



Digitalizing Tradition: State Power, Religious Authority, and the Reconfiguration of Pesantren Identity in Indonesia's Society 5.0 Era

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Abstract

The digitalization of Islamic boarding schools (*pesantren*) has emerged as a significant policy agenda within Indonesia's educational transformation toward Society 5.0. While digital technologies are widely promoted to enhance educational quality, governance efficiency, and digital literacy, their implementation within pesantren raises important questions regarding institutional autonomy, religious authority, and the preservation of Islamic educational identity. This study aims to analyze the politics of pesantren digitalization in Indonesia and examine how state-driven modernization agendas interact with the authority of *kyai* and the evolving identity of Islamic education. Employing a qualitative policy analysis design, the study utilizes document analysis of national regulations, policy reports, and scholarly publications related to pesantren, educational digitalization, and Islamic education. Data were analyzed through qualitative content analysis and thematic interpretation to identify recurring patterns, institutional responses, and policy implications. The findings reveal that digitalization functions not merely as a technological intervention but as a political and cultural process involving negotiation between governmental modernization objectives and the internal authority structures of pesantren. The study identifies four dominant institutional responses to digitalization (resistive, adaptive, progressive, and hybrid) each reflecting different configurations of leadership, organizational culture, and technological readiness. Furthermore, the *kyai* emerges as a pivotal actor who mediates technological change by legitimizing, regulating, and contextualizing digital innovation within Islamic educational values. The findings also indicate the emergence of a hybrid educational identity in which traditional religious learning coexists with digital literacy and modern institutional governance. This study contributes to the literature by conceptualizing pesantren digitalization as a process of political negotiation and identity reconstruction rather than a purely technological reform. The study further recommends participatory and context-sensitive digitalization policies that strengthen institutional capacity while preserving the distinctive cultural and religious foundations of pesantren.

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INTRODUCTION

Islamic boarding schools (*pesantren*) have long occupied a distinctive position within Indonesia's educational landscape, functioning not only as institutions of religious learning but also as centers for cultural transmission, moral formation, and community development. Despite their historical resilience, pesantren are currently facing unprecedented challenges arising from rapid digital transformation and the emergence of the Society 5.0 paradigm. The integration of digital technologies into educational systems has become a global policy agenda aimed at improving learning quality, institutional effectiveness, and human resource competitiveness. However, in the context of religious educational institutions, digitalization often generates tensions between modernization and the preservation of traditional values. While governments increasingly promote digital innovation as a pathway toward educational advancement, many faith-based institutions remain cautious about the potential implications of technological change for their cultural identity and pedagogical traditions. This tension is particularly evident in Indonesian pesantren, where

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educational practices are deeply rooted in religious authority, communal learning, and classical Islamic scholarship. Consequently, the digitalization of pesantren represents not merely a technological transition but also a socio-cultural and political process that reshapes institutional relationships, authority structures, and educational identities. This transformation is particularly significant because pesantren identity has historically been shaped by shared religious values, the authority of the *kyai*, and strong institutional autonomy within local communities (Kawakip & Sulanam, 2023). Furthermore, the diversity of pesantren models, including salaf, modern, and integrative forms, demonstrates that adaptation to social change has long been embedded within the development of Islamic education in Indonesia (Arif et al., 2024).

The urgency of this issue has become increasingly visible as digital technologies continue to transform how knowledge is produced, disseminated, and consumed. Educational institutions worldwide are adopting online learning platforms, digital management systems, artificial intelligence applications, and data-driven governance mechanisms to respond to changing societal demands (Admiraal et al., 2020; Mack & Houchens, 2023). In Indonesia, the digital transformation agenda has also extended to Islamic educational institutions, including pesantren, through various governmental initiatives promoting digital literacy, educational innovation, and institutional modernization. The enactment of Law Number 18 of 2019 concerning Pesantren further strengthened the formal recognition of pesantren within the national education system and opened new opportunities for policy intervention and institutional development. Nevertheless, the implementation of digitalization initiatives remains uneven across pesantren due to disparities in infrastructure, financial resources, technological access, and human resource capacity (Hasan et al., 2023; Jamil et al., 2025). These disparities create significant challenges for ensuring equitable digital transformation while maintaining the unique characteristics of pesantren as indigenous Islamic educational institutions.

