al.* focus more narrowly on memorization support, showing that AI-based recitation-review applications can meaningfully assist tajwīd (recitation rule) correction through automated speech recognition, but that current systems still struggle with the phonetic subtleties that distinguish correct from incorrect articulation of certain Arabic letters, meaning human teacher verification remains necessary even for this comparatively narrow, rule-governed pedagogical task. (Nasir *et al.*, 2025) Ahmad Nur Aizat Syahir *et al.*'s systematic literature review of AI and digital transformation in Qur'anic studies situates both of these strands within a broader observation: the pedagogical and exegetical applications of AI in Qur'anic studies have developed largely independently of the ethical and governance literature reviewed in Sections 2.1 through 2.4, with relatively few studies bridging technical pedagogical design and normative Islamic ethical frameworks explicitly. (Syahir *et al.*, 2025)

This gap between pedagogical and ethical literatures is illustrated concretely by two further specialized studies. Mohamed Farid Mohamed Abdelgelil, Badaruddin Sahibol Tahir, and Siti Norhalimah Binti Sohaimi Bidin's thematic review of AI's impact on qirā'āt (the canonical variant reading traditions of the Qur'an) identifies a specific technical risk largely absent from the general AI ethics literature: because most AI training corpora privilege the dominant Ḥafṣ 'an 'Āṣim reading, AI systems risk marginalizing the other canonically valid reading traditions, effectively narrowing textual diversity that the Islamic tradition has historically preserved as religiously significant in its own right. (Abdelgelil *et al.*, 2025) Ahmad Nazrul Umami Nazir *et al.* address a related but distinct concern, proposing that hadith methodology's graded categories of authenticity, from ṣaḥīḥ to ḍa'īf, offer AI system designers a ready-made, theologically legitimate model for representing confidence levels in AI-generated religious content, rather than the binary correct or incorrect framing common in mainstream natural-language-processing evaluation. (Nazir *et al.*, 2025) Both studies illustrate a recurring theme of this review: technical solutions already exist, or could readily be developed, for many of the specific risks identified by the ethics and governance literature, provided that AI system designers and Islamic scholars

collaborate directly, which is precisely the collaborative governance model called for in Section 2.1.

f. Techno-Religion and the Sociology of Digital Authority

A final strand of the literature, sociological and theological rather than technical, examines how AI and digital platforms more broadly are reshaping who counts as a legitimate religious authority. Fahrettin Atallah's critical framework for digital mediation and fatwa authority argues that online platforms do not simply add a new distribution channel for existing fatwa authority, but actively reshape the criteria audiences use to judge credibility, favoring communicative fluency and platform visibility over the traditional markers of scholarly lineage (*isnād*) and institutional affiliation. (Atallah, 2026) Rüdiger Lohlker and Sulistiyono Husni Wahid describe the resulting landscape as populated by hybrid authority figures, celebrity imams and cyber-muftis, whose legitimacy is negotiated continuously through audience engagement rather than settled once through formal credentialing, a dynamic that Wahid and Sofyan Abdulloh's later systematic review treats with greater caution, concluding that this shift affects the distribution of religious content more clearly than it affects the underlying structure of interpretive authority, which in most documented cases remains substantially anchored in traditional credentialing even as its delivery channels multiply. (Lohlker & Wahid, 2026; Wahid & Abdulloh, 2026)

This global pattern is refracted distinctively through the Nusantara context. Rahmat Hidayat Abror, Robingaton Adawiah, and Nihayatus Sofia's study of Indonesian ulema's responses to AI finds that religious authorities themselves are far from uniformly threatened or uniformly enthusiastic, instead articulating a differentiated stance in which AI is welcomed as a da'wah outreach tool while being treated with explicit institutional caution as a substitute for scholarly judgment. (Abror et al., 2024) Muhammad Arsyad Fitryansyah and Fitri Nur Fauziah's study of Nusantara religious manuscripts adds a textual dimension to this sociological picture, showing that AI systems trained on Arabic-centric corpora struggle with the vernacular commentary layers and localized hermeneutical conventions embedded in Malay-world Islamic manuscripts, which means that any techno-religious authority AI systems might acquire in this region would rest on an incomplete and potentially distorting textual basis unless corpora are specifically expanded to include Nusantara sources. (Fitryansyah & Fauziah, 2024) Muhammad Aji Firdaus, Muhammad Syihabuddin, and Zaki Fuady's comparative study of traditionalist and modernist Indonesian Muslim communities closes this section's review by showing that reception of AI-mediated religious authority is itself mediated by existing communal

structure: traditionalist communities embedded in pesantren and ulama networks filter AI engagement through those existing hierarchies, while modernist communities engage AI tools more directly and individually, a divergence with direct implications for how PTKI institutions, which serve students from both communal backgrounds, should communicate AI governance policy to their student bodies. (Firdaus et al., 2025)

