

DIGITAL GOOD GOVERNANCE IN PESANTREN-BASED MADRASAS: A CONCEPTUAL MODEL

Langgeng Sutopo¹

¹Institut Agama Islam Darul Fattah Lampung, Indonesia

Email: 31langgeng@gmail.com

Abstrak: Penelitian ini bertujuan untuk merumuskan model *Good Governance* Pondok Pesantren dalam pengelolaan pendidikan Islam di madrasah berbasis pesantren di era digital. Transformasi digital telah mendorong peningkatan tuntutan akan transparansi, akuntabilitas, dan efektivitas lembaga pendidikan Islam, sehingga diperlukan model tata kelola yang mampu mengintegrasikan prinsip-prinsip tata kelola yang baik dengan nilai-nilai pondok pesantren. Penelitian ini menggunakan pendekatan kualitatif dengan studi pustaka melalui *systematic literature review* dengan tahapan seleksi literatur, pengkodean tematik, sintesis konsep, dan perumusan model secara komparatif. Analisis dilakukan melalui penelusuran literatur secara terarah, pengelompokan tema, perbandingan antar temuan, serta sintesis konsep untuk membangun model. Literatur yang digunakan mencakup kajian tata kelola pendidikan, manajemen pendidikan Islam, dan transformasi digital. Hasil kajian menunjukkan bahwa tata kelola madrasah berbasis pesantren bersifat hibrida, yaitu perpaduan antara otoritas kiai, budaya kolektif pesantren, dan tuntutan manajemen modern yang bekerja melalui interaksi antara logika nilai, struktur kelembagaan, dan sistem digital. Digitalisasi berperan sebagai penguat dalam aspek transparansi, akuntabilitas, efisiensi pengelolaan data, serta keterlibatan pemangku kepentingan melalui integrasi sistem informasi dan standarisasi data kelembagaan, meskipun masih dihadapkan pada keterbatasan kapasitas sumber daya manusia, resistensi budaya, dan kesiapan kelembagaan. Kebaruan penelitian ini terletak pada upaya merangkai secara lebih utuh empat unsur utama yaitu nilai-nilai Islam, prinsip *good governance*, teknologi digital, dan karakter kelembagaan pesantren ke dalam satu kerangka analitis yang menempatkan pesantren sebagai aktor yang ikut membentuk arah transformasi, bukan hanya penerima perubahan yang selama ini masih terfragmentasi dalam studi-studi sebelumnya di konteks pesantren Indonesia.

Kata kunci: Tata kelola pemerintahan yang baik, manajemen pendidikan Islam, madrasah pondok pesantren, transformasi digital

Abstract: This study aims to formulate a model of *Good Governance* of Islamic Boarding Schools in the management of Islamic education in Islamic boarding school-based madrasas in the digital era. Digital transformation has driven increased demands for transparency, accountability, and effectiveness of Islamic educational institutions, so a governance model is needed that is able to integrate the principles of good governance with the values of Islamic boarding schools. This study uses a qualitative approach with literature studies through *systematic literature review* with the stages of literature selection, thematic coding, concept synthesis, and comparative model formulation. The analysis was carried out through a targeted literature search, thematic grouping, comparison between findings, and concept synthesis to build a model. The literature used includes the study of education governance, Islamic education management, and digital transformation. The results of the study show that pesantren-based madrasah governance is hybrid, namely a combination of kiai authority, pesantren's collective culture, and modern management demands that work through the interaction between value logic, institutional structure, and digital system. Digitalization acts as a reinforcement in the aspects of transparency, accountability, data management efficiency, and stakeholder involvement through information system integration and institutional data standardization, although it is still faced with limited human resource capacity, cultural resistance, and institutional readiness. The novelty of this research lies in the effort to more fully

assemble the four main elements, namely Islamic values, good governance principles, digital technology, and the institutional character of pesantren into one analytical framework that places pesantren as actors who participate in shaping the direction of transformation, not just recipients of change that have been fragmented in previous studies in the context of Indonesian pesantren so far.

Keywords: Good governance, Islamic education management, Islamic boarding school madrasas, digital transformation

INTRODUCTION

The transformation of education governance is a logical consequence of the increasing demands for public accountability, institutional transparency, and management effectiveness in the digital age. In the global context, the concept of good governance is developing as the main paradigm in the management of public institutions, including the education sector. Digitalization has changed various aspects of education management, from administration, data management, to decision-making processes. These changes place governance as an important factor in determining the effectiveness of the use of technology in the educational environment (Díaz-García et al., 2022, 2022). International institutions such as the World Bank and UNDP emphasize that good governance is characterized by transparency, accountability, participation, effectiveness, and the rule of law. These principles are not only relevant in government administration, but also in the management of educational institutions that are oriented towards public services. This data shows that digital transformation has become a strategic agenda in education governance reform in various countries because it contributes to improving administrative efficiency, access to information, and accountability of educational services. However, the success of its implementation is highly dependent on the institutional capacity and quality of governance that support the effective use of technology.

In the Indonesian context, pesantren-based madrasahs have characteristics that distinguish them from public schools. Historically, Islamic boarding schools are Islamic educational institutions that rely on kiai authority, Islamic scientific traditions, and charismatic leadership patterns. Its institutional structure tends to place caregivers at the center of decision-making. This model is effective in maintaining the values, traditions, and institutional identity of Islamic boarding schools, but at the same time faces challenges when dealing with the demands of managerial professionalism, public accountability, and a digital-based administrative system. As Rofiqi points out, the success of policy adaptation in Islamic boarding schools is determined by the ability of institutions to balance traditional authority with the demands of modern governance as well as the involvement of stakeholders in the decision-making process (Rofiqi et al., 2026). Thus, digital transformation in Islamic boarding schools not only requires technological readiness, but also adjustments to leadership, governance, and organizational culture patterns so that the innovations applied remain in harmony with the institutional character of the Islamic boarding school (Dhofier, 2011).

Pesantren-based madrasahs currently function not only as an institution for the transmission of Islamic knowledge, but also as a formal institution that is integrated with the national education system. Therefore, madrasahs are required to meet national education standards, manage operational funds accountably, and implement a digital-based reporting system. Digitization of education administration through management information systems, e-budgeting, and online learning platforms is a necessity in increasing the efficiency and transparency of governance (Tilaar, 2008). This transformation presents an adaptation dilemma between the tradition of boarding schools and modern management principles.

