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Conceptualising Islamic Educational Management in the Era of Artificial Intelligence: A Multi-Case Synthesis of Neuropedagogy, Integrative Digital Leadership and Governance

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Abstract: Islamic education institutions in Indonesia, ranging from pesantren and madrasah to private Islamic higher education institutions (PTKIS), are adapting to artificial intelligence and platform-based learning without a shared framework for what a religiously grounded digital transformation should look like. This article addresses that gap by synthesising five recent field studies conducted between 2024 and 2026 across madrasah, pesantren, and PTKIS sites in Indonesia, supported by institutional documents and secondary case material. Using a qualitative multicase synthesis design with thematic narrative cross-case analysis, the study examines how neuropedagogical practice, digital leadership, value-based classroom management, conflict resolution, and total quality management interact under conditions of rapid digitalisation. Findings show that neuropedagogical competence combined with spiritual intelligence is among the strongest correlates of innovative teaching performance, that leadership grounded in fathanah (wisdom) and shiddiq (integrity) determines whether digitalisation strengthens or erodes institutional legitimacy, and that musyawarah (deliberative consultation) is being reconceptualised as a moral-procedural-digital mechanism for resolving generational and administrative conflict. The study proposes a Triadic Sustainable Institutional Performance (SIP) model that positions neuropedagogy and spiritual intelligence as a cognitive-spiritual foundation, value-based management as a mediating layer, and integrative digital leadership, maqasid-anchored governance, and moral-procedural-digital musyawarah as three interacting pillars that jointly determine institutional outcomes. The article contributes a

testable conceptual framework for Islamic education management research and offers practical guidance for institutional leaders navigating artificial intelligence adoption without treating digitalisation as a purely technical undertaking.
Keywords: Islamic education management; digital leadership; neuropedagogy; artificial intelligence in education; qualitative multicase synthesis.

1. INTRODUCTION

Indonesia hosts more than 40,000 pesantren and tens of thousands of madrasah, alongside several hundred private Islamic higher education institutions, all of which have spent the last five years absorbing platform-based learning, generative AI tools, and digital administration systems at a pace few of their management structures were built to handle. The question this article asks is not whether these institutions should digitalise. That decision has already been made for them by students who arrive with AI writing assistants on their phones and by ministries that now require digital reporting for accreditation. The question is what kind of management thinking allows an institution to adopt these tools without hollowing out the spiritual and moral formation that has historically distinguished Islamic education from purely technocratic schooling.

Riyanto (2026) frames this as an existential tension between technocratic efficiency and the preservation of an institution's ruh, or spiritual character. That framing is useful but incomplete on its own, because it describes the tension without specifying the management mechanisms that resolve it. A school leader can accept, in principle, that technology should serve maslahah (the common good) and still have no operational answer for how a teacher manages cognitive load in an AI-assisted classroom, how a principal justifies a new learning platform to sceptical senior staff, or how a quality assurance office measures whether digitalisation has actually improved anything. These are management problems, not theological ones, even though they are inseparable from theological commitments.

This article treats Islamic education management as a field where five bodies of work, each developed somewhat independently, need to be read together: neuropedagogy and spiritual intelligence in

AIassisted classrooms (Tumiran et al., 2026), integrative digital leadership and quality assurance (Riyanto, 2026), conflict management through digitally mediated musyawarah (Safitri et al., 2025), total quality management under digital innovation in pesantren (Rada et al., 2024), and ethical digital leadership for AI adoption in Islamic higher education (Ahmadi et al., 2026). Individually, each study answers a narrow question about one type of institution in one region of Indonesia. Read together, against a broader international literature on digital leadership, maqasid-based governance, and AI-related academic integrity, they begin to sketch something closer to a management theory: an account of how cognitive-spiritual foundations, daily value-based practice, and institutional-level leadership and governance interact to produce what this article calls sustainable institutional performance.

The contribution of this article is threefold. First, it synthesises five field-based studies of Indonesian Islamic education institutions that have not previously been read as a single body of evidence, alongside converging international literature on digital leadership and AI governance in higher education. Second, it proposes a conceptual framework, the Triadic Sustainable Institutional Performance model, that specifies how neuropedagogy, value-based management, digital leadership, maqasid-anchored governance, and conflict resolution relate to one another rather than treating them as a list of separately important factors. Third, it translates that framework into practical guidance that institutional leaders can use when deciding, for instance, whether to adopt an AI writing tool for their PTKIS or how to introduce a learning management system to teachers who did not ask for it.

