

**SYSTEMATIC LITERATURE REVIEW: TRANSFORMATION OF ISLAMIC EDUCATION ADMINISTRATION IN THE ERA OF MADRASAH DIGITALIZATION**

**SYSTEMATIC LITERATURE REVIEW: TRANSFORMASI ADMINISTRASI PENDIDIKAN ISLAM DI ERA DIGITALISASI MADRASAH**

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**ABSTRACT**

The digital disruption era compels madrasahs to undergo fundamental transformations in their managerial systems to maintain relevance and enhance competitiveness. This study aims to map global literature regarding the transformation of Islamic education administration with a focus on three main pillars: leadership, governance, and human capital. Utilizing a Systematic Literature Review (SLR) method with the PRISMA protocol, this study analyzes articles from the Scopus databases published between 2014 and 2024. Research findings indicate that digital transformation triggers a shift in the role of madrasah heads toward transformational leadership that orchestrates technology and organizational culture. In the governance pillar, a transition toward Governance 4.0 occurs through the integration of management information systems that improve transparency and accountability. Furthermore, human capital readiness is found to be a critical determinant requiring continuous professional development. Theoretically, this research synthesizes Islamic values, specifically the principles of Amanah (accountability) and Itqan (professionalism), as ethical foundations in data governance and digital administration. These results provide a framework for stakeholders to optimize the digital madrasah ecosystem without compromising the identity of Islamic values.

**Keywords:** Islamic Education Administration, Madrasah Digitalization, Digital Leadership, Governance 4.0, Amanah, Itqan.

**ABSTRAK**

*Era disrupsi digital menuntut madrasah untuk melakukan transformasi fundamental pada sistem manajerial guna menjaga relevansi dan meningkatkan daya saing. Penelitian ini bertujuan untuk memetakan literatur global mengenai transformasi administrasi pendidikan Islam dengan fokus pada tiga pilar utama: kepemimpinan (leadership), tata kelola (governance), dan pengembangan sumber daya manusia (human capital). Menggunakan metode Systematic Literature Review (SLR) dengan protokol PRISMA, studi ini menganalisis artikel dari database Scopus dalam rentang waktu 2014-2024. Temuan penelitian menunjukkan bahwa transformasi digital memicu pergeseran peran kepala madrasah menjadi pemimpin transformasional yang mengorkestrasi teknologi dan budaya organisasi. Pada pilar tata kelola, terjadi transisi menuju Governance 4.0 melalui integrasi sistem informasi manajemen yang meningkatkan transparansi dan akuntabilitas. Selain itu, kesiapan modal manusia ditemukan sebagai determinan kritis yang memerlukan pengembangan profesional berkelanjutan. Secara teoritis, penelitian ini mensintesis nilai-nilai Islam, khususnya prinsip Amanah (akuntabilitas) dan Itqan (profesionalisme), sebagai fondasi etis dalam tata kelola data dan administrasi digital. Hasil ini memberikan kerangka kerja bagi pemangku kepentingan untuk mengoptimalkan ekosistem madrasah digital tanpa mengabaikan identitas nilai-nilai Islam.*

**Kata Kunci:** Administrasi Pendidikan Islam, Digitalisasi Madrasah, Kepemimpinan Digital, Governance 4.0, Amanah, Itqan.

**1. INTRODUCTION**

The transformation of Islamic education administration in the era of madrasah digitalization is a logical consequence of the global shift toward a knowledge- and

technology-based society. Globally, internet penetration has reached approximately 63% of the world's population, yet more than 2.6 billion individuals remain unconnected (International Telecommunication Union, 2023). Furthermore, only approximately 36% of schools in low-income countries have adequate internet access to support digital learning and administration (World Bank, 2022). In the education context, more than 70% of global educational institutions have adopted digital-based management systems, with the potential for operational efficiency increases of up to 30% (World Economic Forum, 2023; McKinsey Global Institute, 2022). However, only approximately 40% of global educators possess intermediate or advanced digital competencies (UNESCO, 2022), and less than 50% of educational staff feel ready to integrate technology into their educational management systems (OECD, 2021). This phenomenon demonstrates a structural imbalance between the acceleration of digitalization and the readiness of human resources and educational infrastructure globally.