Theoretically, the management of Islamic education includes the functions of planning, organizing, implementing, and supervising based on the values of monotheism, belief, and justice (Muhaimin et al., 2022). However, the implementation of these principles in institutional practice has often not been formulated in a systematic governance model. However, the implementation of these principles in institutional practice has not been fully formulated in a systematic governance model. Many pesantren based madrasahs still face various administrative obstacles, such as weak documentation systems, limited digital literacy of educators, and suboptimal stakeholder involvement in the institutional management process. This condition is influenced by the pattern of decision-making that is still centralized and the lack of communication mechanisms that are able to encourage wider participation. On the other hand, public demands for the quality of services and accountability of Islamic educational institutions continue to increase.

The digital era strengthens the urgency of implementing *good governance* in the management of Islamic education. Digital governance allows for transparency of financial statements, efficiency of academic data

management, and the participation of student guardians through an online communication system. This transformation is in line with the view that technology-based education governance can increase organizational accountability and effectiveness (Mulyasa, 2002). Research (Subandi et al., 2026) shows that the digitization of madrasah administration through management information systems is able to increase reporting accuracy and accelerate the internal evaluation process. Meanwhile, research (Anggoro et al., 2024) found that the implementation of e-governance in Islamic educational institutions increases financial transparency, but is still constrained by human resource capacity and organizational culture that is not yet adaptive to technology. Furthermore, a study (Fatkhurohim et al., 2025) on digital transformation in modern Islamic boarding schools concluded that the use of digital platforms in academic management has a positive impact on the effectiveness of educational services, but has not fully touched on the aspect of systemic stakeholder participation. The study (Rawis et al., 2025) confirms that the integration of Islamic values in digital governance is still normative and has not been formulated in operational managerial models.

Previous studies have shown that digitalization has become a concern in the management of Islamic educational institutions, but the approach tends to be technocratic and focuses only on technological instruments and has not explained how the principles of good governance, such as transparency, accountability, and participation, are integrated into the governance of Islamic boarding schools that have distinctive leadership characteristics and institutional culture. As a result, there is still a gap in studies on digital governance models that are able to connect technological transformation with institutional values of Islamic boarding schools comprehensively. In contrast to previous research that focused on aspects of administrative digitalization, e-governance, or the use of technology platforms in Islamic education, this study places digital governance as an integrative framework that connects the principles of good governance, Islamic boarding school values, and digital transformation in one conceptual model. Thus, this study not only discusses the use of technology, but also offers contextual digital governance formulations for pesantren-based madrasas.

The model is expected to be able to bridge charismatic authority with participatory principles, blend tradition with technology, and strengthen public accountability without losing Islamic institutional identity. Academically, this research contributes to the development of a governance-based theory of Islamic education management. Practically, the results of the research can be a policy reference for madrasah and pesantren managers in designing a governance system that is responsive to the demands of the digital era.

METHOD

This study uses a qualitative approach with the type of library research to formulate a model of good governance in the management of Islamic education in Islamic boarding school-based madrasas in the digital era through conceptual analysis and theoretical synthesis (Creswell, 2018). Literature studies are carried out systematically with the stages of identification, selection, critical evaluation, classification, and interpretation of literature (Zed, 2008). Data sources include the literature on education governance, Islamic education management, digital transformation, education regulations, as well as articles from reputable national and international journals. The search was conducted through Google Scholar, Scopus, and DOAJ with the keywords *good governance*, Islamic education management, digital governance, madrasas, and Islamic boarding schools. Data analysis is carried out through reduction, thematic categorization, conceptual synthesis, and model formulation based on content analysis and source comparison (Krippendorff, 2019). The validity of the results was strengthened through triangulation of sources and *critical appraisal* of the authority and consistency of the literature (Sugiono, 2006). Thus, this study produces a systematic and literature-based conceptual model, but still requires further empirical testing.

FINDINGS AND DISCUSSION

CONCEPTUALIZATION OF GOOD GOVERNANCE IN THE MANAGEMENT OF ISLAMIC EDUCATION

Konseptualisasi *tata kelola pemerintahan yang baik* dalam konteks pengelolaan pendidikan Islam tidak hanya penting secara teoritis, tetapi juga penting secara praktis dalam menjawab kebutuhan kelembagaan madrasah yang semakin kompleks di era digital. Pembicaraan tentang *tata kelola pemerintahan yang baik* sendiri berawal dari kajian tentang administrasi publik yang menekankan transparansi, akuntabilitas, partisipasi, efektivitas, dan supremasi hukum sebagai indikator utama tata kelola pemerintahan yang baik. Dalam sektor pendidikan, tata kelola yang baik menjadi rujukan dalam membangun sistem pengelolaan yang transparan, akuntabel, dan responsif terhadap kebutuhan pemangku kepentingan. Penerapan prinsip-prinsip tersebut berkontribusi terhadap peningkatan kualitas layanan pendidikan, profesionalisme tenaga pendidik, dan mutu pembelajaran (Rohmandar & Dewi, 2025).

In the context of Islamic education, especially pesantren-based madrasas, the demand for good governance

is increasing in line with the need to improve the quality of educational services, accountability in resource management, and the accuracy of the administrative system. However, the implementation of good governance in Islamic educational institutions has its own characteristics because it operates within an institutional framework that is not only influenced by professional standards and formal regulations, but also by Islamic value systems that have been rooted in institutional practice. Within this framework, the principles of trust, justice, and deliberation not only function as ethical values, but work as normative mechanisms that influence decision-making patterns, the distribution of authority, and the legitimacy of policies in institutional governance. Thus, the integration between good governance and Islamic values forms a value-based governance configuration that determines how the principles of transparency, accountability, and participation are operationalized in the context of pesantren-based madrasas.

Good governance emphasizes information disclosure and accountability in every organizational process. In the context of Islamic education, this principle is implemented through information disclosure to stakeholders, such as guardians of students, pesantren managers, and education authorities, related to academic policies, financial reports, and learning evaluation results. A number of studies show that the application of digital-based management information systems in educational institutions is able to improve data traceability, accelerate information distribution, and strengthen internal and external supervision mechanisms on institutional performance (Selwyn, 2011). In that context, digitization serves not only as an administrative tool, but also as part of a governance transformation that allows the integration of academic, attendance and financial data in a more structured and controlled system as authorized. This condition strengthens transparency and accountability as the recording and reporting process becomes more documented and traceable. Moreover, digitalization also encourages changes in decision-making mechanisms and institutional coordination patterns towards a more *data-driven governance*, so that it no longer relies solely on personal relationships or traditional hierarchical structures (Jain et al., 2022).