Field interviews at IAIH Pancor add a locally grounded illustration of this dynamic. Informants there distinguished sharply between AI's capacity to aggregate information and the ontologically distinct authority of the dosen, ulama, and tuan guru, an authority informants grounded in lived religious experience, moral exemplarity, and spiritual formation rather than information possession alone. (personal communication, October–December 2025) Notably, when asked what should be preserved from the educational tradition of TGKH Muhammad Zainuddin Abdul Madjid, informants converged on three elements, sanad (chain of transmission), the authority of the ulama, and adab, suggesting that AI's entry into this Nusantara institutional context is being negotiated not as a rupture with tradition but as an occasion to re-articulate it, consistent with Fitryansyah and Fauziah's textual finding that Nusantara religious authority rests on locally embedded hermeneutical conventions AI systems do not yet capture. (Fitryansyah & Fauziah, 2024)

METHODS

This study adopts a qualitative conceptual-theological method appropriate for a thought-based contribution within Islamic studies, strengthened through a modest empirical component. The design combines (a) library-based synthesis of Scopus-indexed publications from 2015 to 2024 spanning Islamic studies, AI ethics, digital humanities, education, law, and theology, supplemented by classical and contemporary maqāṣid literature (Ibn Ashur, al-Raysuni, Kamali, and Auda) used as normative reference points rather than empirical data; and (b) purposive semi-structured interviews conducted with lecturers and institutional leaders at IAIN Parepare and Institut Agama Islam Hamzanwadi (IAIH) Pancor, the two institutions with which the paper's co-authors are affiliated, undertaken to triangulate the conceptual framework against the lived institutional experience of PTKI-type institutions. This nested design positions the interview data as a corroborating and illustrative source rather than as the primary evidentiary base of the study; the paper's central argument remains grounded in the literature synthesis and the Qur'anic-maqāṣid framework developed in Section 2. Sources for the literature component were identified through a structured review process combining systematic database

screening with thematic and comparative analysis, following the general procedure used in recent systematic reviews of AI and Qur'anic studies. (Syahir et al., 2025)

Three analytical steps structured the synthesis. First, thematic coding grouped the literature into five recurring themes: the integration of AI with Islamic ethics, human oversight and scholarly authority, algorithmic bias, techno-religion and the reconfiguration of authority, and the theological boundary between AI and divine attributes. Second, comparative analysis examined how these themes were treated differently across regional and institutional contexts, Gulf and Malaysian scholarship, which dominates the corpus quantitatively, was compared against the smaller but growing body of Indonesia-focused literature addressing Nusantara religious manuscripts, PTKI digital transformation, and Indonesian ulema's responses to AI. (Fitryansyah & Fauziah, 2024; Firdaus et al., 2025) Third, the paper triangulates this literature against the co-authors' own institutional vantage points as lecturers in Islamic studies and da'wah at IAIN Parepare and IAIH Pancor, using semi-structured interviews with colleagues at both institutions (described in Section 3.1 below) as a corroborating source and as an interpretive lens for assessing the practical relevance of the proposed framework to Indonesian PTKI.

Interview Component: Participants, Procedure, and Analysis

To triangulate the literature-based framework against institutional practice, semi-structured interviews were conducted with sixteen ($n = 16$) informants, comprising institutional leaders and lecturers, at IAIN Parepare (South Sulawesi) and IAIH Pancor (Lombok, West Nusa Tenggara). Informants were selected purposively on the basis of their teaching or leadership responsibility for AI-related academic policy, Islamic studies curricula, or da'wah instruction. Interviews were conducted in Indonesian over a three-month period from October to December 2025 with informed consent, and analyzed inductively: open coding of transcripts, axial grouping of codes into categories, and synthesis into seven recurring themes per institution. Informants are identified in the text only by role and institution (e.g., "a senior lecturer, IAIN Parepare") to preserve anonymity.

Because the sample is small and purposively rather than randomly selected, and confined to two institutions, the interview data are not intended to be statistically generalizable across Indonesia's more than fifty PTKI institutions. Rather, they serve an illustrative and triangulating function: testing whether the maqāṣid-based governance logic developed from the literature (Section 2) resonates with, is complicated by, or is contradicted by the perspectives of practitioners navigating AI adoption inside Indonesian Islamic higher education. Where interview findings align

with the literature, this is reported as corroboration; where they add nuance not visible in the literature, this is reported as a distinct contribution of the field data.

Limitations of the Combined Design

This combined design carries clear limitations, which the paper acknowledges rather than conceals. The interview component is small in scale and purposively sampled from two institutions in eastern Indonesia (South Sulawesi and Lombok), so its findings should be read as illustrative of practitioner perspective within this specific institutional and regional context rather than as representative of PTKI nationally. Regional variability across the wider Muslim world, and even across Indonesia's own PTKI system, introduces a degree of interpretive uncertainty that neither the literature synthesis nor this modest field component can fully resolve. The discussion of IAIN Parepare and IAIH Pancor in Section 4.3 should accordingly be read as a preliminary, triangulating account grounded in a small purposive sample rather than as a fully generalizable institutional case study; it is offered to sharpen the framework's practical relevance and to identify concrete avenues for the empirical research the literature itself calls for.