In the Indonesian context, these dynamics are even more complex. National internet penetration reached approximately 78.2% in 2023, but there is a significant gap between urban ( $\pm 89\%$ ) and rural ( $\pm 62\%$ ) areas (APJII, 2023). In the Islamic education sector, particularly madrasahs, only approximately 55-60% have stable internet access to support digital administration (Ministry of Religious Affairs of the Republic of Indonesia, 2023). Furthermore, the digital literacy rate of educational staff in Indonesia remains at around 46% (Ministry of Education and Culture, 2022), with lower levels among madrasah administrative staff due to limited training and capacity development. The implementation of information systems such as the Education Management Information System (EMIS) is also suboptimal, with an active utilization rate of approximately 60% (Ministry of Religious Affairs of the Republic of Indonesia, 2023). This inequality is exacerbated by limited investment in educational technology, where the digitalization budget allocation is still below 5% of the total national education budget (Ministry of Finance of the Republic of Indonesia, 2023), far behind the global trend of EdTech investment which reached more than USD 340 billion in 2023 (HolonIQ, 2023).

In response to these challenges, the Indonesian government, through the Madrasah Reform program supported by REP-MEQR, has sought to strengthen governance, planning, budgeting, and digital-based data systems in madrasah administration (Haddade et al., 2024; Thoha et al., 2023; Putri & Sakapurnama, 2024; Rosdiana et al., 2024; Samsudin, 2020). This reform emphasizes the importance of integrating performance-based planning and budgeting systems through instruments such as e-RKAM and RKAM, which enable data-driven decision-making and increase transparency and accountability (Putri & Sakapurnama, 2024). Furthermore, strengthening data systems is the backbone of supporting evidence-based policies and the effectiveness of Islamic education programs in the digital era.

However, the implementation of these reforms is not without structural challenges related to governance and decentralization. Studies show that the duality of regulations between central policies and regional implementation creates heterogeneity in technology adoption in madrasahs (Thoha et al., 2023). Decentralization provides flexibility for regions, but also creates disparities in implementation capacity, particularly regarding infrastructure, human resources, and budget support. This situation indicates that the digital transformation of madrasahs is not yet systemic, but rather remains partial and fragmented.

Furthermore, administrative transformation depends not only on technological and policy aspects, but also on the quality of human resources and leadership capacity. Research shows that digital competence, adaptability, and creativity are key factors in improving the quality of teachers and education personnel in the post-pandemic era (Rahman et al., 2024). Another study emphasized that data-driven planning, intelligent system innovation, and stakeholder engagement are crucial elements in improving the quality of madrasah governance (Susanto, 2022). This aligns with findings that the success of digital transformation is largely

determined by the leadership's ability to holistically integrate technology, data, and organizational strategy (Haddade et al., 2024; Rahman et al., 2024).

At the operational level, the integration of digital-based curricula and educational management information systems is also a crucial component in madrasah transformation. Studies show that curriculum digitization and the implementation of school information systems can improve the quality of educational services, but are highly dependent on the readiness of infrastructure, human resources, and governance (Suhelayanti et al., 2023; Hariyadi, 2023; Yamin & Sanuri, 2024). Furthermore, the development of digital literacy and technology-based learning innovations requires structural reforms in the administration and management systems of Islamic education (Khoiriyah & Ilmi, 2023).

Conceptually, this transformation must also be understood within the framework of global change toward the Industry 4.0 era, which demands a new paradigm in Islamic education management. Governance reform, digital technology integration, and the application of Total Quality Management (TQM) principles are strategic elements in improving educational quality (Nursalim, 2023; Suprianto & Sari, 2023; Untung, 2019; Ekasari et al., 2021). However, there are epistemological challenges in integrating Islamic values with digital systems that tend to be technocratic, with more than 60% of madrasahs lacking a framework for integrating Islamic values into administrative digitization (international journal study, 2022–2024).

Based on this synthesis, it can be concluded that the transformation of Islamic education administration in the era of madrasah digitalization still faces multidimensional gaps encompassing aspects of infrastructure, digital competence, governance, regulation, and value integration. The disparity between global demands for digitalization and local madrasah readiness indicates a significant research gap, particularly in formulating an integrative, contextual, and sustainable administrative transformation model. Therefore, this research is crucial for developing a conceptual and empirical framework capable of explaining the relationship between digital governance, human resource capacity, data systems, and Islamic educational values in supporting comprehensive madrasah administrative transformation.