This positioning matters because the existing literature tends to treat these five domains as separate research programs rather than components of one management system. Studies of digital leadership in higher education, including much of the international literature reviewed in Section 2, are written for a largely secular institutional context and rarely engage with spiritual formation as a management variable at all. Studies of Islamic education management, conversely, often treat digitalisation as a background condition rather than the

central object of analysis. Neither literature, taken alone, gives an institutional leader a workable answer to a concrete Monday morning question: should this madrasah adopt the AI tutoring app a vendor is proposing, and if so, under what conditions? Answering that question requires bringing neuropedagogy, leadership theory, governance frameworks, and conflict management into the same conversation, which is the task this article undertakes.

The remainder of the article proceeds as follows. Section 2 reviews the theoretical foundations across five domains: neuropedagogy and spiritual intelligence, digital leadership, maqasid alshariah as a governance framework, total quality management, and AI-related academic integrity. Section 3 describes the multicase qualitative synthesis design, including the search and screening strategy used to identify the five source studies and the quality appraisal applied to each. Section 4 presents findings organised around six themes drawn from the source cases. Section 5 develops the conceptual framework and discusses its implications against the wider literature. Section 6 addresses limitations and directions for future field research, and Section 7 concludes.

2. METHOD

2.1 Research Design

This study uses a qualitative multicase synthesis design, following the case study logic described by Baxter and Jack (2008), in which multiple bounded cases are analysed both individually and comparatively to identify patterns that no single case could establish on its own. Rather than collecting new primary data through interviews or surveys, the study synthesises evidence from five recently published, peer-reviewed field studies of Indonesian Islamic education institutions (Table 1), which form the primary evidence base for the findings reported in Section 4, and situates that evidence against the broader international literature on digital leadership, maqasid-based governance, and AI academic integrity reviewed in Section 2. One additional case narrative, describing leadership practice at SDIT Darul Falah in Ponorogo, is used throughout the article for illustrative purposes only; because it is drawn from an

internal institutional profile rather than from peerreviewed field research, it is treated as an illustrative example rather than as a sixth source study, it is not included in Table 1, and no claim in this article rests on it alone. Its provenance is stated in full in Section 3.2. This design was chosen deliberately: the field of Islamic education management already contains a small but growing body of empirical field research conducted independently across different regions and institutional types, and what has been missing is a systematic attempt to read that evidence together rather than in isolation. A synthesis design makes it possible to identify convergence and contradiction across cases without asking institutions that have already been studied to submit to a further round of data collection.

2.2 Case Selection, Search Strategy, and Data Sources

Candidate studies were identified through a structured, though not formally registered, search process rather than convenience sampling. Between March and April 2026, the corresponding author searched Scopus, ERIC, Google Scholar, and the Indonesian Science and Technology Index (Sinta) using combinations of the terms 'Islamic education management', 'pesantren' OR 'madrasah' OR 'PTKIS', and 'digital leadership' OR 'artificial intelligence' OR 'neuropedagogy' OR 'maqasid' OR 'musyawarah' OR 'total quality management', restricted to records published between January 2024 and April 2026. This search identified 47 unique records after duplicates were removed. Titles and abstracts were then screened against the three inclusion criteria below, which excluded 24 records addressing digital transformation in general (non-Islamic) education settings, 9 that were purely theoretical or opinion pieces without field data, and 5 that duplicated findings already captured by a more recent or more comprehensive source. The remaining 9 records were assessed in full text; four were excluded at this stage, three for methodological ambiguity (insufficient reporting of sample or procedure to assess rigour) and one for falling outside the 20242026 window once its actual publication date was confirmed. Five studies met all three criteria and were retained (Table 1). This process approximates, without formally registering as, a PRISMA-style

screening flow: identification (n = 47 unique records) to title/abstract screening (n = 9 retained) to full-text assessment (n = 5 retained).

The three inclusion criteria applied at both screening stages were: publication between 2024 and 2026, an empirical field methodology (survey with path analysis, systematic review of field literature, or site-based case study), and a clear focus on Islamic education management under conditions of digital transformation. Table 1 summarises the five source studies that met all three criteria.