Digital governance in Islamic education has been the focus of recent research. As a study on information digitization in Islamic boarding schools shows that some Islamic boarding schools have adopted digital management applications, institutional social media platforms, and integrated administrative and financial reporting systems. These practices prove that digital technology can be an *important enabler* for the implementation of *good governance* in the pesantren environment, especially in terms of transparency and accountability of institutional operations (Fauzi et al., 2025a).

However, the challenges that arise are also quite significant. Most pesantren still have a strong organizational culture rooted in the charismatic authority of caregivers or *kiai*, who often make strategic decisions centrally. This leadership pattern is actually an asset in maintaining the identity of pesantren values, but it can be an obstacle in implementing participatory and transparent principles that are the pillars of *good governance*. When digital systems are introduced without the formulation of a clear governance framework, the risk of cultural resistance and internal authority conflicts arise. This is because digital governance not only presents new technologies, but also changes the way institutional interactions, internal communication, and decision-making are conducted (Kurnia et al., 2025).

In addition, resistance to digital technology is often caused by disparities in digital literacy capacity among educators and pesantren managers. Many Islamic boarding schools face obstacles in improving digital infrastructure and training human resources to maximize the use of this technology. This inequality can widen the gap between Islamic boarding schools that are relatively advanced and those that are lagging behind in terms of digital governance adoption. These challenges are not only technical, but also structural and valuable because strong pesantren in value traditions may be less responsive to the demands of modern managerial (Zaenal Abibin et al., 2025).

Digital transformation in financial governance is also an important theme. Recent research shows that digitalization in financial management, such as the use of cloud-based accounting systems or electronic money management applications, significantly improves the transparency and accountability of Islamic educational institutions. The adaptation of technologies such as blockchain and automated reporting systems has been proven to reduce the risk of fraud and speed up real-time financial reporting, as well as create stakeholder trust in the use of institutional resources (Hadi & Sukandar, 2026).

Although digital technology offers a wide range of opportunities, the integration of modern governance principles in Islamic educational institutions cannot be reduced to mere adoption of technological devices. Digitalization needs to be placed within a governance framework that is in line with Islamic values, the organizational culture of Islamic boarding schools, and the leadership patterns that develop within it. Therefore, digital transformation must be directed at equal access and ethical data governance to create an inclusive and high-quality education system (Liu et al., 2025), thereby creating a strengthening of transparency, accountability,

stakeholder participation, and the effectiveness of data-driven decision-making. Thus, the digital management of pesantren not only functions as an administrative instrument, but also as a governance mechanism that is able to integrate technological innovation with Islamic boarding school institutional values in a sustainable manner.

The ideal Islamic education governance framework requires the integration of modern *good governance principles* with Islamic values that are the basis of institutional ethics of Islamic boarding schools. For example, the practice of trust and shura can be operationalized in the mechanism of reporting, performance evaluation, and stakeholder participation through formal communication forums such as madrasah committees, student guardian meetings, and digital-based policy formulation meetings. This process allows for the creation of more participatory governance through the involvement of various stakeholders, while still being guided by the values, traditions, and moral authority that characterize Islamic boarding schools.

The literature also shows that the internalization of Islamic educational values in governance can enrich the meaning of *good governance* itself. The values of honesty, responsibility, and justice taught through Islamic education have strong compatibility with the dimensions of good governance. In an Islamic perspective, governance is not only understood as an administrative mechanism to achieve organizational effectiveness, but also as a form of moral responsibility that must be carried out professionally and accountable (Ali & Weir, 2005). From an Islamic perspective, governance is not only understood as an administrative mechanism to achieve organizational effectiveness, but also as a moral responsibility that must be carried out professionally and accountably.

This conceptual narrative underline that *good governance* in the management of Islamic education is a multidimensional process that involves the integration of managerial professional principles and Islamic-based ethical values, as well as the adaptation of digital technology as a tool to strengthen transparency, accountability, and participation. The expected governance model is one that respects the traditional organizational culture of Islamic boarding schools, but at the same time is oriented towards the needs of the digital era and people's demands for professional and fair quality education.

CHARACTERISTICS OF PESANTREN-BASED MADRASAH GOVERNANCE

The characteristics of governance in pesantren-based madrasahs are the result of the interaction between strong religious institutional traditions and the bureaucratic and regulatory demands of the national education system. In practice, the governance of madrasahs-pesantren cannot be understood solely as a formal organizational structure that is in accordance with administrative procedures; rather, it is a relational field in which spiritual authority, traditional pedagogical practices, community norms, and modern managerial mechanisms interact with each other. These characteristics form decision-making patterns, accountability mechanisms, internal communication patterns, and adaptation strategies to modernization and digitalization. These dynamics can be explained through institutional theories that place organizations as the result of interactions between regulatory pressures, social norms, and entrenched values (Scott, 2013). In pesantren-based madrasahs, digitalization not only presents technical changes, but also demands adjustments between religious authorities, educational regulations, and the demands of modern governance.

First, the centralistic and charismatic character in leadership is a prominent feature. The role of the kiai or caregiver as a central figure is not only administrative, but also moral and spiritual; The legitimacy of their leadership comes from customary authorities that have been built through teacher-student relations and the historical role of Islamic boarding schools in society (Puspita, 2025). This leadership often takes the form of top-down decision-making, where the kiai's recommendations have final weight. This kind of leadership model is effective in maintaining the sustainability of pesantren values and identity, but at the same time poses challenges when participatory principles, formal transparency, and modern accountability must be applied. Therefore, madrasah governance is at the intersection of the formal bureaucratic system and charismatic leadership. Although organizational procedures and structures have been established, their implementation is still greatly influenced by the custodial authority as the central figure of the institution (Yugo, 2025).

Second, the organizational culture of the pesantren is collective and value-centered. This culture emphasizes personal relationships, communal solidarity, and moral responsibility built through *boarding school practices*. The values of trust, deliberation, and piety are the ethical foundations that influence the management process of the institution. In the context of governance, these values shape the way decisions are made, policies are implemented, and coordination and accountability mechanisms are applied in the pesantren environment. In this case, the participation of student guardians can be facilitated not through rigid bureaucratic procedures, but through informal deliberative forums held periodically. This collective nature provides social power for the enforcement of norms, but it also creates resistance to changes that are seen as threatening the harmony of society (Fauzi et al., 2025).

Third, madrasahs generally have a hybrid organizational structure: formal units (madrasahs) that are

integrated into the state education system, side by side with informal units (pondok, majelis taklim, pesantren economic institutions). This hybridity creates overlapping responsibilities and administrative complexities, such as the management of funds derived from tuition fees/BOS/pesantren business licenses and community donations must be aligned with educational accounting regulations and the internal value of the trust. This hybrid nature demands a governance mechanism that is able to balance compliance with regulations with the institutional autonomy needed to maintain religious character (Aimah, 2025).