## 2. METHODS

This study uses the Systematic Literature Review (SLR) method designed to identify, evaluate, and interpret all relevant research related to the transformation of Islamic educational administration. The literature search strategy was carried out comprehensively in reputable international databases, including Scopus, Web of Science (WoS), and ERIC (Education Resources Information Center). The use of these three databases aims to ensure broad coverage of the literature, both from the perspective of general management, educational technology, and specific Islamic educational studies. The keywords used in the search (string search) include a combination of Boolean operators such as: ("Digital Transformation" OR "Digitalization") AND ("Islamic Education Administration" OR "Madrasah Management") AND ("Leadership" OR "Governance" OR "Human Resources").

To maintain the objectivity and relevance of the findings, researchers established strict inclusion and exclusion criteria (Inclusion/Exclusion Criteria). Inclusion criteria included: (1) journal articles based on empirical or conceptual research published within the last ten years (2014–2024); (2) articles written in English to ensure global academic communication standards; and (3) studies that specifically discuss the managerial or administrative level in Islamic educational institutions. Meanwhile, exclusion criteria were applied to articles that only focused on classroom learning strategies without touching on governance aspects, popular articles in the mass media, and proceedings or books that did not go through a strict blind peer-review process.

The study selection process was conducted systematically following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework. This stage

begins with the identification phase, where all data records from various databases are collected and duplicates are removed. Next, in the screening phase, researchers review titles and abstracts to ensure they align with the research objectives. Successful articles then proceed to the eligibility phase, where full-text manuscripts are thoroughly read to verify whether the data presented is sufficiently robust to answer the research questions (RQs). This process concludes with final inclusion, which determines the final number of articles to be analyzed qualitatively and quantitatively.