Table 1. Source field studies synthesised in this article

Study	Site / Sample	Method	Key Finding	Quality Appraisal
Tumiran et al. (2026)	Madrasah teachers, Medan (n = 182, path analysis)	Quantitative survey; path analysis	Neuropedagogy (β=0.268) and digital integration (β=0.253) predict innovative teaching performance; Islamic classroom management mediates	MMAT: 5/5 criteria met (strong)
Riyanto (2026)	PPMA Budi Guna, Bogor (pesantren)	Qualitative field study	Proposes integrative digital leadership, value-based management, and holistic governance as three interacting pillars	CASP: 7/10 (moderate; limited methods detail)
Safitri et al. (2025)	Multisite, Indonesia (systematic review)	Systematic literature review (PRISMA; 350 screened, 15 synthesised)	Musyawarah reconceptualised as a moral-procedural-digital triad for conflict resolution	Reporting transparency: high (PRISMA reported search and screening)
Rada et al. (2024)	Pesantren, Bangka Belitung Islands	Qualitative field study	TQM under digital innovation requires sustained infrastructure, pedagogical training,	CASP: 7/10 (moderate; limited

			and integrated curriculum design	methods detail)
Ahmadi et al. (2026)	PTKIS leaders nationwide (n=95 survey)	Quantitative /mixed survey	Positive leadership attitudes toward AI coexist with an almost total absence of written AI governance policy.	MMAT: 4/5 criteria met (strong)

The resulting data corpus spans three institutional types, madrasah, pesantren, and PTKIS, across four regions of Indonesia (Medan, Bogor, Bangka Belitung, and a national PTKIS sample), which provides reasonable variation for cross-case comparison while remaining within a single national policy and cultural context. This data corpus was cross-checked against 13 additional peer-reviewed sources on digital leadership, neuroeducation, maqasid governance, and AI academic integrity from the broader international literature to test whether patterns observed in the Indonesian cases held against evidence from other national contexts. It was also read alongside an illustrative institutional case narrative describing leadership practice at SDIT Darul Falah in Ponorogo. This material originates from an internal institutional leadership profile compiled by the school's administration and shared with the corresponding author during fieldwork scoping in early 2026; it has not been independently peer-reviewed and does not report a documented data collection method. It is therefore not part of the primary evidence base summarised in Table 1 and is used exclusively as an illustrative example of practices consistent with the pattern documented more rigorously in Riyanto (2026) and Ahmadi et al. (2026); every claim drawn from it elsewhere in this article is flagged as illustrative rather than as independent evidence.

Table 1 also reports the methodology each source study used, which matters for how much weight its claims can bear. Tumiran et al. (2026) is the only source with a quantitative path model, drawn from a survey of madrasah teachers, and its coefficients are treated in this synthesis as indicative rather than as population estimates that would generalise automatically to pesantren or PTKIS settings. Safitri et al. (2025) is itself a systematic review rather than a primary field study, screening 350 records down to 15 for synthesis, which means

part of the evidence base for this article's conflict management theme is a review of reviews. This layering is disclosed rather than smoothed over, because a reader deciding how much confidence to place in any single claim in Section 4 needs to know how many analytical steps separate it from original field observation. Table 1 also reports each source study's quality appraisal rating, derived using the design-appropriate instruments described in Section 3.3.

2.3 Quality Appraisal

Because the trustworthiness of this synthesis depends on the quality of the studies it draws on (Section 3.5), each of the five source studies was appraised using a design-appropriate instrument: the Critical Appraisal Skills Programme (CASP) qualitative studies checklist for the two site-based qualitative field studies (Riyanto, 2026; Rada et al., 2024), and the Mixed Methods Appraisal Tool (MMAT) for the quantitative and mixed-methods studies (Tumiran et al., 2026; Ahmadi et al., 2026). Safitri et al. (2025), as a systematic review rather than a primary field study, was appraised for reporting transparency (clarity of its search strategy, screening criteria, and synthesis method) rather than against either checklist directly, since neither instrument is designed to appraise a review of reviews. Appraisal was conducted by the corresponding author against each instrument's published criteria; because this was undertaken by a single reviewer rather than by two independent raters reconciling disagreement, as CASP and MMAT guidance recommends, the resulting ratings should be read as indicative screening rather than as a fully verified systematic assessment, a qualification restated as a limitation in Section 6.2.

Summary ratings are reported alongside each source study in Table 1. All five studies met the core CASP/MMAT criteria for a clearly stated aim, an appropriate design for that aim, and adequately described data or evidence; the main quality variation across studies concerned the extent to which sampling and analysis procedures were reported in sufficient detail for independent replication, which was strongest in Tumiran et al. (2026) and weakest in the two sitebased case studies (Riyanto, 2026; Rada et al., 2024), consistent with the

more limited methods reporting typical of singlesite qualitative field studies in this literature.