Fourth, administrative capacity and professionalism of human resources are determining factors. Many Islamic boarding schools are starting to shift from informal and experience-based management patterns to patterns that require more structured managerial competencies, such as budget management, financial reporting, integrated curriculum development, and the use of information systems in institutional governance. Recent studies show that the successful adoption of modern governance practices relies heavily on investment in staff capacity building, including digital literacy training, basic accounting competencies, and quality management techniques (Tabroni & Musyaffa, 2025). Without capacity building efforts, modern governance initiatives often end up with symbolic practices or partial implementation that are not sustainable.

Fifth, stakeholder participation mechanisms are contextual and often non-linear. In Islamic boarding schools that are more open to participatory governance, institutions form madrasah committees, student guardian forums, or supervisory assemblies that are formally involved in strategic decision-making. But in many cases, this engagement is contextualized through local norms—for example, participation is done through kiai-led deliberative forums, which allow the voices of the community to be heard without challenging the legitimacy of authority. Thus, an effective participatory format is one that embraces traditional deliberation practices while still meeting the needs of modern documentation and accountability (Aryani et al., 2025).

Sixth, financial governance in madrasahs and pesantren displays a combination of formal and informal management. Pesantren manage various sources of funding, these funds come from the government, the community, waqf, and economic activities of the pesantren require a transparent management and reporting mechanism to maintain accountability and public trust. However, the implementation of a record-keeping and auditing system is often hampered by capacity limitations and a cultural rejection of external oversight. Studies on administrative digitalization show that when management information systems and e-budgeting are implemented with the support of internal training and policies, financial transparency increases significantly; however, cultural factors and attitudes towards external auditing remain important barriers (Fauzi et al., 2025b; Tabroni & Musyaffa, 2025).

Seventh, the integration of the national curriculum and Islamic content is a sensitive area of governance in pesantren-based madrasahs. This institution is required to adjust to national education policies, such as curriculum standards, accreditation systems, and independent curriculum policies, without eliminating the characteristics of pesantren education based on Islamic scientific traditions. From the perspective of institutional theory, this condition reflects the existence of regulatory pressures from the state and normative pressures from institutional traditions that simultaneously shape educational governance patterns (DiMaggio & Powell, 1983). Therefore, the mechanism of balance between regulation and pedagogical autonomy is not spontaneous, but is built through an institutional negotiation process involving internal actors such as caregivers, teachers, and external stakeholders in curriculum formulation, learning supervision, and quality assurance systems that integrate academic indicators and the formation of religious character (Yugo, 2025).

Eighth, external networks and partnerships are essential resources in modern governance. Islamic boarding schools that successfully face administrative and digitalization challenges often collaborate with universities, donor institutions, local governments, or local technology providers. These partnerships provide access to training, funding, and technology that accelerate the professionalization of governance. However, the partnership pattern must be managed so as not to erode the autonomy of the value of the pesantren; therefore a good partnership policy requires clear ethical standards and operational agreements (Aimah, 2025).

Kesembilan, lingkungan peraturan dan kebijakan memengaruhi praktik tata kelola. Implementasi undang-undang, kebijakan Kementerian Agama, dan standar madrasah memaksa madrasah untuk menyesuaikan praktik administrasinya. Di sisi lain, regulasi yang tidak peka terhadap karakter pesantren dapat menciptakan disonansi dan meningkatkan resistensi. Oleh karena itu, tata kelola yang ideal bersifat fleksibel: mampu memenuhi persyaratan peraturan tanpa meminggirkan praktik nilai-nilai internal.

Based on the previous description, the character of pesantren-based madrasah governance can be understood as a hybrid pattern, namely a governance configuration that integrates the charismatic authority of kiai, value-based collective culture, the demands of modern administrative professionalism, and the use of digital technology in education management. Hybrid patterns in this context are not interpreted as unstructured mixing,

but rather as a form of institutional adaptation that brings together the logic of tradition and the logic of modern bureaucracy in one governance system. In this perspective, the main challenge lies not in the acceptance of technology alone, but in designing institutional transition mechanisms that maintain traditional legitimacy while increasing the managerial capacity of institutions.

Thus, the Pesantren-Digital Good Governance model in this study is defined as a governance model that integrates the principles of transparency, accountability, participation, and effectiveness with the pesantren-based authority structure and the education administration digitization system. This model is conceptually different from the general education governance model and conventional e-governance because it places the value of pesantren as a core element, not just a supporting cultural variable. Therefore, the implementation of this model emphasizes the involvement of kiai and the caregiver board from the policy formulation stage, strengthening the capacity of human resources, adjusting the design of information systems based on the context of Islamic boarding schools, and developing participatory mechanisms that are in line with the tradition of deliberation and demands of public accountability.

DIGITAL TRANSFORMATION AND GOVERNANCE IMPLEMENTATION CHALLENGES

Digital transformation has become a strategic agenda for educational institutions around the world, including Islamic educational institutions such as madrassas and Islamic boarding schools. The shift of most administrative and academic processes from manual practice to digital platforms is promising: operational efficiency, improved data accuracy, financial transparency, and expanded stakeholder participation through online communication channels. However, the benefits of digital transformation can only be realized optimally if digitalization is not understood solely as the procurement of technological tools, but as a comprehensive change in organizational governance. From the perspective of digital governance, this transformation requires restructuring of work processes, adjustments to operational procedures, and changes in organizational culture so that the use of technology can take place in a sustainable, integrated, and accountable manner in the institutional system (Kooiman, 2003). Recent literature studies confirm that the embryo of *digital governance* in educational institutions must combine technical aspects (infrastructure, software), institutions (procedures, policies), and human resources (digital literacy, ethics of technology use) in order to produce substantive benefits, not just symbolic modernization (Prasetya, 2025).

In the context of pesantren-based madrasahs, digital transformation interacts with distinctive institutional characters: charismatic authority, dormitory traditions, and socio-economic functions of pesantren. Several empirical studies in Indonesia show that some pesantren have implemented educational management information systems (SIMS), learning platforms (LMS), and digital financial reporting systems to support academic administration and accountability. This initial implementation showed real benefits: accelerated administrative processes, ease of access to academic data by student guardians, and transparency of fund flows that were previously difficult to monitor. However, its implementation also reveals a number of fundamental structural and cultural challenges, thus demanding a governance approach that is sensitive to the context of pesantren (Hasan et al., 2023).