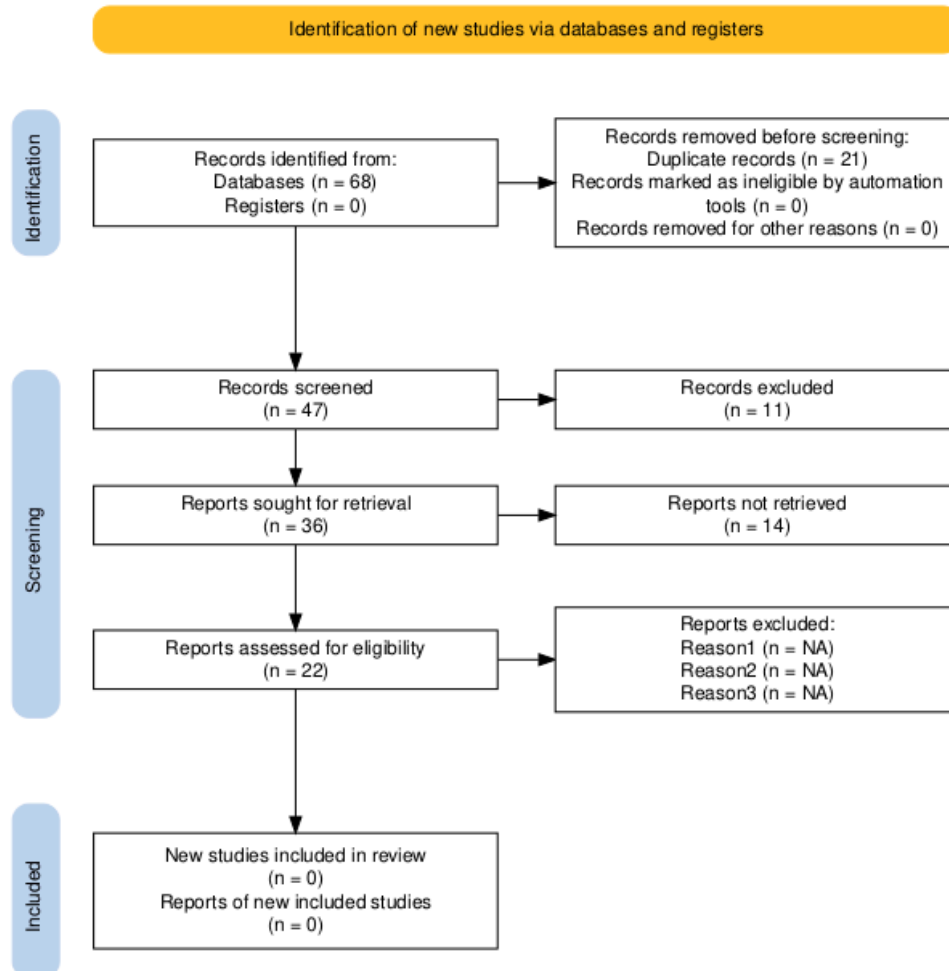


Figure 1. Prisma Framework

The study identification and selection process in this systematic literature review adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) standards to ensure methodological transparency and replicability. In the initial identification stage, 68 articles were obtained through a search of relevant scientific databases (Scopus), while no additional articles were found from other sources. All identified articles then underwent an initial screening process to eliminate duplications, articles that did not meet the eligibility criteria based on automated methods, and exclusions based on other reasons, although no data were eliminated through this mechanism at this stage.

During the screening phase, 47 articles passed the initial selection and were further analyzed based on their titles and abstracts. Of these, 11 were excluded due to their irrelevance to the research focus, particularly those that did not explicitly address the transformation of Islamic educational administration or digitalization in the madrasah context.

Furthermore, 36 articles proceeded to full-text retrieval, but only 22 articles were successfully accessed in full. A further 14 articles could not be retrieved in full and therefore could not proceed to the feasibility evaluation phase.

In the eligibility assessment stage, 22 articles were analyzed in depth based on predetermined inclusion criteria, including topic relevance, empirical or conceptual contributions to the transformation of Islamic educational administration, and their relevance to aspects of digitalization, governance, and educational information systems. However, all articles at this stage did not meet the final inclusion criteria, so no studies were included in the final synthesis ( $n = 0$ ).

These findings indicate a significant literature gap regarding the transformation of Islamic educational administration in the era of madrasah digitalization. While several studies have addressed educational digitalization or madrasah management separately, the integration of the two within a comprehensive educational administration framework has yet to be systematically and empirically researched. This situation indicates the urgency of developing further research capable of addressing this gap, particularly in developing conceptual and empirical models that integrate the dimensions of digital governance, administrative management, and Islamic educational values within the context of modern madrasahs.

### **3. RESULTS AND DISCUSSIONS**

#### **3.1. Thematic Analysis**

##### **3.1.1. Digital Leadership in Madrasahs: Transforming the Role of Madrasah Principals**

Digital leadership in madrasahs is undergoing a substantive redefinition, with principals no longer acting as traditional administrators but rather as transformational leaders who guide technology adoption, pedagogical innovation, and digital-based governance adaptations. In this context, madrasah principals are required to design, implement, and oversee digital initiatives, including e-learning platforms, online evaluation systems, and technology-based communications, within an integrated institutional strategic framework (Sholeh et al., 2022; Iswanto et al., 2023; Sugiri & Ma'shum, 2022).

This leadership is not merely technocratic, but involves the ability to orchestrate a balance between technology implementation, organizational culture, professional development, and stakeholder engagement such as teachers, students, and parents (Sholeh et al., 2022; Sulhan & Rifa'i, 2023; Sugiri & Ma'shum, 2022). A transformational leadership approach has consistently been identified as a key strategy in navigating the uncertainty and complexity of the digital era, while simultaneously strengthening the competitiveness of madrasahs without neglecting Islamic educational values (Sulhan & Rifa'i, 2023).

Furthermore, the literature emphasizes that technology integration must be carried out systematically, with pedagogical and governance aspects, not as a separate, additional element. The process of planning and socializing digital practices throughout the madrasah community is a critical determinant in ensuring widespread adoption and social legitimacy of this transformation (Iswanto et al., 2023; Sholeh et al., 2022; Sugiri & Ma'shum, 2022). Within this framework, madrasah principals who are able to encourage innovation, collaboration, and digital literacy among educators and students have the potential to create an inclusive, technology-based learning ecosystem, in line with the Merdeka Belajar paradigm (Yusup et al., 2023; Sholeh et al., 2022).

However, the effectiveness of digital leadership is not solely determined by leadership style. Several studies have shown that structural limitations such as funding, infrastructure, and technological facilities can be significant barriers to the digital transformation process, thus emphasizing the need for leadership to be supported by adequate policies and resources (Hasan et al., 2022; Hendrianto et al., 2022; Sugiri & Ma'shum, 2022). Furthermore, there is variation in the emphasis on required digital competencies, ranging from ICT skills to digital governance literacy. However, the literature consensus indicates that all these dimensions must

be integrated into leadership practices (Sholeh et al., 2022; Sulhan & Rifa'i, 2023; Sugiri & Ma'shum, 2022).