2.4 Analytic Procedure

Analysis proceeded in the six steps shown in Figure 1.

Figure 2. Multi-Case Qualitative Synthesis Procedure

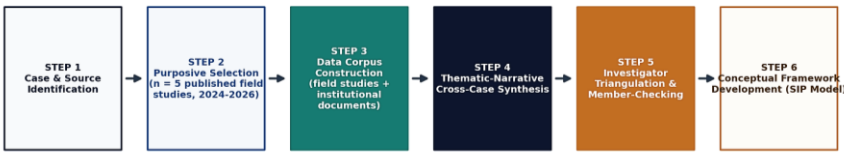

Figure 1. Multicase qualitative synthesis procedure.

After identifying and selecting the case sources, the data corpus was read in full and open-coded for statements describing management practices, reported outcomes, and stated or implied values. Codes were then grouped into the six themes reported in Section 4 through a thematic narrative synthesis, an approach that preserves the contextual detail of each case rather than collapsing it into decontextualised variables, which was judged more appropriate than a strictly quantitative meta-analysis given that only one of the five source studies (Tumiran et al., 2026) reported inferential statistics. Cross-case comparison then examined where findings converged, for instance, the recurrence of value-based management as a mediating mechanism across three of the five studies, and where they appeared to diverge, such as the tension between transparency-driven conflict resolution and culturally rooted avoidance strategies discussed in Section 4.3. A draft synthesis was checked against the primary source texts a second time to confirm that claims attributed to each study matched what the original authors reported, functioning as a form of investigator triangulation in place of the member checking that would ordinarily involve returning findings to original research participants, an option not available in a secondary synthesis design. The resulting patterns were then organised into the conceptual framework presented in Section 5.

2.5 Trustworthiness and Scope

Because this study synthesises existing field research rather than collecting new primary data, its trustworthiness depends on the quality of the underlying studies and on transparent handling of their claims. Each source study is cited with its DOI in the reference list so that its original findings can be independently verified. The synthesis does not claim to generalise beyond the institutional types and regions represented in the source cases, and Section 6 addresses this limitation directly. Readers seeking to test the resulting framework against new primary data, through interviews, classroom observation, or survey instruments, will find the framework's five components specified precisely enough in Section 5 to be operationalised for that purpose.

3. RESULTS

The cross-case synthesis identified six substantive themes, reported in Sections 4.1 through 4.6. A seventh subsection, Section 4.7, reads these six themes together as a single underlying pattern rather than as six independent findings, an argument developed further in the conceptual framework presented in Section 5.

3.1 NeuroPedagogy and Spiritual Intelligence Are Among the Strongest Correlates of Innovative Teaching Performance

The clearest quantitative finding in the source evidence is that a teacher's neuropedagogical understanding is among the strongest correlates of innovative teaching performance, comparable in strength to digital tool use itself rather than clearly exceeding it (Tumiran et al., 2026; see Section 2.1 for the model's sample size, fit statistics, and the caveat regarding the untested difference between coefficients). This is a specific claim worth sitting with rather than treating as unsurprising. It implies that a madrasah that invests heavily in tablets and learning software while neglecting teacher training in cognitive and spiritual pedagogy is optimising, at best, only one of two comparably important correlates. AI's practical value in this account is narrow but real: it can flag when a student's response patterns suggest cognitive fatigue, freeing a teacher to intervene with a spiritual pause or a change of method rather than more content delivered at the same pace. What AI cannot do is decide that a pause

is the right response. That judgment sits with a teacher's spiritual intelligence, which the source study treats as a trainable capacity rather than a fixed trait.

3.2 Leadership Determines Whether Digitalisation Strengthens or Threatens Institutional Legitimacy

Across the leadershipfocused source studies, a consistent pattern emerges: digitalisation does not fail because of technical limitations nearly as often as it fails because leadership introduces it in a way that senior staff experience as a threat rather than a tool. Riyanto (2026) frames integrative digital leadership as leadership that treats every technology decision as instrumental to a prior spiritual purpose rather than as an end in itself. The SDIT Darul Falah case, used here illustratively rather than as primary evidence (Section 3.2), shows the practical form this can take: consultation with teachers and parents before adoption, rather than after complaints arise. Table 2 summarises the three leadership pillars this synthesis draws from the source cases.