The first problem that often arises is cultural resistance to change. Islamic boarding schools, as educational communities rooted in interpersonal traditions and intense teacher-student relationships, have decision-making mechanisms that are often informal and based on the authority of caregivers. The entry of digital systems into the governance of Islamic boarding schools requires more open and documented data management. These changes often present institutions with the need to adapt management practices that previously relied heavily on personal relationships and caregiver authority with more formal demands for accountability and transparency. This rejection is not only a rejection of technology, but also a reflection of concerns about the loss of moral control over the educational process and the perceived potential for external oversight to undermine the institution's honor. Therefore, the implementation strategy must include a participatory approach that involves caregivers from the planning stage so that transformation is understood as a collective adaptation process, not technocratic coercion.

Second, the gap in human resource capacity is a real obstacle. Digital transformation requires digital literacy among teachers, managers, and administrative staff. Many Islamic boarding schools face limited technical competence, so the technology provided is not used optimally or is only partially utilized (e.g., emergency data input, incomplete reporting, or reliance on a few people who control the system). A purely technical solution of LMS procurement or e-budgeting applications without investment in continuous training and change management, risks resulting in fragile and individual-dependent systems. Therefore, digital governance in Islamic boarding schools must place *capacity building* as core elements: training modules, technical assistance, and context-friendly interface design of Islamic boarding schools. Literature studies also recommend a training model that combines technical aspects with digital ethics and strengthening institutional values so that technology adoption does not

erode the culture of Islamic boarding schools (Ismail & Rosyidi, 2026).

Third, inconsistencies in policies and regulations complicate the implementation process. The national education system requires madrasahs to meet certain curriculum, accreditation, and financial reporting standards; However, often these policies do not provide operational guidance on how pesantren values and traditional mechanisms can be accommodated in the digital system. As a result, madrasahs are caught between two pressures: the demands of formal compliance from educational authorities and the need to maintain cultural autonomy. Recent research shows the need for more contextual policies (*policy coherence*), i.e. policies that provide space for a hybrid governance model and provide technical and regulatory support for the adoption of SIMS and e-reporting in line with pesantren praxis. Without this harmonization, digitalization efforts risk becoming an additional administrative burden that increases workload and triggers resistance (Murdiyanto et al., 2025).

Fourth, digitalization increases the need for data protection and information security. Student, financial, and administrative data stored in the digital system require secure management to maintain confidentiality and public trust. Many educational institutions, including small Islamic boarding schools, do not yet have data protection policies or technical capabilities to maintain infrastructure security. The risk of data leaks or unethical use of data can lead to a crisis of public trust. Therefore, the implementation of digital governance must include data protection standards, access rights mechanisms, and backup and encryption policies, accompanied by an ethical understanding for system users. The implementation of this standard also needs to be adjusted to the capacity of the institution so that it does not become a barrier to adoption (Soleh, 2024).

Fifth, digital transformation also faces the risk of the emergence of a technocratic approach that places technology as the main solution to various governance problems. In fact, various studies show that the success of digitalization is greatly influenced by institutional factors, organizational culture, and values that live in an institution. Therefore, the implementation of digital governance needs to begin with the formulation of clear policies, procedures, and accountability mechanisms, while technology serves to support its implementation. In the context of Islamic boarding schools, the digital system needs to be designed in harmony with the values that are the basis of institutional management, such as trust, deliberation, and character building. This alignment is important so that digitalization not only increases administrative efficiency, but also supports educational goals and institutional identity of pesantren (Rafifah, 2026).

Sixth, digital transformation opens opportunities for wider stakeholder participation but also demands new participation formats. Technology enables trustees, alumni, and other stakeholders to access information, provide input, and contribute to institutional oversight. However, for this participation to be meaningful, formal mechanisms (such as public dashboards, scheduled online forums, or periodic reports) are needed that govern interaction and maintain deliberation etiquette. In many Islamic boarding schools, digital participation can be advantageous when juxtaposed with traditional deliberation practices such as the use of online platforms to disseminate meeting materials and gather feedback before face-to-face meetings of caregivers and committees. This hybrid participation model is able to maintain the legitimacy of local authorities while meeting the demands of modern transparency (Hasan et al., 2023).

Seventh, sustainability and financing aspects are crucial factors in the digital governance of pesantren because the implementation of technology not only requires initial investment, but also long-term operational costs such as system subscriptions, maintenance, and HR training. The dependence of pesantren on diverse sources of funds such as donations, education funds, and business units demands a sustainable financing strategy, because without clear planning, digital initiatives risk stalling in the early stages of implementation. Therefore, digital governance needs to be accompanied by a long-term financing scheme through regular budget allocation, partnerships with external parties, and inter-agency collaboration models. From the perspective of policy evaluation, sustainability also needs to be measured through a cost-benefit approach so that the benefits generated are commensurate with the resources expended (Vial, 2019).

Digital transformation in Islamic boarding schools opens opportunities for pedagogical innovation through the integration of LMS, open learning resources, and collaborative platforms that connect formal learning with dormitory activities. These changes are not only technical, but also shift learning patterns towards more documented and data-driven systems. However, the literature shows that digital platforms are more effective in supporting cognitive aspects and monitoring learning, while the measurement of character and value aspects still requires a contextual pedagogical approach based on observation and social interaction. Therefore, technology in pesantren education is more appropriately positioned as a supporter of the internalization of values, not the main instrument of character evaluation.

In summary, digital transformation offers a great opportunity to strengthen governance in madrasahs: from financial transparency and administrative efficiency to stakeholder participation and pedagogical innovation.

However, the reality on the ground shows that these benefits can only be achieved through a holistic governance approach, sensitive to cultural values, oriented towards capacity building, complemented by clear data protection policies and financing strategies. The next sub-chapter will formulate a conceptual model of *Islamic Boarding School Governance* that synthesizes these findings into an operational framework that can be tested and adapted in empirical studies.

MODEL GOOD GOVERNANCE PESANTREN-DIGITAL

The proposed Digital Good Governance Model departs from the premise that the digitalization of governance is not the final goal but a means to realize the principles of good governance (transparency, accountability, participation, effectiveness, compliance with regulations) that are adjusted to the values of pesantren (amanah, adl, syura). This model synthesizes four main domains: (1) Foundations of Islamic Values, (2) Principles of Good Governance, (3) Digital Enablers (technology and infrastructure), and (4) Islamic Boarding Schools (leadership structure, culture, human resources). The four domains interact with outputs: charismatic-participatory-digital hybrid governance, which in turn impacts outcomes in the form of improved quality of education, financial transparency, stakeholder participation, and public trust (Hilman & Samad, 2025; Scott, 2013).