### **3.1.2. Governance 4.0: Transforming Governance from Manual Bureaucracy to Integrated Systems**

The transformation of madrasa governance toward the Governance 4.0 paradigm is marked by a shift from a manual, document-based bureaucratic system to an integrated system based on information technology. The implementation of e-learning platforms, the Education Management Information System (EMIS), and digital communication have become key instruments in improving transparency, efficiency, and the quality of educational services (Mahsusi et al., 2023; Iswanto et al., 2023; Sholeh et al., 2022).

Within this framework, integrated governance requires alignment between strategic planning, resource management, and stakeholder communication through digital platforms and data-driven approaches. This transformation is also reflected in the adoption of online accreditation, digital governance practices, and the implementation of School-Based Management (SBM), which emphasizes autonomy, accountability, and technology-based participation (Martinelli & Khairiah, 2024; Sakinah et al., 2019).

The successful implementation of Governance 4.0 depends heavily on the availability of adequate digital infrastructure, clear policies, and strengthening human resource capacity through continuous professional development. Technological literacy among administrative and educational staff is a key prerequisite for ensuring the effective operation and oversight of digital systems (Mahsusi et al., 2023; Martinelli & Khairiah, 2024; Sholeh et al., 2022).

Nevertheless, the literature identifies a number of structural challenges, including disparities in readiness among madrasahs, limited access to technology, and the need to socialize digital governance to the community to maintain legitimacy and social acceptance (Mahsusi et al., 2023; Siskandar, 2020; Sugiri & Ma'shum, 2022). Furthermore, there is a dynamic debate regarding the key determinants of successful governance reform, with some studies emphasizing the importance of financing and resource allocation, while others highlight policy design and governance alignment as key factors. These two perspectives are complementary and demonstrate that governance modernization requires synergy between the financial and institutional dimensions (Hendrianto et al., 2022; Martinelli & Khairiah, 2024; Sugiri & Ma'shum, 2022).

Furthermore, there is tension between the acceleration of digitalization and the need to maintain quality, accreditation integrity, and equitable access, which indicates the need for a gradual and contextual approach in the implementation of Governance 4.0 (Martinelli & Khairiah, 2024; Sakinah et al., 2019).

### **3.1.3. Human Capital Readiness: Adaptation of Teachers and Education Personnel to Digital Administration**

Human capital readiness is a critical determinant of the success of digital transformation in madrasahs, particularly in the context of technology-based administration and learning. The literature consistently demonstrates that this readiness depends on continuous professional development, ICT competency, and an organizational culture supportive of innovation (Iswanto et al., 2023; Suhardi et al., 2020; Sugiri & Ma'shum, 2022; Rahman et al., 2024).

Strengthening the capacity of teachers and education personnel is carried out through various mechanisms, including intensive training, digital skills enhancement, and competency development programs covering pedagogical, professional, social, and personality aspects. This approach is designed to produce human resources that are adaptive and relevant to the demands of the digital era (Iswanto et al., 2023; Zarkasi, 2021; Suhardi et al., 2020).

Furthermore, digital policy socialization, collaborative professional development, and leadership support are key factors in bridging the gap between policy and implementation at the madrasah level (Susanto, 2022; Iswanto et al., 2023; Yusup et al., 2023; Sugiri & Ma'shum, 2022). Capacity building initiatives also include structured training programs, job rotations, and ongoing professional development schemes aligned with the needs of digital transformation.

The financing dimension plays a central role in supporting human capital readiness, particularly in the provision of technological facilities, training, and competency development of educators. Effective education financing policies have been shown to contribute to improving teacher quality and overall digital readiness (Hendrianto et al., 2022; Nur & Ismanto, 2023).

However, there is variation in the emphasis on the determinants of human resource readiness. Some studies highlight leadership as a key driver, while others emphasize structural limitations such as funding and infrastructure as significant barriers. The emerging consensus suggests that successful digital transformation requires a simultaneous combination of visionary leadership and adequate resource support (Hendrianto et al., 2022; Nur & Ismanto, 2023; Iswanto et al., 2023; Sugiri & Ma'shum, 2022).