Table 2. Three pillars of integrative Islamic digital leadership

Leadership Pillar	Operational Description	Impact on Institutional Quality
Integrative Digital Leadership	Aligning technology adoption with Islamic vision through collective, inclusive, and forwardlooking decisionmaking	Strengthens policy legitimacy; innovation is not perceived as a threat to pesantren tradition.
ValueBased Management	Integrating technology with daily spiritual practice; using digital content to reinforce moral instruction and adab	Strengthens student character; technology becomes a medium for spiritual discipline rather than a distraction.
Holistic Governance	Standardised digital systems for administration, quality assurance, and continuous, transparent evaluation	Improves Sustainable Institutional Performance; strengthens stakeholder trust through accountable data

Ahmadi et al. (2026) show what happens when this leadership capacity is present in attitude but absent in policy: PTKIS leaders in their survey were broadly enthusiastic about AI's potential for soft skills development, but most institutions had no written governance framework, leaving individual lecturers to decide, case by case, what counts as acceptable AI use in coursework. This gap matters because leadership goodwill does

not substitute for institutional infrastructure. A dean who personally values academic honesty as ibadah cannot, through personal conviction alone, prevent inconsistent enforcement across dozens of courses taught by instructors with varying views on the matter.

3.3 Musyawarah Is Becoming a MoralProceduralDigital Mechanism for Conflict Resolution

Digitalisation introduces conflict dynamics that Islamic institutions had not previously needed formal mechanisms to address, most visibly a generational literacy gap in which younger staff, comfortable with new systems, are frequently more technically capable than the senior educators whose authority the institution's culture otherwise defers to. Safitri et al. (2025), synthesising 15 studies drawn from an initial pool of 350 records using PRISMA methodology, propose that musyawarah in this context is evolving into what they call a moralproceduraldigital triad: a resolution process that weighs spiritual and ethical considerations, follows transparent organisational procedure, and draws on objective digital data rather than relying on personal authority or informal negotiation alone. Table 3 sets out the three dimensions of this triad.

Table 3. Dimensions of the moralproceduraldigital musyawarah triad

Dimension	Description	Resolution Mechanism
Moral Dimension	Preserving fairness and spiritual integrity in dispute resolution	Deliberation is weighed against Islamic ethical principles, not procedure alone
Procedural Dimension	Adhering to transparent organisational governance standards	Formal steps and documented process reduce perceptions of favouritism
Digital Dimension	Using objective digital data as a basis for decisions	System logs and records reduce reliance on unverifiable personal testimony

The source evidence also complicates a simpler reading of this shift. A recurring observation in the pesantrenfocused case material within Safitri et al.'s (2025) systematic review is that avoidance, a strategy that would typically be read in Western organisational behaviour literature as a management failure, sometimes functions in pesantren settings as a deliberate cultural choice that preserves a kyai's charismatic authority and protects institutional harmony. This pattern is consistent with, though not identical to, the same review's broader finding that collaboration and

compromise dominate the formal conflictresolution literature while informal, culturally embedded strategies remain comparatively underdocumented. This gap between formal frameworks and informal practice is not a minor caveat. It means that a Westernderived conflict resolution framework, however well designed, cannot simply be imported into a pesantren without accounting for forms of authority that operate on different logic. The moralproceduraldigital triad appears to work best not as a replacement for these cultural mechanisms but as a complement, offering a transparent digital layer for disputes that genuinely need adjudication while leaving room for the deliberate silence that, in some contexts, is itself a form of respect.

3.4 Total Quality Management Succeeds When Infrastructure, Training, and Curriculum Move Together

Rada et al. (2024) found that pesantren in Bangka Belitung achieved digital TQM success only when three conditions were present simultaneously: infrastructure that was maintained rather than merely procured, teacher training that addressed pedagogy rather than only device operation, and curriculum redesign that integrated digital and Islamic literacy rather than treating them as competing priorities. Table 4 sets out these three conditions alongside the operational indicators the source study associates with each.

Table 4. Three conditions for digital TQM success (Rada et al., 2024)

Condition	Description	Operational Indicator
Infrastructure Maintenance	Sustained upkeep of devices, connectivity, and platforms rather than onetime procurement	Device functionality checks at 12 and 18 months; connectivity uptime records
Pedagogical Teacher Training	Training addresses instructional use of technology, not only device operation	Training completion rates; classroom observation of technology used for pedagogy rather than administration alone
Integrated Curriculum Design	Digital literacy is embedded within, rather than added alongside, character and religious education	Curriculum review documenting digitalliteracy learning outcomes mapped to existing subjects

Institutions that met only one or two of these conditions, buying tablets without sustained training, for instance, reported lower user satisfaction even when infrastructure metrics looked adequate on paper. This reinforces a point implicit throughout the source

evidence: digital transformation in Islamic education is a management and human capacity problem disguised as a procurement problem.