First, the foundation of Islamic values must be used as the normative foundation of the model. The concepts of trust (moral responsibility), deliberation (consultative process), and justice must be operationalized into governance procedures. This operationalization means designing internal policies such as a code of ethics for fund management, reporting guidelines that emphasize moral responsibility, and a deliberation mechanism that is documented as a prerequisite before the technology is implemented. The current literature confirms that the integration of formal and measured religious values increases the legitimacy of technological adoption while reducing cultural resistance (Tabroni & Musyaffa, 2025).

Second, the principles of good governance are formulated into the structural components of the model. These include the development of transparency policies (regular publication of financial statements and academic performance), accountability systems (internal and external audits, measurable KPIs), participation mechanisms (madrasah committees, student guardian forums, and digital feedback channels), and regulatory compliance (alignment with Ministry of Religion standards and national education policies). These principles form operational standards that serve as a reference for technological design and organizational procedures (Rodrigues, 2023).

Third, the digital enabler domain consists of technical infrastructure (servers, connectivity), applications (SIMS School Information Management System, e-budgeting, LMS), data security policies (protection, backup, access rights), and training modules (capacity building). The application of technology must follow the *fit-for-context* principle: the system is designed to be simple, easy to operate by non-technical personnel, and display functions relevant to the practice of the pesantren (e.g. dormitory management modules, notes of study activities). Case studies in many pesantren show that systems that are "lightweight" and developed with the pesantren community have a better adoption rate than complex solutions that are imported without adjustment (Fauzi et al., 2025b).

Fourth, the institution of the pesantren (kiai leadership, organizational structure, collective culture) is a driving or inhibiting factor depending on how the change is designed. Therefore, this model places caregivers, senior teachers, and supervisory boards as an important part of the planning and decision-making process. This involvement is important to ensure that the policies and technologies implemented are in line with the needs of the institution and gain legitimacy from internal stakeholders. This approach reduces rejection, increases a sense of belonging, and facilitates the translation of deliberation principles into digital mechanisms (e.g. published deliberation agendas, archived minutes, and online consultations before major decision-making). Empirical evidence suggests that participatory-designed changes have a higher chance of success (Munandar, 2025).

From the synthesis of the four domains, the operational framework of the model emerges: (a) *Preparing for the consolidation* of values, policies, and leadership commitments; (b) *Pilot system trials* in limited units (e.g. one madrasah or one level) with intensive training support; (c) *Expanding the scale system* with adjustments based on feedback; (d) *Institutionalizing* the strengthening of internal policies, routine budget allocation, and periodic evaluation mechanisms. Each phase is equipped with specific performance indicators so that progress can be objectively measured.

The proposed operational indicators are compiled based on the principles of good governance and the education management information system literature, which emphasizes the importance of transparency, accountability, participation, organizational capacity, and service quality as the main dimensions of institutional performance. Transparency is represented through the disclosure of financial statements that are accessible to the public, in line with the principles of accountability and openness in governance theory. Accountability is measured through the frequency of internal and external audits and follow-up recommendations, which reflect institutional

control mechanisms. Stakeholder participation is operationalized through the intensity of documented deliberative forums and the involvement of student guardians in service evaluation. Digital capacity is measured through the proportion of educators who already have digital literacy, which reflects the readiness of the organization in digital transformation. Meanwhile, learning quality is understood as a multidimensional construct that includes academic achievement and character aspects, in accordance with the outcome-based education approach that emphasizes the balance between cognitive and affective competencies.

The model also formulates risk mitigation mechanisms. Cultural risk and mitigation resistance through kiai engagement and gradual change management approaches. Mitigate technical risks through simple solution selection, data redundancy, and on-premises technical support. Financial risks are addressed with a hybrid financing scheme: a combination of internal funds (regular allocation), initial donor support, and partnerships with universities that can provide technical assistance on an ongoing basis. Data privacy and security issues are addressed with access rights policies, simple encryption, and backup procedures that are easy to implement even by small pesantren (Katsonis & Botros, 2015).

The implementation of the model requires practical operational stages: 1) Preparation of a Digital Governance Policy (KTGD) which requires the principles of trust and shura as basic values; 2) Establishment of a Transformation Team (including representatives of kiai, teachers, guardians, technicians) to oversee the process; 3) Intensive training based on contextual modules (madrasah administration, e-budgeting, LMS use, data ethics); 4) Application of pilot technology in certain units; 5) Formative evaluation and revision of SOPs; 6) Phased rollout accompanied by a sustainable funding mechanism; 7) Integration of periodic audits (internal and external) and annual deliberative forums to assess socio-cultural impacts. This approach has been recommended in successful madrasah digital management case studies and recorded in Sinta's literature.

Theoretically, this model departs from the perspective of institutional change, which views the organization as an entity that is not static, but continues to adapt through the interaction between regulatory pressures, social norms, and organizational culture. In this framework, pesantren are not only positioned as recipients of technology, but as agents who actively negotiate change through the process of institutional bricolage, which is the incorporation of elements of tradition and innovation in one new governance system. The Good Digital Islamic Boarding School Governance Model represents a form of hybrid governance that integrates the logic of traditional kiai-based authority with rational-bureaucratic logic and administrative digitalization.

Thus, this model rejects two extremes: first, the adoption of technology without institutional transformation that has the potential to produce technocraticism; and second, resistance to change that leads to governance stagnation and weak accountability. Instead, change is understood as an incremental process that occurs through the adjustment of institutional structure, practice, and meaning, thus allowing for a balance to be created between traditional legitimacy and the demands of modern transparency and participation.

For the need for further research and empirical testing, this model opens several research agendas: testing the effectiveness of each phase of implementation through longitudinal studies; validate character building indicators as part of the madrasah KPI; evaluate the cost-benefits of hybrid financing models; and examine the dynamics of negotiations between the Kiai authorities and participatory mechanisms in the digital context. In addition, a cross-case evaluation between salafiyah Islamic boarding schools and modern Islamic boarding schools will enrich understanding of how this model can be adapted to institutional variations.

In conclusion, the Digital Islamic Boarding School Good Governance Model is a conceptual framework that integrates Islamic values, modern governance principles, contextual technology, and institutional change strategies in one analytical model. This model is still at the conceptual level and serves as an initial framework to understand the dynamics of pesantren governance in the digital era. Therefore, the effectiveness, operational relevance, and generalization level of this model still require further empirical testing through field research in various institutional contexts of Islamic boarding schools.