Beyond infrastructural concerns, the digitalization of pesantren raises fundamental questions regarding authority, governance, and educational autonomy. Unlike many formal educational institutions, pesantren operate within a distinctive socio-religious framework where leadership is centered on the authority of the *kiai* as a spiritual guide, educational leader, and cultural guardian. The introduction of digital technologies often requires changes in administrative procedures, pedagogical approaches, and communication patterns that may alter traditional power relations within the institution. As a result, digitalization is not simply a matter of adopting technological tools but also involves negotiations over who determines the direction of institutional change and how technological innovation should be integrated into existing educational values. Previous studies have shown that educational reforms frequently generate contestation between state-driven modernization agendas and locally embedded educational traditions (Hanif et al., 2024; Nadhif Muhammad Mumtaz et al., 2024). Therefore, understanding the politics of digitalization requires examining the interaction between governmental policies, religious authorities, and institutional identities.

The significance of this topic is further reinforced by the growing influence of Society 5.0, which emphasizes the integration of digital technologies into all aspects of social life while maintaining a human-centered orientation. Within this framework, educational institutions are expected to produce graduates who possess not only technological competencies but also ethical awareness, critical thinking skills, and social responsibility. For pesantren, this expectation creates a dual challenge. On the one hand, they are encouraged to equip students with digital literacy and technological capabilities necessary for participation in contemporary society. On the other hand, they must preserve the religious values, moral traditions, and educational philosophies that constitute their institutional identity. Failure to balance these objectives may result either in technological marginalization or in the erosion of the distinctive educational character that has historically defined pesantren. Consequently, investigating how pesantren navigate digital transformation is essential for understanding broader processes of educational change within Muslim societies.

Recent scholarship has increasingly explored the relationship between pesantren and digital transformation from various perspectives. Several studies have examined the integration of educational technology into pesantren learning systems and highlighted its potential to improve instructional effectiveness and student engagement (Hamid & Abu Bakar, 2025; Saputro & Arif,

2025). Other scholars have focused on curriculum innovation and the incorporation of digital competencies within Islamic educational frameworks (Rochim et al., 2025; Zainuddin et al., 2025). Research has also demonstrated that many pesantren have responded positively to technological developments by adopting digital learning platforms, online religious instruction, and digital management systems despite existing resource limitations (Hasan et al., 2023; Bahri et al., 2024). Furthermore, studies on educational leadership emphasize the crucial role of *kiai* in directing institutional adaptation and maintaining organizational coherence during periods of change (Kurniawan et al., 2022; Syihabuddin, 2024). Collectively, these studies indicate that digital transformation has become an important component of contemporary pesantren development.

Although the existing literature provides valuable insights, most studies remain concentrated on technical, pedagogical, and managerial dimensions of digitalization. The dominant focus has been placed on technology adoption, digital learning strategies, curriculum reform, and institutional effectiveness. Comparatively less attention has been given to the political dimensions of digitalization, particularly the ways in which state policies, religious authority structures, and institutional identities interact within processes of technological change. Moreover, previous studies often portray digitalization as a largely linear process of modernization without sufficiently examining the tensions, negotiations, and power relations that accompany policy implementation in religious educational settings (Hanif et al., 2024; Nurtawab & Wahyudi, 2022). As a result, important questions remain regarding how pesantren negotiate governmental digitalization agendas, how *kiai* influence policy interpretation and implementation, and how digital transformation reshapes the identity of Islamic educational institutions in contemporary Indonesia.