3.5 Institutions Without Written AI Governance Are Exposed to Academic Integrity Risk They Can See Coming

The clearest gap identified across the source evidence is between attitude and policy. Ahmadi et al. (2026) documented this directly in Indonesian PTKIS: positive institutional attitudes toward AI coexisting with an almost complete absence of written governance. The international literature reinforces that this is not a uniquely Indonesian problem. Bittle and ElGayar (2025) and Memarian and Doleck (2026) both find that most universities globally have been reactive rather than proactive on generative AI policy, and Balalle and Pannilage (2025) argue that detectionfocused responses are structurally inadequate against tools that improve faster than detection software can be updated. What distinguishes the Islamic education context is the availability of an existing ethical vocabulary honesty as amanah, learning as a form of worship that institutions could draw on to build policy faster than secular counterparts starting from a narrower compliance framing, if leadership chooses to use it.

3.6 Infrastructure Inequity and Organisational Resistance Remain Structural Constraints Beneath the Other Themes

The five themes above describe what effective digital transformation looks like once an institution has the capacity to attempt it. They say less about institutions that lack that capacity in the first place, a gap the source evidence acknowledges rather than resolves. Wang et al. (2024), in a global bibliometric analysis of education reform driven by digital technology, find that research attention to digital equity has grown steadily since 2015 but remains concentrated in wellresourced institutional contexts, with rural and underresourced schools underrepresented in the empirical literature relative to their share of total enrolment. Indonesian pesantren, particularly smaller and more remote ones, sit squarely in the underrepresented category this bibliometric pattern describes.

Rada et al.'s (2024) Bangka Belitung sample offers a partial, local counterpoint by showing what sustained infrastructure investment looks like in a nonmetropolitan setting, but the same study is explicit that infrastructure readiness was uneven even within its

own sample, with some pesantren able to maintain stable connectivity and others reporting frequent outages that undermined teacher confidence in digital tools regardless of training quality. This finding connects to a second structural constraint: organisational resistance from senior educators who, as discussed in Section 4.3, sometimes experience digitalisation as a threat to established authority rather than a neutral operational change. Where infrastructure is unreliable, that resistance finds ready justification, since a senior teacher who has watched a promised system fail twice has a reasonable basis for scepticism the third time it is proposed.

Neither of the two structural constraints identified here is primarily a technology problem. Infrastructure inequity is a resource allocation and, ultimately, a financing problem, one that waqfbased (Islamic endowment) funding models could, in principle, help address as a complement to government grants and onetime donor contributions. None of the five source studies synthesised here documents pesantren actually adopting waqfbased financing for digital infrastructure at scale, so this is presented here as a policy possibility rather than an observed trend, and is flagged in Section 6.3 as a direction for future research that would need to establish, empirically, whether and where such financing models are already in use before their effectiveness could be evaluated.

Organisational resistance is a leadership and trust problem, addressed most directly by the integrative digital leadership practices described in Section 4.2. Both constraints sit beneath, rather than alongside, the five themes already discussed: an institution can have excellent neuropedagogical training and a thoughtful maqasidanchored governance policy and still fail at digital transformation if its internet connection drops twice a week and its senior staff have not been meaningfully consulted.

3.7 Reading the Six Themes Together

Taken individually, the six themes above answer six separate questions. Taken together, they answer a different and more useful one: at what point does a wellintentioned digitalisation effort actually fail? The evidence suggests it rarely fails at the point of technology selection. It fails earlier, when a teacher without neuropedagogical grounding treats an AI

tool as a contentdelivery accelerant rather than a diagnostic aid (4.1), or later, when a leader announces a platform decision instead of building it with staff and parents (4.2), or in the space between announcement and implementation, when unresolved generational conflict is left to fester because no moralproceduraldigital mechanism exists to address it (4.3), or quietly, over eighteen months, as infrastructure degrades faster than anyone budgeted for and training was never repeated after the initial rollout (4.4, 4.6).

The governance gap documented in Ahmadi et al. (2026) and echoed internationally (4.5) is best read not as a sixth, separate failure point but as what happens when all of the preceding gaps are left unaddressed simultaneously: a leadership vacuum on AI policy is rarely a standalone problem so much as a symptom of the same underlying management capacity gap running through every other theme. This reading, that the six themes are stages and symptoms of one underlying capacity problem rather than six independent risk factors, is what the conceptual framework in Section 5 attempts to formalise.