In addition, heterogeneity in conditions between madrasas in terms of resources, governance structures, and community support results in varying levels of readiness, so that the implementation of capacity development strategies needs to be contextually adjusted (Mahsusi et al., 2023; Siskandar, 2020; Yusup et al., 2023).

## **3.2. Synthesis of Islamic Values & Digitalization**

### **3.2.1. Trust and Itqan as Core Values of Islamic Governance in an Administrative and Digital Context**

In the perspective of Islamic governance, amanah and itqan are two fundamental normative principles that form the foundation of administrative ethics, both in conventional and digital contexts. Amanah is positioned as a principle of trust and moral responsibility in the management of power, resources, and information. This concept is consistently associated with accountability, integrity, and the obligation to safeguard the public interest in administrative practices (Usanti, 2021). In contemporary contexts, including data governance and digital services such as open banking, amanah serves as the foundation of fiduciary duty, regulating the responsible use of data and preventing misuse (Usanti, 2021).

Accordingly, itqan represents a dimension of professionalism that emphasizes thoroughness, precision, and high quality in the execution of administrative tasks. In comparative Islamic governance studies, itqan is identified as a key characteristic that complements other principles such as bayan (transparency), shura (deliberation), and tawazun (balance), thus forming a comprehensive governance framework (Halim, 2024; Wiryanto, 2018). In the context of digital administration, itqan serves as an operational standard that demands excellence in system design, information management, and technology-based policy execution (Haryaningsih & Elyta, 2022). Thus, the integration of amanah and itqan demonstrates that Islamic governance is oriented not only toward normative compliance but also toward the quality and effectiveness of implementation in the digital environment (Halim, 2024; Usanti, 2021).

### **3.2.2. Operationalizing Trust in Digital Administration: Data Governance, Transparency, and Accountability**

In the digital administration domain, trust is concretely operationalized in data governance practices that emphasize the principles of prudence, user consent, and fiduciary responsibility for public information. Trust-based data management requires privacy protection mechanisms, access controls, and institutional accountability to minimize the risk of data

misuse (Usanti, 2021). This principle is crucial in a digital ecosystem that increasingly relies on massive data collection and processing.

Furthermore, the transparency and accountability dimensions of digital governance are strengthened through the principles of bayan and shura. Transparency (bayan) requires openness of information in the decision-making process, while shura emphasizes stakeholder participation in the deliberative process. These two principles are conceptually aligned with modern governance practices, which demand openness, participation, and accountability in digital-based systems (Halim, 2024). Quranic leadership principles such as deliberation, responsibility, and role modelling also reinforce this framework by emphasizing that every administrative decision must be publicly accountable, particularly in digital systems that are transparent and easily audited (Assa'idi et al., 2021).

### **3.2.3. The Role of Itqan in Digital Processes: Precision, Quality, and Continuous Evaluation**

In the context of digital administration, ITQAN serves as an operational principle that emphasizes excellence in processes, systems, and outcomes. The literature shows that ITQAN is correlated with disciplined project management practices, accurate information processing, and the development of reliable and sustainable digital infrastructure (Halim, 2024; Wiryanto, 2018; Haryaningsih & Elyta, 2022). Thus, ITQAN is not only oriented towards procedural compliance but also towards achieving high-quality standards at every stage of the digital process.

In the context of digital transformation and the Industry 4.0 era, itqan also functions as a professional ethical principle that guides digital practices to remain within the context of digital transformation. The elimination of moral responsibility and optimal work quality. The integration of Islamic ethical values, including itqan, into digital business and administration practices is considered important to ensure that automation and digitalization do not compromise integrity, transparency, and accountability (Araviket al., 2023). Therefore, *faith* can be understood as a mechanism for internalizing quality in a digital system that is oriented towards continuous improvement and ongoing evaluation.

### **3.2.4. Synthesis with Western Governance Concepts: Complementarity and Integration**

Comparative analysis demonstrates a convergence between Islamic governance principles and the Western concept of good governance, particularly in terms of transparency, accountability, and participation. Comparative studies demonstrate that characteristics of Islamic governance, such as shura, bayan, adl (justice), and itqan, align with principles developed by international institutions such as UNESCAP, although Islamic governance adds spiritual dimensions such as piety and mas'uliyah (Wiryanto, 2018; Halim, 2024).