Another limitation of existing research concerns the fragmented treatment of authority, policy, and identity as separate analytical issues. Studies focusing on educational policy rarely examine the role of religious authority, while investigations of *kiai* leadership often pay limited attention to broader policy dynamics and digital governance structures. Similarly, discussions of institutional identity frequently emphasize cultural preservation without adequately considering the political processes through which identities are negotiated and reconstructed in response to technological change. This fragmentation has created a significant gap in understanding digitalization as a multidimensional phenomenon involving governance, power, culture, and institutional transformation simultaneously. Addressing this gap requires an analytical perspective that situates digitalization within broader debates on educational politics, religious authority, and identity formation. Such an approach can provide a more comprehensive understanding of how technological modernization is experienced and negotiated within Islamic educational institutions.

Based on these considerations, this study aims to analyze the politics of pesantren digitalization policy in Indonesia and examine its implications for the transformation of Islamic educational identity in the Society 5.0 era. Specifically, the study investigates the relationship between state-driven digitalization agendas, the authority of *kiai*, and the diverse responses of pesantren toward technological change. By conceptualizing digitalization as a political and cultural negotiation rather than merely a technological process, this study contributes to the growing literature on Islamic education and educational policy. Theoretically, it advances understanding of how policy, authority, and identity intersect within processes of institutional transformation. Practically, the findings provide insights for policymakers, educational leaders, and pesantren administrators in designing digitalization strategies that strengthen institutional capacity while preserving the distinctive values and traditions of pesantren. Ultimately, the study argues that sustainable digital transformation requires a participatory, contextual, and culturally sensitive approach that positions pesantren not as passive recipients of policy but as active actors in shaping the future of Islamic education.

METHOD

Research Design

This study employed a qualitative research design using a policy analysis approach supported by qualitative document analysis. The qualitative approach was selected because the study aimed to understand the complex interactions among state policies, religious authority, and institutional identity within the process of pesantren digitalization. Rather than measuring causal relationships

through numerical data, this research sought to explore how digitalization policies are formulated, interpreted, negotiated, and implemented within the broader context of Islamic education in Indonesia. Policy analysis was adopted because digitalization is not merely a technological issue but also a policy-driven process involving multiple stakeholders, institutional interests, and power relations. In addition, Qualitative document analysis enabled a systematic examination of policy texts, academic literature, AND institutional documents to identify recurring themes, discourses, and patterns related to digital transformation in pesantren. This approach is particularly suitable for investigating policy-related issues because it allows researchers to interpret meanings, narratives, and institutional perspectives embedded within written documents (Morgan, 2022). The study was informed by the perspective of educational policy analysis, which views policy implementation as a dynamic process shaped by interactions among governmental actors, institutional leaders, and social contexts.

Research Context and Period

The study was conducted within the context of Islamic boarding school (*pesantren*) digitalization policies in Indonesia. Indonesia was selected because it hosts the largest pesantren system in the world and has recently experienced significant policy initiatives related to educational digitalization and Islamic education reform. The analysis focused on national policies, regulations, and institutional responses associated with digital transformation in Islamic educational institutions. Data collection and document review were conducted between January and April 2026. The selected period allowed the inclusion of the most recent academic discussions and policy developments concerning pesantren digitalization, educational governance, digital literacy, and Society 5.0 initiatives. The study examined both national-level policy frameworks and scholarly discussions addressing the implications of digitalization for pesantren governance, leadership, and identity transformation.

Population and Data Sources

The population of this study consisted of policy documents, academic publications, and institutional reports addressing digitalization, Islamic education, educational governance, and pesantren development in Indonesia. Since this research relied on documentary evidence rather than human participants, purposive sampling was employed to select relevant sources. The inclusion criteria comprised: (1) national regulations and policy documents related to pesantren, digital transformation, and education; (2) peer-reviewed journal articles published between 2021 and 2026; (3) scholarly books and reports discussing Islamic education, educational policy, digitalization, and religious authority; and (4) publications explicitly addressing pesantren transformation in the digital era. Documents that lacked direct relevance to the research focus or provided insufficient information regarding digitalization and educational policy were excluded from the analysis. Through this process, a total of 47 documents were selected and analyzed, consisting of government regulations, policy reports, journal articles, and scholarly references.