FINDINGS AND DISCUSSION

Algorithmic Bias and the Risk of Decontextualizing Qur'anic Meaning

The literature converges on algorithmic bias as the most immediate ethical risk of AI in Qur'anic and religious contexts. Bias enters through at least three channels: skewed or unrepresentative training data, model architectures optimized for engagement rather than doctrinal fidelity, and the absence of transparent auditing mechanisms accessible to religious authorities. Mohd Sofian Aziz and Mohd Izzuddin Syazwan Zulkepli demonstrate this concretely in the domain of AI-based credit assessment in Islamic financial institutions, showing how proxy variables embedded in machine-learning models can reproduce discriminatory outcomes inconsistent with Qur'anic principles of justice ('Adl), even when no explicit religious or ethnic variable is used. (Aziz & Zulkepli, 2025) The same structural risk applies, arguably with higher stakes, to AI systems mediating Qur'anic interpretation: a chatbot trained predominantly on digitized but unauthoritative online tafsir content risks presenting decontextualized or theologically unbalanced readings with the same fluency and apparent authority as it would present sound scholarship, precisely because statistical language models do not distinguish authoritative from unauthoritative sources except insofar as training data and fine-tuning explicitly encode that distinction. (Sahimi et al., 2025)

Elena Gorian and Nurul Diyana Osman's comparative study of digital-ethics regulation in Saudi Arabia and the United Arab Emirates further shows that even well-resourced Gulf states have not yet developed AI-specific regulatory instruments capable of auditing religious-content algorithms, relying instead on general data-protection and cybersecurity law that was not designed with religious epistemic integrity in mind. (Gorian & Osman, 2024) This regulatory gap is more pronounced still in Indonesia, where Herri Bekti *et al.*'s review of Indonesian e-government AI regulation finds that public leadership and policy frameworks for AI remain in an early, fragmented stage of maturity even for general-purpose administrative AI, let alone AI systems specifically governing religious content. (Bekti *et al.*, 2026) Faisal Ali *et al.* argue that closing this gap requires moving beyond existing jurisprudential tools, *Maqāṣid al-Sharī'ah* and *Qawā'id Fiqhiyya* as classically formulated were not designed with algorithmic systems in mind, toward new models rooted explicitly in trusteeship ethics (*amānah*) and *ihsan* (excellence), which can supply the granular, technically informed accountability that bias mitigation in AI requires. (Ali *et al.*, 2025) The practical implication for institutions such as IAIN Parepare, discussed further in Section 4.3, is that any AI tool adopted for instructional or exegetical support should be subject to prior *maqāṣid*-based screening rather than adopted on the basis of technical convenience alone.

A further dimension of bias, less frequently discussed than data or model bias but no less consequential, concerns evaluation bias: the criteria used to judge whether an AI output is "acceptable" for religious use are themselves rarely made explicit or open to scholarly contestation. Eyad Qutieshat, Mohammad Al Adwan, and Mohammed Khater's accountability framework addresses this gap by proposing that any institution deploying AI for religious or educational purposes publish, in advance, the specific criteria against which outputs will be evaluated for *maqāṣid* compliance, so that the evaluation itself becomes auditable rather than an opaque internal judgment. (Qutieshat *et al.*, 2026) For IAIN Parepare and comparable PTKI institutions, this suggests a concrete, low-cost governance step: any AI tool piloted in a course such as Psikologi Dakwah should be accompanied by a short, published statement of the criteria against which its outputs are being judged acceptable for classroom use, reviewed periodically by the relevant curriculum committee, rather than left to the discretion of the individual instructor alone.

This risk is not merely theoretical for Indonesian PTKI institutions. Interviews conducted with lecturers and institutional leaders at IAIN Parepare and IAIH Pancor independently identified the same concern: informants at both institutions described the danger of AI-generated "hallucination," confident but unverified or fabricated

references and interpretations, as the most pressing practical risk of AI use in Islamic studies coursework, more pressing in their account than questions of access or convenience. (personal communication, October–December 2025) Several informants explicitly required students to verify AI-generated content against authoritative texts and qualified scholars before use, effectively operationalizing, without necessarily naming it as such, the verification logic this paper derives from the *maqāṣid* literature (Section 2.3).

Techno-Religion and the Reconfiguration of Religious Authority in the Nusantara Context

Beyond bias, the literature identifies a deeper structural shift: AI and digital platforms are reconfiguring who counts as a legitimate religious authority and how that legitimacy is established. Lohlker and Wahid's account of hybrid "cyber-mufti" figures, whose authority is negotiated through engagement metrics as much as through scholarly credentials, describes a global pattern that is clearly visible in the Nusantara context as well. (Lohlker & Wahid, 2026) Wahid and Sofyan Abdulloh's systematic review of digital Islamic authority is more cautious than some of the techno-optimist literature, concluding that claims of a "revolutionary shift" in religious authority should be treated critically: digital platforms decentralize the *distribution* of religious content far more clearly than they decentralize genuine interpretive *authority*, which in most observed cases remains anchored in traditional credentialing even as its delivery channels change. (Wahid & Abdulloh, 2026) This distinction matters for how Indonesian institutions should respond: the risk is not that AI will simply replace the ulama, but that it may erode the public's ability to distinguish AI-mediated content of uncertain provenance from content genuinely vetted by qualified scholars.