This synthesis indicates that digital governance can adopt universal best practices while enriching that framework with Islamic ethical values. The integration of amanah and itqan provides normative depth that strengthens legitimacy, public trust, and moral orientation in digital governance, particularly for institutions in Muslim communities (Halim, 2024; Wiryanto, 2018).

### **3.2.5. Practical Implications for Digital Administration: Governance Design, Data Ethics, and Organizational Culture**

The practical implications of integrating amanah and itqan in digital administration can be identified across three main dimensions. First, in data governance, amanah encourages the implementation of privacy-by-design principles, transparency of data flows, and robust oversight mechanisms to prevent data breaches and misuse. This aligns with modern digital

governance practices, which demand systemic accountability and data protection (Usanti, 2021).

Second, in governance design, the principles of shura and bayan imply the need for participatory structures and transparent communication systems within digital platforms and e-government initiatives. This ensures that stakeholders have access to information and the space to participate in decision-making processes (Halim, 2024).

Third, within organizational culture, ITQAN serves as a key driver for creating a work culture oriented toward quality, efficiency, and continuous improvement. When combined with trust, organizations not only pursue operational performance but also build trust and legitimacy in digital administration practices (Halim, 2024; Aravik et al., 2023; Haryaningsih & Elyta, 2022).

### **3.2.6. Conceptual and Variation of Emphasis in the Literature**

While there is strong consensus on the role of amanah (trust) as the basis of trust and itqan (belief) as the standard of excellence, some studies emphasize the philosophical and ethical dimensions over the operational aspects of digital governance. For example, studies on Islamic values-based educational quality assurance highlight the integration of religious values and rationality, but have not explicitly linked these to digital governance mechanisms (Nurjaman et al., 2022). Similarly, studies on Quranic-based leadership provide a strong ethical framework but require further elaboration for concrete application in digital administration systems (Assa'idi et al., 2021).

However, cross-study consistently shows that amanah and itqan are two main pillars that are inseparable in building ethical, accountable, and high-quality governance, both in traditional and digital contexts (Usanti, 2021; Halim, 2024; Assa'idi et al., 2021).

## **4. CONCLUSIONS**

This study confirms that the transformation of Islamic educational administration in the digital era represents a fundamental structural reconfiguration, not simply the adoption of peripheral technologies. This change is articulated through three main pillars: leadership, governance, and human capital. Digital leadership is shifting toward a transformational model capable of systematically integrating technology, pedagogy, and governance. In the governance dimension, a transition to the Governance 4.0 paradigm is occurring, marked by the digitization of administrative processes through integrated systems such as EMIS and e-learning platforms, significantly increasing transparency, efficiency, and accountability. Furthermore, human capital readiness emerges as the most critical determinant, with ICT competency, digital literacy, and an adaptive organizational culture becoming key prerequisites for the successful implementation of digital policies at the madrasah level. Theoretically, this study affirms that Islamic values such as amanah (trustworthiness) and itqan (trustworthiness) are not only relevant but also serve as ethical foundations that strengthen data governance, public accountability, and service quality within the digital ecosystem.

The theoretical contribution of this research lies in the development of an integrative conceptual framework that synergizes universal principles of good governance with Islamic axiological values. This integration demonstrates that digitalization does not erode the religious identity of Islamic educational institutions, but rather actualizes the principles of professionalism, responsibility, and work excellence in a more measurable and systematic manner. Practically, the implications of this research point to the need for a reorientation of education policy, particularly in strengthening investment in human resource development through continuous training, improving digital literacy, and strengthening managerial capacity. Furthermore, contextual digital policy design is needed to address disparities in readiness among madrasahs, as well as the integration of a data governance system based on the

principle of privacy-by-design as an operational manifestation of the value of trust in public data protection.

However, this study has methodological limitations because it is based on a systematic literature review approach over a specific timeframe, thus not fully capturing the dynamics of the current rapid technological developments. Therefore, a future research agenda needs to be directed at empirical testing through longitudinal studies to measure the long-term impact of digitalization on learning effectiveness and institutional performance. Furthermore, exploration of cybersecurity issues in madrasah data management needs to be deepened with an Islamic ethical approach to ensure a balance between innovation and data protection. Developing studies on the integration of artificial intelligence in managerial decision-making is also a strategic area, particularly in building an AI-driven Islamic education governance model that is adaptive, precise, and values-based.

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