Research Instruments

The primary research instrument was a document analysis protocol developed by the researchers based on the objectives of the study and previous policy analysis frameworks. The protocol contained several analytical dimensions, including policy objectives, digitalization strategies, institutional autonomy, religious authority, governance transformation, educational identity, and stakeholder involvement. These dimensions guided the systematic extraction and organization of information from the selected documents. A document coding matrix was also developed to record key concepts, policy narratives, implementation challenges, and institutional responses. The use of structured analytical instruments facilitated consistency in data organization and enhanced the transparency of the analytical process.

Validity and Trustworthiness

To ensure the trustworthiness of the findings, several strategies were employed throughout the research process. First, source triangulation was conducted by comparing information obtained from government regulations, academic literature, and institutional publications. Second, theoretical triangulation was applied by interpreting the findings through perspectives from educational policy studies, institutional change theory, and Islamic educational governance. Third, an audit trail was

maintained to document decisions related to document selection, coding procedures, category development, and theme construction. In addition, peer debriefing was conducted through discussions with scholars in educational policy and Islamic education to evaluate the consistency and credibility of the interpretations. These procedures enhanced the dependability, credibility, and confirmability of the study. Source triangulation was employed to enhance the credibility of the findings by comparing information derived from policy documents, academic literature, and institutional reports (Natow, 2020). In addition, multiple coding and categorization procedures were utilized to strengthen analytical consistency and reduce interpretive bias throughout the content analysis process (Renz et al., 2018).

Data Collection Procedures

Data collection was conducted through a systematic document retrieval process. The first stage involved identifying relevant policy documents, academic articles, books, and institutional reports from government repositories, academic databases, and scholarly search platforms. The second stage consisted of screening documents based on predetermined inclusion and exclusion criteria. Subsequently, eligible documents were organized and catalogued according to publication type, year, and thematic relevance. During the third stage, each document was read repeatedly to obtain a comprehensive understanding of its content. Important information related to digitalization policies, pesantren governance, kyai authority, institutional adaptation, and identity transformation was extracted and recorded using the document analysis protocol. The final stage involved organizing the extracted data into thematic categories to facilitate in-depth analysis and interpretation.

Data Analysis

Data were analyzed using qualitative content analysis combined with policy analysis techniques. The analytical process followed several stages. First, all collected documents were subjected to open coding to identify meaningful statements and concepts related to the research objectives. Second, similar codes were grouped into broader categories reflecting recurring issues, patterns, and policy concerns. Third, thematic analysis was conducted to develop overarching themes explaining the relationship between digitalization policies, religious authority, and institutional transformation. Fourth, policy analysis was applied to examine how state agendas, regulatory frameworks, and institutional actors interact in shaping the implementation of digitalization within pesantren. Throughout the analysis, attention was given to identifying areas of convergence, negotiation, resistance, and adaptation among stakeholders. NVivo 14 software was utilized to facilitate coding, categorization, and thematic organization of qualitative data. The findings were subsequently interpreted through an iterative process of comparison between empirical evidence and relevant theoretical perspectives.

RESULTS AND DISCUSSION

Results

State Agenda in Pesantren Digitalization

Analysis of policy documents and academic literature indicates that the digitalization of pesantren has become an integral part of Indonesia's broader educational modernization agenda. The state increasingly views digital transformation as a strategic mechanism for improving educational quality, institutional governance, and human resource competitiveness in the Society 5.0 era. This orientation is reflected in various initiatives promoting digital literacy, educational technology integration, and administrative modernization within Islamic educational institutions. The enactment of Law Number 18 of 2019 concerning Pesantren further strengthened the state's involvement in the development of pesantren by formally recognizing their role within the national education system. The reviewed documents suggest that digitalization policies are not limited to technological adoption but are also linked to governance reform, accountability, and institutional integration. Consequently, pesantren are increasingly encouraged to adapt to digital environments while maintaining their educational functions and social relevance.