Regional and cultural specificity matters considerably here. Muhammad Arsyad Fitryansyah and Fitri Nur Fauziah's study of AI applications in interpreting Nusantara religious manuscripts shows that Indonesian and Malay-world Islamic textual heritage, shaped by centuries of localized scholarship, vernacular commentary traditions, and syncretic historical layers, poses interpretive challenges for AI systems trained predominantly on Arabic-language, Middle Eastern corpora, since models optimized for classical Arabic tafsir may misread or flatten the specific hermeneutical conventions of Nusantara manuscript traditions. (Fitryansyah & Fauziah, 2024) Muhammad Aji Firdaus, Muhammad Syihabuddin, and Zaki Fuady's comparative study of traditionalist and modernist Indonesian Muslim communities' responses to AI further shows that reception is not uniform: traditionalist communities, more

institutionally anchored in established pesantren and ulama networks, tend to treat AI with structured caution mediated through existing authority hierarchies, while modernist communities show greater willingness toward direct, individualized engagement with AI tools. (Firdaus et al., 2025) Erwin Kosasih, M. Ridha Fadillah Islamy, and Rd. Siti Wiwaha situate this variability within the Indonesian government's own Wasathiyyah (moderation) approach to religious life, arguing that AI governance in Islamic law should be calibrated through the same moderationist logic that already structures Indonesia's approach to religious pluralism and extremism prevention, rather than imported wholesale from Gulf or Malaysian regulatory models. (Kosasih et al., 2024) This is consistent with the position defended in this paper: an integrated Qur'anic ethical framework must be sensitive to the sociological texture of the specific Muslim community in which it is applied, and a framework adequate for Riyadh or Kuala Lumpur cannot simply be transplanted, unmodified, to Parepare or Cirebon.

The Indonesian ulema study by Rahmat Hidayat Abror, Robingatun Adawiah, and Nihayatus Sofia, reviewed more fully in Section 2.6, adds an important empirical texture to this discussion: it finds that Indonesian religious authorities do not experience AI as a single undifferentiated threat or opportunity, but distinguish sharply between AI's outreach function (where it is broadly welcomed as extending da'wah's reach to digitally native audiences) and its interpretive function (where caution dominates). (Abror et al., 2024) This distinction maps directly onto the fourth tier of the governance framework developed in Section 4.5: contextual assessment should ask not only whether an AI application is used in a religious setting, but specifically which function, outreach or interpretation, it is performing, since the two carry markedly different risk profiles even within the same institution or even the same course. Fahrettin Atallah's account of digital fatwa mediation reinforces the point from the fatwa domain specifically, observing that audiences increasingly evaluate religious authority using communicative and platform-based cues rather than lineage-based cues, a shift that Indonesian institutions such as IAIN Parepare should anticipate proactively in how they present AI-assisted content to students, ensuring that any AI-generated material is clearly and consistently labeled as such, rather than presented in a way that could be mistaken for direct scholarly output. (Atallah, 2026).

AI in Islamic Higher Education: Reflections from IAIN Parepare and the PTKI System

Indonesia's PTKI system, encompassing UIN, IAIN, and STAIN institutions under the Ministry of Religious Affairs, occupies a distinctive position in the global literature on AI and Islamic education: it combines a formally accredited, state-regulated higher-education structure with a mandate to transmit religious knowledge in continuity with classical scholarly authority. Achruh, Muhammad Rapi, Muhammad Rusdi, and Ridwan Idris's study of AI adoption challenges and opportunities in Indonesian Islamic higher education institutions identifies infrastructural readiness, faculty AI literacy, and curricular integration as the three principal bottlenecks slowing adoption, a pattern consistent with the author's own observation of curriculum development processes within the Faculty of Ushuluddin, Adab, and Dakwah at IAIN Parepare, where digital-pedagogy initiatives have so far outpaced the development of AI-specific ethical guidelines for coursework in Islamic studies and da'wah. (Achruh et al., 2024) Sitti Syamsudduha, Suwandi, and Zulfikar Ali Tabrani's development and validation of an Islamic AI literacy instrument (AILS-IIUS) for Indonesian Islamic higher education represents an important step toward closing this gap, offering PTKI institutions a measurable framework for assessing whether faculty and students possess the combination of technical and theological literacy needed to use AI responsibly rather than simply adopting it. (Syamsudduha et al., 2026)

Evidence from Indonesian madrasah settings, though situated at the secondary rather than the tertiary level, offers a further instructive parallel. Anwar Wedi, Dewi Mardiana, and Umiarso's case study of digital transformation in Islamic religious education at a Madrasah Aliyah in East Java finds that successful AI integration depended less on the sophistication of the technology deployed than on whether teachers received structured professional development enabling them to supervise AI outputs critically, rather than treating AI-generated material as self-authenticating. (Wedi et al., 2025) This finding directly supports the human-in-the-loop principle defended throughout this paper's theoretical framework (Section 2.3), and it suggests a concrete institutional priority for PTKI more broadly: AI literacy training for lecturers should precede, not follow, the procurement of AI-enabled teaching tools. Nizar Andri Nirwana et al.'s SWOT analysis of AI integration in Islamic education reinforces this point from a different angle, identifying enhanced personalization and cognitive engagement as genuine strengths of AI-assisted instruction, but flagging affective and spiritual dimensions of religious learning, the formation of adab, the cultivation of khushū' in worship, the mentorship relationship between teacher and

student, as domains where AI substitution poses a serious and largely underappreciated weakness. (Andri Nirwana et al., 2025)