Theoretically, this model can be a conceptual map for the development of more participatory and capacity-based digital governance, while still paying attention to risk mitigation mechanisms in its implementation. However, all implications related to increased transparency, accountability, stakeholder participation, and quality of education are still conceptual hypotheses that require empirical proof before they can be concluded as a definite impact.

Congclusions

This research shows that the implementation of good governance in the management of Islamic education in pesantren-based madrasahs is an increasingly relevant conceptual need in the context of digital transformation and increasing demands for public accountability. Good governance principles such as transparency, accountability,

participation, effectiveness, and regulatory compliance do not stand alone, but interact with the basic values of the pesantren such as trust, justice, and deliberation. These interactions produce a hybrid character of governance, which is the meeting between the charismatic authority of the kiai and the demands of modern managerial professionalism. In this framework, ideal governance is not understood as a substitution of traditional structures, but rather as a process of adjustment and articulation between local values and the principles of modern governance contextually.

Secara konseptual, literatur menunjukkan bahwa digitalisasi memiliki potensi untuk memperkuat mekanisme tata kelola, khususnya dalam aspek transparansi administrasi, pengelolaan data akademik, dan akuntabilitas keuangan. Namun, klaim tersebut masih bersifat indikatif karena sebagian besar temuan yang ada berasal dari studi implementasi terbatas dan belum didukung oleh model pengukuran yang komprehensif dalam konteks pesantren. Sejalan dengan itu, berbagai studi juga menegaskan bahwa transformasi digital tidak hanya merupakan proses adopsi teknologi, tetapi bagian dari reformasi kelembagaan yang lebih luas yang dipengaruhi oleh kesiapan organisasi, kapasitas sumber daya manusia, serta kepemimpinan institusional.

Furthermore, the implementation of digital governance in Islamic boarding schools faces a number of challenges such as organizational cultural resistance, limited digital literacy, policy inconsistency, and limited infrastructure and financing. Therefore, digitalization needs to be understood as a gradual process of institutional change that demands strengthening organizational capacity and the involvement of key actors in the adaptation process.

Based on the synthesis of the literature, this study formulated the Pesantren-Digital Good Governance Model as a conceptual analytical framework that integrates four main domains: Islamic values, good governance principles, digital technology as an enabler, and the institutional character of Islamic boarding schools. This model is not yet operational-implementive but serves as a starting framework to read and analyze the dynamics of hybrid governance in the context of Islamic boarding schools. Thus, all implications related to improving transparency, accountability, participation, and quality of education are still at the level of conceptual propositions that require further empirical testing through field research.

Reference

- Aimah, S. (2025). *Digital Transformation In Islamic Education Management: Challenges And Opportunities*. 01(01).
- Ali, A. J., & Weir, D. (2005). Islamic Perspectives on Management and Organization. *Journal of Management, Spirituality & Religion*, 2(3), 410–415. <https://doi.org/10.1080/14766080509518602>
- Anggoro, T. S., Purba, G. R. M., & Rahayu, H. (2024). Implementasi E-Government Sebagai Bentuk Perwujudan Era Revolusi Industri 4.0 Kontemporer. *Innovative: Journal Of Social Science Research*, 4(2), 4521–4535. <https://doi.org/10.31004/innovative.v4i2.9913>
- Aryani, G., Kurnia, N., Ningsih, F., Hasri, S., & Sohiron, S. (2025). Digitalization And Effective Communication In Strengthening Islamic Education Management In The Era Of Disruption. *Benchmarking*, 9(2), 393–403.
- Creswell, J. W. (2018). *Desain Penelitian Kualitatif, Kuantitatif, dan Pendekatan Campuran* (8, Ed.). <https://doi.org/10.4324/9780429469237-3>
- Dhofier, Z. (2011). *Tradisi pesantren: Studi pandangan hidup kyai dan visinya mengenai masa depan Indonesia*. LP3ES.
- Díaz-García, V., Montero-Navarro, A., Rodríguez-Sánchez, J.-L., & Gallego-Losada, R. (2022). Digitalization and digital transformation in higher education: A bibliometric analysis. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.1081595>
- DiMaggio, P. J., & Powell, W. W. (1983). The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *American Sociological Review*, 48(2), 147–160. <https://doi.org/10.2307/2095101>
- Fatkurohim, Arifin, M., & Efendi, N. (2025). Membangun Paradigma Baru: Model Manajemen Pendidikan Islam Berbasis Transformasi Digital. *AKSI: Jurnal Manajemen Pendidikan Islam*, 3(3), 175–190. <https://doi.org/10.37348/aksi.v3i3.681>
- Fauzi, R., Pelu, I. E. A. S., & Aulia, A. H. (2025a). Digitizing Information in Islamic Boarding Schools: Efforts to Enhance Transparency and Accountability in Governance. *Tarbawi: Jurnal Keilmuan Manajemen Pendidikan*, 11(02), 293–304. <https://doi.org/10.32678/tarbawi.v11i02.11423>
- Fauzi, R., Pelu, I. E. A. S., & Aulia, A. H. (2025b). Digitizing Information in Islamic Boarding Schools: Efforts to Enhance Transparency and Accountability in Governance. *Tarbawi: Jurnal Keilmuan Manajemen Pendidikan*, 11(02), 293–304. <https://doi.org/10.32678/tarbawi.v11i02.11423>
- Hadi, A., & Sukandar, A. (2026). Digitalizing Islamic Education Management in the Industry 5.0 Era: From Digital Administration to Value-Based Governance. *Jurnal Manajemen Dan Pendidikan Agama Islam*, 4(1), 343–356. <https://doi.org/10.61132/jmpai.v4i1.1808>