Despite these policy initiatives, the implementation of digitalization remains uneven across pesantren. Differences in technological infrastructure, institutional capacity, funding availability, and

human resource readiness significantly influence the extent to which digital transformation can be realized. The findings reveal that pesantren with stronger institutional networks and better access to resources tend to adopt digital technologies more rapidly than those located in rural or underdeveloped areas. This unevenness demonstrates that digitalization is not merely a technological issue but also a matter of educational equity and policy effectiveness.

Table 1. Political Dimensions of Pesantren Digitalization Policy

Policy Dimension	State Agenda	Pesantren Response	Policy Implications
Regulatory Framework	Strengthening legal recognition and integration of pesantren within the national education system	Acceptance while maintaining institutional autonomy and educational traditions	Policies should avoid excessive standardization and respect institutional diversity
Digital Infrastructure	Expanding access to information technology, internet connectivity, and digital platforms	Adoption depends on institutional readiness, infrastructure availability, and human resources	Affirmative support is needed for rural and underdeveloped pesantren
Institutional Governance	Improving administrative efficiency, transparency, and educational data integration	Generally accepted when aligned with existing organizational practices	Capacity-building and administrative assistance are required
Digital Learning	Modernizing teaching and learning methods through educational technology	Selective adoption based on religious values and pedagogical traditions	Development of value-based digital learning models is necessary
Institutional Authority	Enhancing accountability, quality assurance, and policy compliance	Negotiated through the authority and leadership of the kyai	Religious leaders should be actively involved in policy formulation and implementation

The findings further indicate that state-driven digitalization policies are accompanied by expectations regarding institutional accountability, data integration, and administrative standardization. While these objectives are intended to strengthen educational governance, they also generate concerns regarding institutional autonomy and the preservation of pesantren traditions. Thus, digitalization emerges not only as a developmental agenda but also as a policy arena where competing priorities and interests intersect.

Policy Negotiation and Institutional Autonomy

The analysis reveals that pesantren do not function merely as passive recipients of state policies. Instead, they actively negotiate the implementation of digitalization according to their institutional values, educational philosophies, and organizational needs. Evidence from the reviewed literature shows that many pesantren selectively adopt digital innovations while simultaneously preserving traditional educational practices and authority structures.

This negotiation process is particularly visible in decisions concerning curriculum adaptation, digital learning platforms, administrative systems, and online communication mechanisms. Some pesantren integrate digital technologies extensively into teaching and governance, whereas others adopt a more cautious approach to avoid disruptions to established educational traditions. The findings suggest that policy implementation is mediated by institutional culture rather than determined solely by governmental directives.

Furthermore, the reviewed documents indicate that pesantren leaders often evaluate digital initiatives based on their compatibility with Islamic values, educational objectives, and communal norms. Consequently, digitalization is experienced as a process of adaptation and reinterpretation rather than direct policy compliance. These findings highlight the importance of understanding educational reform as a negotiated process shaped by both external policy pressures and internal institutional dynamics.

The Strategic Role of Kyai in Digital Transformation

One of the most consistent findings across the analyzed documents concerns the central role of the *kyai* in shaping the direction of digital transformation. The reviewed literature demonstrates that the success or failure of digitalization initiatives is strongly influenced by the support, interpretation, and leadership of the *kyai*. These findings are consistent with previous studies highlighting that the *kyai* serves not only as an educational leader but also as a guardian of pesantren values, traditions, and institutional legitimacy (Alam, 2018). In many pesantren, leadership authority

remains closely connected to the preservation of religious identity and the regulation of educational change (Fitria, 2025).

The *kyai* serves multiple functions during the digitalization process. Beyond acting as a religious authority, the *kyai* also functions as an institutional leader, cultural mediator, and decision-maker responsible for evaluating the appropriateness of technological innovations. The findings indicate that technological initiatives are more likely to gain acceptance among teachers and students when they receive explicit support from respected religious leaders.