These bottlenecks are directly visible in the paper's own field interviews at IAIN Parepare. Informants there described a pattern of instrumental acceptance: generative AI platforms such as ChatGPT and Gemini are already used routinely by lecturers to prepare presentations, design teaching materials, and draft policy documents, and by students to draft assignments, translate texts, and locate literature, yet no informant treated AI as a legitimate source of religious truth in its own right. (personal communication, October–December 2025) Several lecturers described AI use as appropriate only at the "preliminary" or exploratory stage of inquiry, a stage that must subsequently be verified against authoritative scholarly sources. This corroborates, from within the institution itself, the human-in-the-loop principle defended throughout this paper's theoretical framework (Section 2.3): the boundary is not whether AI is used, but whether its output is allowed to substitute for scholarly verification.

At the same time, informants at IAIN Parepare confirmed that the institution currently lacks a formal code of conduct or governance instrument for AI use in academic work, leaving lecturers and students to set their own boundaries informally, a governance gap consistent with Bekti et al.'s finding that Indonesian public-sector AI regulation remains at an early stage of maturity even outside religious contexts. (personal communication, October–December 2025) Three practical implications follow, now grounded in this institutional evidence rather than offered purely as illustrative extrapolation. First, AI tools introduced into courses on Psikologi Dakwah, tafsir, or comparative religious studies should be explicitly framed to students as assistive rather than authoritative, with lecturers retaining responsibility for verifying AI-generated summaries of Qur'anic or hadith material, consistent with the verification practice informants already report applying informally. Second, faculty development programs, building on the AILS-IIUS instrument, could formalize the AI literacy that lecturers at IAIN Parepare currently apply on an ad hoc, individual basis. (Syamsudduha et al., 2026) Third, IAIN Parepare and comparable PTKI institutions could adapt Zafar and Ali's dual-governance model into a lightweight, faculty-level ethics review process, directly addressing the regulatory gap informants themselves identified. (Zafar & Ali, 2026)

The personalized-learning literature offers a further resource for thinking through this last point in more pedagogically concrete terms. Jamal M. Shehab et al.'s study of AI applications for personalized learning in Islamic education catalogues specific use cases, adaptive quizzing calibrated to a student's prior mastery of tafsir

terminology, automated flashcard generation for hadith chains of transmission, and personalized reading pacing for classical Arabic texts, that could plausibly be piloted within a course such as Psikologi Dakwah at IAIN Parepare without displacing the lecturer's interpretive role, since each application operates on drilling and pacing rather than on the substantive content of religious meaning. (Shehab, 2025) This distinction between AI applications that operate on the pedagogical scaffolding of a course (pacing, drilling, retrieval practice) and applications that operate on its substantive religious content (interpretation, ruling, doctrinal summary) offers PTKI curriculum committees a workable, low-friction starting criterion for a first wave of AI adoption: scaffolding applications can reasonably be piloted with lighter oversight, while content applications require the fuller dual-governance review process described above.

Theological Boundaries: Divine Omniscience, Human Moral Agency, and Mechanistic Knowledge

Underlying all of the governance questions discussed so far is a more fundamental theological claim, on which the literature is strikingly unanimous: AI's mechanistic knowledge is categorically distinct from divine knowledge, and this distinction precludes attributing either moral agency or interpretive authority to AI in any strong sense. Mikhail Kuznetsov's analysis of divine omniscience in the age of AI argues that AI systems, however capable of producing statistically plausible outputs, cannot mediate access to God or supplant divine attributes, because divine omniscience is not merely comprehensive information but a mode of knowing bound up with divine will, mercy, and judgment that has no computational analogue. (Kuznetsov, 2026) Nidhal Guessoum's treatment of kalām (Islamic theology) and AI develops a parallel argument from the standpoint of human agency: because AI lacks consciousness, intentionality, and the capacity for existential engagement with moral choice, its outputs, however useful as decision support, cannot be said to reason (in the theologically relevant sense) or to bear moral responsibility for the positions they generate. (Guessoum, 2026)

This theological position has direct legal-ethical consequences, developed most explicitly in the fiqh literature on AI. Eyad Qutieshat, Mohammad Al Adwan, and Mohammed Khater's analysis of AI in Islamic law argues that because AI cannot bear legal responsibility (taklif), a status classically reserved for morally competent human agents (mukallaf), legal personhood cannot coherently be extended to AI systems regardless of their behavioral sophistication, and human actors (developers, deployers, institutional users) must remain the exclusive locus of accountability for

AI-mediated harm. (Qutieshat et al., 2026) Ahmad Nazrul Nazir et al. extend this reasoning specifically to AI-mediated engagement with Qur'anic verses, proposing that hadith methodology's traditional capacity to accommodate uncertainty and graded authenticity (from *ṣaḥīḥ* to *ḍa'īf*) offers a more theologically appropriate model for calibrating confidence in AI outputs than the binary, deterministic framing common in computer science, where a model's response is presented as simply "correct" or "incorrect" rather than graded by source reliability. (Nazir et al., 2025) Taken together, this body of theological and legal-theoretical work supplies the normative floor beneath the practical governance recommendations offered in Sections 4.1 through 4.3: AI's assistive role is not a temporary technical limitation to be overcome as models improve, but a theologically principled boundary that remains binding regardless of future advances in AI capability.