4. DISCUSSION

4.1 The Triadic Sustainable Institutional Performance (SIP) Model

Read together, the six findings above do not describe six independent success factors. They describe a layered system in which each layer depends on the one beneath it. Figure 2 presents this system as the Triadic Sustainable Institutional Performance model.

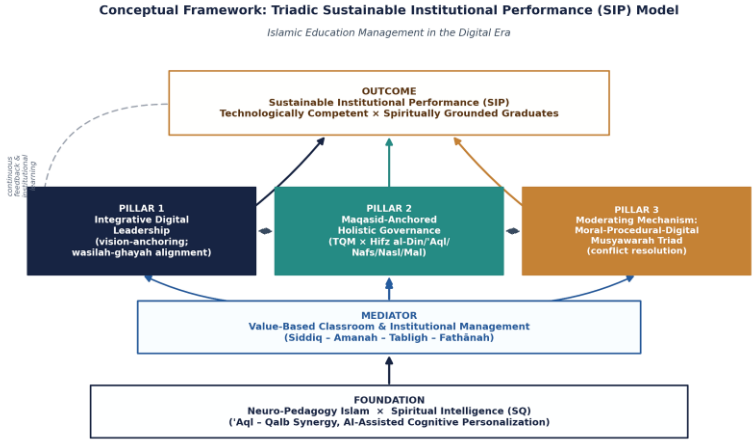

Figure 2. Conceptual framework of the Triadic Sustainable Institutional Performance (SIP) model.

At the foundation sits neuropedagogy combined with spiritual intelligence, the cognitivespiritual competence that determines whether a teacher can use AI as an instrument of insight rather than a source of distraction (Section 4.1). This foundation feeds into a mediating layer of valuebased classroom and institutional management, operationalised through the classical trustbased leadership qualities of shiddiq (integrity), amanah (trustworthiness), tabligh (transparent communication), and fathanah (wisdom). The mediating role of this layer is not a theoretical assumption; it is the empirical finding reported by Tumiran et al. (2026), in which Islamic classroom management statistically mediated the relationship between neuropedagogical understanding and innovative teaching outcomes.

Above this mediating layer, three pillars interact to produce institutionallevel outcomes. Integrative digital leadership (Section 4.2) anchors the direction of technology adoption to institutional purpose. Maqasidanchored holistic governance (Sections 2.3 and 4.5) evaluates whether specific decisionsan AI writing tool, a new learning management system, a data dashboardserve the five classical objectives rather than only administrative convenience. The moral-procedural-digital musyawarah triad (Section 4.3) functions as the pillar's moderating mechanism, resolving the conflicts that digitalisation inevitably introduces in a way that respects both procedural transparency and locally legitimate forms of authority. These three pillars are drawn as bidirectionally linked in Figure 2 because the source evidence suggests genuine interdependence rather than a simple hierarchy: governance decisions shape what leadership can credibly ask of staff, and unresolved conflict undermines governance legitimacy regardless of how welldesigned a policy looks on paper.

The model's outcome variable, sustainable institutional performance, is defined here, following the source material's own framing, as a dual measure: institutions are performing sustainably to the extent that their graduates are both technologically competent and spiritually grounded, not as separate, competing outcomes but as a single integrated one. A dashed feedback arrow in Figure 2 reflects

that this outcome is not terminal. Institutions that achieve strong SIP outcomes generate the kind of trust and legitimacy that makes the next round of neuro pedagogical training and spiritual formation easier to invest in, closing the loop back to the model's foundation.

The model should be read with an explicit boundary condition drawn from Section 4.6: it describes how institutions convert existing capacity into sustainable performance, not how institutions acquire that capacity in the first place. Infrastructure reliability and baseline organisational trust function as entry conditions for the framework rather than as elements within it. An institution without stable connectivity cannot meaningfully test whether its digital leadership is integrative, because there is no functioning digital layer for that leadership to integrate. This is a scope limitation the framework shares with most leadership and governance theory, which tends to assume a baseline of operational capacity that, in parts of Indonesia's Islamic education sector, cannot yet be taken for granted.