Table 2. Strategic Roles of Kyai in Pesantren Digitalization

Role of Kyai	Practical Functions	Impact on Digital Transformation
Guardian of Values	Determines ethical boundaries and acceptable forms of technology use	Preserves Islamic values, morality, and educational traditions
Decision Maker	Approves, modifies, limits, or rejects digital initiatives	Influences the direction and success of digitalization programs
Policy Mediator	Bridges government programs with institutional needs and priorities	Reduces resistance and facilitates policy acceptance
Cultural Leader	Integrates technological innovation with pesantren culture and traditions	Encourages culturally appropriate digital transformation
Legitimizing Authority	Provides religious and moral endorsement for innovation	Increases acceptance among teachers, students, and the broader community

The findings further suggest that the *kyai* acts as a bridge between governmental modernization agendas and pesantren traditions. Through this mediating role, the *kyai* contributes to reducing institutional resistance while ensuring that technological innovations remain aligned with Islamic values, moral education, and pesantren culture.

Typologies of Pesantren Responses to Digitalization

Analysis of the reviewed documents reveals four major patterns of pesantren responses toward digitalization: resistive, adaptive, progressive, and hybrid. These categories emerged from recurring themes related to technology adoption, leadership orientation, institutional culture, and educational priorities. Such diversity reflects the long-standing heterogeneity of Indonesian pesantren, where different institutions adopt varying approaches toward educational innovation, curriculum reform, and organizational modernization (Kinoshita, 2023). This variation also confirms that pesantren cannot be treated as a homogeneous educational category when designing digital transformation policies (Sya'bani, 2023).

The resistive type is characterized by limited technological adoption and a strong emphasis on preserving traditional educational practices. Adaptive pesantren selectively utilize technology as a supportive tool while maintaining conventional structures and values. Progressive pesantren demonstrate broader integration of digital systems across educational, managerial, and communication activities. Meanwhile, hybrid pesantren combine technological innovation with strong cultural and religious safeguards, seeking a balance between tradition and modernization.

Table 3. Typologies of Pesantren Responses to Digitalization

Typology	Main Characteristics	Attitude Toward Technology	Role of Kyai	Risks	Opportunities
Resistive	Strong commitment to preserving traditional educational practices	Restrictive and cautious adoption of technology	Highly dominant as guardian of tradition	Digital divide, limited innovation, slower institutional modernization	Strong preservation of religious traditions and moral control
Adaptive	Selective acceptance of technology for educational and administrative purposes	Technology used as a supporting tool	Acts as a value filter and institutional guide	Gradual pace of transformation	Balanced integration of innovation and tradition
Progressive	Open to educational and organizational innovation	Extensive integration of digital systems in learning, governance, and communication	Functions as a transformational leader	Potential weakening of cultural control if values are neglected	Increased competitiveness, innovation, and institutional responsiveness

Typology	Main Characteristics	Attitude Toward Technology	Role of Kyai	Risks	Opportunities
Hybrid	Combines traditional pesantren values with modern digital systems	Technology integrated under value-based supervision	Strategic and moderating role	Requires strong infrastructure, governance, and human resources	Most suitable model for achieving balance between tradition and modernization in the Society 5.0 era

The findings indicate that no single model dominates the pesantren landscape. Instead, responses vary according to leadership characteristics, resource availability, institutional history, and organizational goals. This diversity highlights the need for flexible and context-sensitive approaches to digitalization policy.

Emerging Transformation of Islamic Educational Identity

The final finding concerns the transformation of Islamic educational identity in the context of digitalization. The analyzed documents suggest that pesantren are increasingly redefining their institutional roles beyond traditional religious instruction. While maintaining commitments to Islamic scholarship, moral formation, and communal life, many pesantren are simultaneously embracing digital literacy, online learning, and digital outreach activities.