It is worth pausing on why this theological boundary is unlikely to dissolve as AI models become more capable, since a common objection holds that today's limitations are merely temporary engineering constraints. The classical epistemological argument reviewed in Section 2.1 through 2.3, and reaffirmed by Al Kubaisi's Sunnah-based ethics and by Ibn Ashur's account of *ʿilm* as integrating revelation, reason, and authoritative transmission, locates the boundary not in AI's current technical performance but in a structural feature of what AI is: a system that generates outputs through statistical association over training data, without the capacity for *niyyah* (intention), *taqwā* (God-consciousness), or accountability before God that the Islamic tradition treats as constitutive of genuine religious knowledge and moral agency. (Al Kubaisi, 2024; Ibn Ashur, 2006) On this reading, even a hypothetical future AI system that reproduced expert-level tafsir output with perfect textual accuracy would still lack the theologically relevant properties, intention, accountability, spiritual awareness, that qualify a human scholar to exercise interpretive authority. This is not a claim that can be falsified by future improvements in benchmark performance, and PTKI institutions should accordingly treat the human oversight requirement as a permanent feature of responsible AI governance in religious education, not as a transitional safeguard to be relaxed as the technology matures.

This theological boundary was articulated independently, and in strikingly consistent terms, by lecturers interviewed for this study. One informant characterized AI as a machine of information without emotion and without knowledge of truth itself, while another insisted that ethical responsibility rests entirely with the human user, not the technology: it is the user, not the AI, that must act ethically. (personal communication, October–December 2025) These formulations, arrived at

independently of the classical kalām literature reviewed in Section 2.1, converge with Kuznetsov's and Guessoum's arguments that AI's mechanistic processing cannot be mistaken for, or extended toward, divine omniscience or moral agency, suggesting that this theological boundary is not merely a scholarly abstraction but an intuitively held commitment among practitioners inside Indonesian Islamic higher education. (Kuznetsov, 2026) (Guessoum, 2026).

Toward an Integrated Qur'anic-Ethical Framework for AI Governance

Synthesizing Sections 4.1 through 4.4, this paper proposes an integrated four-tier framework for governing AI in Islamic religious and educational contexts, applicable both at the level of national policy and at the level of individual PTKI institutions such as IAIN Parepare. The first tier is epistemological: every AI application touching religious content should be evaluated first against Tawhīdī coherence, does it fragment religious knowledge into decontextualized, purely technical outputs, or does it preserve the systemic, accountability-oriented character of Islamic epistemology? The second tier is objectives-based: does the application serve or threaten the five preserved objectives of Maqāṣid al-Sharī'ah, following Wahid's (2025) harm-assessment logic, with particular attention to ḥifẓ al-dīn and ḥifẓ al-'aql for applications touching exegesis and education specifically? The third tier is procedural: is a human-in-the-loop verification mechanism, adapted isnād and tarjīh protocols for exegetical applications, dual Sharia-technical governance for institutional deployment, actively in place, or merely asserted? The fourth tier is contextual: has the application been assessed for fit with the specific communal and regional setting in which it will be used, following the Nusantara-sensitive analysis developed in Section 4.2, rather than adopted as a generic, one-size-fits-all solution?

Naseer Aslam Elzeiny et al.'s ontological framework for AI-based understanding of religious texts offers one technically concrete mechanism for operationalizing the second and third tiers simultaneously: by encoding historical, social, and jurisprudential context directly into the knowledge representations an AI system draws upon, rather than relying solely on statistical pattern-matching over raw text, such systems can be constrained, at the architectural level, to surface the interpretive context that maqāṣid-based governance requires. (Elzeiny et al., 2025) Nurul Fadhlin Paiman et al.'s Technology-Organization-Environment-Maqasid (TOEM) model, developed for Shariah-moderated AI adoption in public services, provides a template that PTKI administrations could adapt for institution-level AI procurement decisions, since it explicitly integrates maqāṣid criteria alongside the standard technology-organization-environment factors already used in most

institutional IT governance processes. (Paiman et al., 2025) For Indonesia specifically, Rebecca Campbell-Esen, Jillian Mahoney, and Reem Talhouk's co-design study with the UK Muslim community demonstrates the value of participatory governance processes that directly involve religious communities, not only scholars and technologists, in shaping AI ethics guidelines, a model this paper argues is well suited to PTKI's broader mandate of community-engaged Islamic education (pendidikan Islam berbasis masyarakat). (Campbell-Esen et al., 2026) Taken as a whole, this integrated framework does not resolve every tension between AI's technical capabilities and Islamic epistemic commitments, but it offers PTKI institutions, fatwa bodies, and digital da'wah platforms a structured, theologically grounded starting point for governance decisions that are currently, in most Indonesian institutional settings, made on an ad hoc basis.