- Hasan, M., Taufiq, M., & Elmhemit, H. (2023). Digital Transformation of Islamic Education in Pesantren Madura. *TADRIS: Jurnal Pendidikan Islam*, 18(2), 1–16. <https://doi.org/10.19105/tjpi.v18i2.10535>
- Hilman, C., & Samad, M. R. (2025). Information Technology Based Governance Model for Islamic Education Management in Realizing Contemporary Public Accountability. *Khazanah: Journal of Islamic Education and Science*, 1(2), 79–96. <https://doi.org/10.61815/khazanah.v1i2.874>
- Ismail, F., & Rosyidi, M. (2026). Peran Sistem Informasi Manajemen Pendidikan (SIMDIK) dalam Meningkatkan Kualitas Pengelolaan Pondok Pesantren Studi Literatur Review. *Jurnal Manajemen Pendidikan*, 11(1), 502–514. <https://doi.org/10.34125/jmp.v11i1.1580>
- Jain, V., Gupta, S. S., Shankar, K. T., & Bagaria, K. R. (2022). A Study on Leadership Management, Principles, Theories, and Educational Management. *World Journal of English Language*, 12(3), 203. <https://doi.org/10.5430/wjel.v12n3p203>
- Katsonis, M., & Botros, A. (2015). Digital Government: A Primer and Professional Perspectives. *Australian Journal of Public Administration*, 74(1), 42–52. <https://doi.org/10.1111/1467-8500.12144>
- Kooiman, J. (2003). *Governing as Governance*. SAGE.
- Krippendorff, K. (2019). *Content Analysis: An Introduction to Its Methodology*. SAGE Publications, Inc. <https://doi.org/10.4135/9781071878781>
- Kurnia, R., Saidina, S., Harto, K., & Handayani, T. (2025). Peran Kepemimpinan dalam Mewujudkan Good Governance Pendidikan Islam. *Journal of Innovative and Creativity*, 5(3), 29906–29915. <https://doi.org/10.31004/joecy.v5i3.4507>
- Liu, T., Luo, Y. T., Pang, P. C.-I., & Kan, H. Y. (2025). Exploring the Impact of Information and Communication Technology on Educational Administration: A Systematic Scoping Review. *Education Sciences*, 15(9), 1114. <https://doi.org/10.3390/educsci15091114>
- Muhaimin, Sutiah, & Prabowo, S. L. (2022). *Manajemen Pendidikan (Aplikasinya dalam Penyusunan Rencana Pengembangan Sekolah / Madrasah)*. Prenada Media.
- Mulyasa, E. (2002). *Manajemen berbasis sekolah: Konsep, strategi, dan implementasi* (Cet. 1). Remaja Rosdakarya.
- Munandar, D. R. (2025). Integration of Technology and Governance in Indonesian Schools: Toward a Smart School Ecosystem. *AL-ISHLAH: Jurnal Pendidikan*, 17(2), 2147–2158. <https://doi.org/10.35445/alishlah.v17i2.7529>
- Murdiyanto, M., Susetyarini, E., Cholily, Y. M., & Syaifuddin, M. (2025). Digital Circular School in Islamic Education: A PRISMA Based Systematic Literature Review (2020–2025) and an Integrative Conceptual Model of Islamic Values, Circularity, and Digital Capacity. *Jurnal Pendidikan Islam*, 14(2), 325–343. <https://doi.org/10.14421/jpi.2025.142.325-343>
- Prasetya, U. A. (2025). Penguatan Manajemen Pendidikan Islam melalui Digitalisasi di Madrasah pada Era Society 5.0. *Al-Ilmiya: Jurnal Pendidikan Islam*, 1(3), 767–775.
- Puspita, A. T. (2025). Islamic Leadership Management in Pesantren. *The Economic Review of Pesantren*, 3(1). <https://doi.org/10.58968/erp.v3i1.581>
- Rafifalah, I. (2026). Ethical and Managerial Dimensions of Digital Transformation in Pesantren: A Conceptual Framework of the Santri Identity Card (SIC). *Proceeding International Conference on Islam, Law, and Society (INCOILS)*, 5(1). <https://doi.org/10.70062/incoils.v5i1.474>
- Rawis, J. A. M., Tangkere, T. F. S., Modeong, M., & Lahea, M. Y. (2025). *Tantangan Utama dalam Manajemen Pendidikan di Era Teknologi*. CV Eureka Media Aksara.
- Rodrigues, L. (2023). Gamification for cooperative character development. *Journal of Educational Computing Research*, 61(2), 389–412.
- Rofiqi, Zainiyati, H. S., Niam, K., Kusaeri, & Zuhri, A. M. (2026). Educational Leadership Transformation in Traditional Settings: Policy Adaptation and Distributed Authority in Indonesian Pesantren. *Leadership and Policy in Schools*, 0(0), 1–19. <https://doi.org/10.1080/15700763.2025.2608041>
- Rohmandar, A., & Dewi, W. S. (2025). *Good Education Governance: Teori dan Praktik dalam Peningkatan Mutu Pendidikan Menengah*. 03(04).
- Scott, W. R. (2013). *Institutions and Organizations: Ideas, Interests, and Identities*. SAGE Publications.
- Selwyn, N. (2011). *Education and Technology: Key Issues and Debates*. A&C Black.
- Soleh, M. I. (2024). Transformation of Administration in Modern Islamic Boarding Schools (Pondok Pesantren) in Indonesia. *Journal of Education and Religious Studies*, 4(02), 50–58. <https://doi.org/10.57060/jers.v4i02.128>
- Subandi, M., Pd, Idris, Mattarima, Juhrani, Arianto, T., Arinindyah, O., Yuniarti, R., Rifa'i, Efendi, R., Khasanah, W., Widyastuti, & Press, G. (2026). *Manajemen Mutu Pendidikan Tinggi di Era Society 5.0*. Gemilang Press Indonesia.
- Sugiono. (2006). *Metode Ppenelitian Kualitatif, Kuantitatif, dan R&D*. Alfabeta.

- Tabroni, T., & Musyaffa, A. A. M. (2025). The Digitization of Madrasah Administration: Relationship between Transformational Leadership and Technology Implementation in Jambi. *AL-ISHLAH: Jurnal Pendidikan*, 17(4). <https://doi.org/10.35445/alishlah.v17i4.8880>
- Tilaar, H. A. R. (2008). *Kebijakan pendidikan: Pengantar untuk memahami kebijakan pendidikan dan kebijakan pendidikan sebagai kebijakan publik*. Pustaka Pelajar.
- Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *The Journal of Strategic Information Systems, SI: Review Issue*, 28(2), 118–144. <https://doi.org/10.1016/j.jsis.2019.01.003>
- Yugo, T. (2025). Improving the Quality of Islamic Education through Pesantren-Based Management in Indonesia. *Journal of Educational Research and Practice*, 3(2), 238–254. (Jakarta, Indonesia). <https://doi.org/10.70376/jerp.v3i2.357>
- Zaenal Abibin, AL-Momani, M. O., & Aliamat Omar Ali. (2025). Digital Transformation in the Management of Private Islamic Higher Education Institutions: Opportunities and Challenges. *Zabags International Journal of Education*, 3(2), 71–83. <https://doi.org/10.61233/zijed.v3i2.30>
- Zed, M. (2008). *Metode Penelitian Kepustakaan*. Yayasan Pustaka Obor Indonesia.