5.2 How This Framework Extends the Existing Literature

This framework makes an explicit theoretical move that the source studies, taken individually, do not: it specifies mediation and moderation relationships rather than presenting neuropedagogy, leadership, governance, and conflict resolution as a list of separately important topics. This matters because Indonesian Islamic education management research, including several of the studies synthesised here, has tended to produce singlefactor path models (leadership predicts X, TQM predicts Y) that are individually rigorous but collectively additive rather than integrative. The SIP model instead proposes that these factors form a system with a specific architecture, foundation, mediator, and interacting pillars that can be tested as a whole in future quantitative work using structural equation modelling, an extension this article recommends explicitly in Section 6.

The framework also speaks to a gap in the international digital leadership literature. Jameson et al. (2022) and Olabiyi et al. (2025) both describe general higher education institutions as still working out what mature digital leadership looks like, largely in secular organisational terms. Atallah's (2026) maqasidbased AI governance framework moves toward a religiously grounded alternative but

remains conceptual. The evidence synthesised in this article suggests that some Indonesian Islamic institutions, without necessarily using maqasid terminology, have already been improvising practical answers; the SDIT Darul Falah consultation process, used here illustratively rather than as independently verified evidence (Section 3.2), is one example that a formal maqasid framework could systematise and scale rather than invent from nothing. Whether this amounts to Indonesian field practice running ahead of the international theoretical literature is a comparative claim this fivestudy evidence base, concentrated in a small number of Indonesian journals (Section 6.2), is not positioned to support. The more defensible point is narrower: formal maqasid theorising and situated institutional practice appear to be developing in parallel rather than one straightforwardly leading the other, and each could usefully inform the other.

Finally, the framework offers a partial answer to the academic integrity gap documented by Ahmadi et al. (2026) and echoed in the broader AI ethics literature (Bittle & ElGayar, 2025; Memarian & Doleck, 2026; Balalle & Pannilage, 2025). If academic honesty is treated, following the mediating layer of the SIP model, as an expression of amanah rather than only a compliance rule, then AI governance policy becomes an extension of existing spiritual formation rather than a new bureaucratic layer bolted on top of it. Whether this reframing actually changes student behaviour, as opposed to simply changing how institutions describe their existing rules, is an empirical question this synthesis cannot answer and that Section 6 identifies as a priority for future field research.

There is a further implication worth naming directly, since it cuts against how digital transformation is often narrated in both policy documents and vendor marketing aimed at Islamic institutions: none of the five source studies, nor the international literature reviewed alongside them, supports treating AI adoption speed as a meaningful measure of institutional progress. Tumiran et al. (2026) found neuropedagogical competence to be a correlate of teaching quality at least comparable in strength to digital tool use itself, not one that technology sophistication can substitute for. Rada et al. (2024)

found training and curriculum integration matter more than device counts. Ahmadi et al. (2026) found governance absence, not technology absence, as the binding constraint on responsible AI use. Across every theme in Section 4, the limiting factor was managerial and pedagogical capacity, not the sophistication of the technology on offer. An institution that adopts AI tools slowly but builds the underlying management capacity described in this framework is, by the evidence synthesised here, better positioned than one that adopts quickly without it.

5. CONCLUSION

Digitalisation in Indonesian Islamic education is not primarily a hardware problem or a software adoption curve. The evidence synthesised in this article, from madrasah classrooms in Medan to pesantren governance in Bogor and Bangka Belitung to PTKIS leadership surveys conducted nationally, points toward a management problem with a specific, learnable structure. Teachers need neuro pedagogical and spiritual competence before AI tools become useful rather than distracting. Leaders need to treat digital adoption as instrumental to spiritual purpose, consulting before deciding rather than after. Institutions need governance mechanisms, grounded in maqasid alshariah, that can evaluate specific technology decisions rather than issuing broad statements of principle. Conflict arising from generational and administrative friction needs a resolution process that respects both procedural transparency and locally legitimate cultural authority. None of these elements works well in isolation, which is the central argument of the Triadic Sustainable Institutional Performance model proposed here. Infrastructure and organisational trust set the boundary conditions within which all of this becomes possible in the first place, and institutions still working to secure those basic conditions should not read this framework as a checklist to implement immediately so much as a map of what becomes worth building once connectivity and baseline trust are in place.

Artificial intelligence will keep advancing regardless of what any single institution decides. What remains within an institution's

control, and what this synthesis suggests most Indonesian Islamic education institutions currently lack in codified form, is a coherent management framework connecting classroomlevel cognitive and spiritual practice to institutionallevel leadership, governance, and conflict resolution. Building that framework, and testing it against new primary field data as recommended in Section 6, is the task this article treats as unfinished rather than resolved.

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