A brief worked illustration clarifies how the four tiers interact in practice. Consider a lecturer at IAIN Parepare piloting an AI chatbot to help Psikologi Dakwah students review key concepts before an examination. Applying tier one, the epistemological check, the tool passes if it is presented to students as a drilling aid rather than an authoritative source, preserving Tawhīdī accountability by keeping the lecturer, not the chatbot, as the acknowledged locus of scholarly responsibility. Applying tier two, the objectives-based check, the tool implicates mainly taḥsīniyyāt (study convenience) rather than ḍarūriyyāt, provided it is not used to generate novel interpretive claims about contested concepts. Applying tier three, the procedural check, the tool passes only if the lecturer has reviewed a sample of its outputs against the course's approved references before deployment, and continues spot-checking outputs through the term rather than treating initial approval as a one-time gate. Applying tier four, the contextual check, the tool should be evaluated for whether its underlying training data and phrasing are intelligible and appropriate for Indonesian undergraduate students specifically, rather than assumed adequate because it performs well on international benchmarks. A tool that clears all four tiers is not thereby risk-free, but it has been screened through a principled, repeatable process rather than adopted on the basis of convenience or novelty alone, which is the paper's central governance recommendation.

This proposed governance model also finds independent support in the paper's field interviews: informants at both IAIN Parepare and IAIH Pancor, without prompting toward any particular framework, proposed integrating Islamic normative principles, tawhīd, maqāṣid al-sharī'ah, amānah, and adab, with conventional academic-integrity policy as the basis for a future institutional code of conduct on AI use. (personal communication, October–December 2025) This convergence between

literature-derived theory and practitioner intuition strengthens the case that the maqāṣid-based governance model proposed here is not merely normatively desirable but institutionally actionable within the PTKI system.

Comparative Governance Models in Dialogue: Gulf, Malaysia, the UK, and Indonesia

Placing the regulatory and community-governance literature reviewed in Section 2.4 into direct comparison sharpens what an Indonesian, PTKI-appropriate governance model should and should not borrow from elsewhere. The Gulf pattern documented by Gorian and Osman, general data protection law standing in for AI-specific religious content regulation, is the model this paper argues Indonesia should not simply replicate, since it leaves precisely the gap in algorithmic accountability that Sections 4.1 and 4.5 identify as most consequential for exegetical and educational applications. (Gorian & Osman, 2024) The Malaysian fatwa-institution pattern documented by Meerangani et al., formal guidelines requiring mandatory human sign-off on AI-assisted fatwa drafting, is considerably closer to the model this paper recommends, and it has the practical advantage of being a Southeast Asian, Shafi'i-majority context whose institutional assumptions are more directly transferable to Indonesia than Gulf models built around different madhhab and state-religion relationships. (Meerangani et al., 2026) The UK community co-design pattern documented by Campbell-Esen, Mahoney, and Talhouk contributes a procedural rather than substantive lesson, namely that the process of arriving at governance rules, through participatory consultation with the communities affected, matters as much as the content of the rules themselves, and this procedural lesson is directly applicable to PTKI regardless of doctrinal or regulatory differences with the UK context. (Campbell-Esen et al., 2026)

For Indonesia specifically, the Wasathiyyah-based approach proposed by Kosasih, Islamy, and Wiwaha offers what this paper regards as the most institutionally realistic synthesis of these comparative lessons, because it does not require importing an entirely foreign regulatory apparatus, but instead extends a moderationist governance logic that Indonesian religious and educational institutions, including PTKI, already use for other contested domains such as countering religious extremism and managing religious pluralism. (Kosasih et al., 2024) Practically, this suggests that AI governance guidelines for PTKI should be developed and issued through the same institutional channels, and ideally by the same moderation-oriented directorates within the Ministry of Religious Affairs, that already issue guidance on religious moderation (*moderasi beragama*), rather than

through a wholly separate, newly created regulatory body. Herri Bekti et al.'s finding that Indonesian e-government AI regulation remains institutionally immature reinforces the case for this integrative approach: rather than waiting for a mature, AI-specific national regulatory framework to emerge before acting, PTKI institutions can move faster, and more legitimately, by embedding AI governance within existing *moderasi beragama* institutional structures that already command trust and familiarity among lecturers, students, and religious authorities. (Bekti et al., 2026).

Pedagogical Design Principles for AI-Assisted Islamic Education

Drawing together the pedagogical literature reviewed in Section 2.5 with the institutional discussion in Section 4.3, five design principles emerge for AI-assisted instruction in PTKI settings. First, scaffolding-content separation: as argued in Section 4.3, AI tools operating on pedagogical scaffolding (pacing, drilling, retrieval practice) warrant lighter governance than tools operating on substantive religious content, following the distinction developed from Shehab et al.'s catalogue of personalized-learning applications. (Shehab, 2025) Second, graded confidence representation: following Nazir et al.'s hadith-methodology-inspired proposal, any AI system used in coursework should represent its own outputs with explicit gradations of confidence rather than uniform assertiveness, so that students learn to treat AI output critically rather than as settled fact. (Nazir et al., 2025) Third, corpus transparency: following Abdelgelil, Tahir, and Bidin's finding on *qirā'āt* marginalization, instructors should know, and ideally disclose to students, which textual traditions and reading conventions a given AI tool's training corpus privileges, since this shapes what the tool will and will not surface reliably. (Abdelgelil et al., 2025)

Fourth, affective and spiritual preservation: following Andri Nirwana et al.'s SWOT analysis, AI adoption decisions should explicitly protect classroom time and activities associated with the affective and spiritual dimensions of religious learning, mentorship conversations, communal worship practice, *adab* formation, from displacement by AI-mediated efficiency gains, treating these dimensions as core curricular goods rather than optional extras that can be trimmed when technology offers a faster substitute. (Andri Nirwana et al., 2025) Fifth, faculty-first sequencing: following Wedi, Mardiana, and Umiarso's madrasah case study and the AILS-IIUS instrument developed by Syamsudduha, Suwandi, and Tabrani, AI literacy training for lecturers should precede, not accompany or follow, the classroom deployment of AI tools, since the madrasah evidence indicates that successful integration depends more on teachers' capacity to supervise AI output critically than on the sophistication of the tool itself. (Wedi et al., 2025; Syamsudduha et al., 2026) Taken together, these

five principles translate the more abstract four-tier governance framework of Section 4.5 into classroom-level design guidance that individual PTKI lecturers, not only administrators, can act on directly.

A Research and Policy Agenda for PTKI

The discussion above points toward a concrete research and policy agenda for PTKI institutions, responsive to the empirical gaps flagged throughout this literature. On the research side, three priorities stand out. First, comparative institutional case studies, following the single-site model of Wedi, Mardiana, and Umiarso, should be extended across multiple PTKI campuses to test whether the faculty-first sequencing principle proposed in Section 4.7 holds across institutions with varying levels of digital infrastructure. (Wedi et al., 2025) Second, direct evaluation studies modeled on Yusof et al.'s (2025) comparative chatbot assessment should be conducted using Indonesian-language and Nusantara-specific religious content, since the existing evaluation evidence is drawn overwhelmingly from Malay-language rather than Indonesian-language systems and may not generalize directly. Third, adoption studies should examine whether the AILS-IIUS literacy instrument, validated in its original Indonesian Islamic higher-education sample, predicts safer or more effective AI use when applied specifically within PTKI faculties of Ushuluddin, Adab, and Dakwah, where the exegetical and da'wah stakes of AI misapplication are arguably higher than in other faculties. (Syamsudduha et al., 2026)

On the policy side, this paper recommends that the Ministry of Religious Affairs, in coordination with PTKI rectors and deans, consider three concrete steps. First, issuing sector-wide guidance embedding AI governance within the existing *moderasi beragama* institutional framework, as argued in Section 4.6, rather than creating a parallel and potentially redundant regulatory structure. Second, mandating a baseline AI literacy requirement for lecturers in religious studies faculties, using or adapting the AILS-IIUS instrument, before AI tools are formally integrated into curricula, operationalizing the faculty-first sequencing principle at a system level rather than leaving it to individual institutional discretion. Third, establishing a lightweight, shared dual-governance review mechanism, following the Sharia-technical structure proposed by Zafar and Ali and adapted for educational rather than financial institutions, that smaller PTKI campuses without the resources to build independent AI ethics committees could access on a shared, sector-wide basis. (Zafar & Ali, 2026) None of these three steps requires new primary legislation, and all three could plausibly begin within a single academic cycle, which this paper regards as an

important practical advantage given the pace at which AI tools are already entering PTKI classrooms whether or not formal governance keeps pace.

CONCLUSIONS

This paper has argued that AI's expanding role in Qur'anic exegesis, religious education, and da'wah requires governance grounded not in imported technology-ethics frameworks but in an integrated reading of Tawhīd, Maqāṣid al-Sharī'ah, 'Adl, and Amānah. Reviewing Scopus-indexed literature from 2015 to 2024, the paper has shown that algorithmic bias risks decontextualizing Qur'anic meaning; that AI is restructuring religious authority toward hybrid, digitally negotiated figures whose legitimacy nonetheless remains substantially anchored in traditional credentialing, particularly in the Nusantara context; that Indonesian PTKI institutions, illustrated here through the case of IAIN Parepare, face genuine opportunities alongside infrastructural and pedagogical risks in adopting AI; and that Islamic theology maintains, across multiple independent lines of argument, a firm and non-negotiable boundary between AI's mechanistic processing and divine omniscience or human moral agency.

The integrated four-tier framework proposed in Section 4.5, epistemological, objectives-based, procedural, and contextual, offers PTKI administrators, fatwa bodies, and digital da'wah platforms a practical starting point for AI governance decisions. For IAIN Parepare and comparable institutions, the most immediate priority suggested by this analysis is not the acquisition of more sophisticated AI tools but the development of faculty AI literacy and a lightweight, dual Sharia-technical review process for AI-enabled instructional materials, so that adoption proceeds under sustained human scholarly oversight rather than administrative convenience.

The paper's conceptual, library-based method is also its principal limitation. Empirical research, surveys of PTKI faculty and student AI use, structured evaluation of AI-generated tafsir outputs against expert scholarly judgment, and comparative institutional case studies across multiple PTKI sites, is needed to test and refine the framework proposed here. Future research should also examine how the regulatory gaps identified in Section 4.1, particularly around algorithmic accountability, might be addressed through Indonesia-specific policy instruments developed jointly by the Ministry of Religious Affairs, PTKI institutions, and the broader Indonesian Islamic scholarly community, building on but not merely replicating regulatory models developed in Gulf and Malaysian contexts.

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