The findings indicate that identity transformation does not necessarily imply the abandonment of traditional values. Rather, pesantren appear to be developing new forms of institutional identity that integrate religious traditions with contemporary technological competencies. This emerging identity is characterized by the coexistence of classical Islamic learning, digital literacy, online religious engagement, and modern organizational management. As a result, pesantren are gradually positioning themselves as educational institutions capable of responding to contemporary social changes while preserving their distinctive religious and cultural foundations.

Discussion

The findings demonstrate that the digitalization of pesantren should not be understood merely as a technological modernization agenda but as a political process involving negotiations among state actors, religious authorities, and educational institutions. This result suggests that policy implementation within Islamic educational settings is shaped not only by regulatory frameworks but also by the distribution of authority and institutional legitimacy. From the perspective of educational policy analysis, policy outcomes are often mediated by local actors who reinterpret governmental agendas according to contextual needs and organizational values. The active role of pesantren in negotiating digitalization policies supports previous findings that Islamic educational institutions are not passive recipients of state interventions but possess considerable agency in determining their developmental trajectories (Nadhif Muhammad Mumtaz & Witro, 2024; Hanif et al., 2024). Similar patterns have also been observed in studies examining the implementation of educational regulations in Islamic institutions, where policy adoption is frequently influenced by institutional priorities rather than formal compliance alone (Mahendra et al., 2022). Therefore, this study extends existing literature by demonstrating that digitalization policies are embedded within broader processes of institutional negotiation and governance rather than functioning as purely technical reforms.

Another important finding concerns the uneven implementation of digitalization across pesantren. While government initiatives have expanded opportunities for technological integration, significant differences remain in institutional readiness, infrastructure availability, and human resource capacity. This finding challenges modernization assumptions suggesting that technological diffusion occurs uniformly across educational institutions. Instead, the evidence indicates that contextual factors such as organizational resources, leadership orientation, and access to digital infrastructure substantially influence policy outcomes. This observation aligns with Hasan et al. (2023) and Jamil et al. (2025), who reported disparities in digital adoption among pesantren, but the present study further highlights the political implications of these inequalities. Uneven digitalization may inadvertently reinforce existing educational disparities if policy interventions focus primarily on technological provision without addressing institutional capacity development. Consequently,

digital transformation should be conceptualized as both a technological and governance challenge requiring differentiated policy support.

The central role of the kyai represents one of the most significant findings of this study. The analysis reveals that technological innovation gains legitimacy within pesantren largely through the authority and endorsement of religious leaders. This finding reinforces theories of institutional leadership that emphasize the importance of symbolic authority in shaping organizational change. Unlike conventional educational institutions, where leadership authority is often administrative in nature, pesantren leadership combines managerial, cultural, spiritual, and moral dimensions. Previous studies have similarly highlighted the strategic role of the kyai in maintaining institutional stability and guiding educational reform (Kurniawan et al., 2022; Syihabuddin, 2024). Furthermore, Alam (2018), Fitria (2025), and Titi Sartini (2025) demonstrate that the kyai functions not only as an educational leader but also as a guardian of religious values and collective identity. The present findings expand this understanding by showing that the kyai acts as a policy mediator who translates state-driven digitalization agendas into forms that are culturally and religiously acceptable within pesantren communities.

The diversity of pesantren responses to digitalization further illustrates the complexity of institutional adaptation in religious educational settings. The identification of resistive, adaptive, progressive, and hybrid typologies suggests that technological transformation is neither linear nor homogeneous. This finding challenges deterministic perspectives that associate modernization exclusively with technological adoption. Instead, pesantren selectively appropriate digital innovations according to their institutional missions and cultural priorities. Similar observations have been reported by Kinoshita (2023) and Sya'bani (2023), who emphasize the heterogeneity of Indonesian pesantren and their varying approaches to educational innovation. Moreover, Putra et al. (2025) argue that differences between traditional and modern pesantren significantly influence responses to policy reform and institutional change. The typological framework developed in this study therefore contributes a more nuanced understanding of how religious educational institutions negotiate technological modernization while preserving organizational distinctiveness.

The findings also reveal that digitalization contributes to the gradual transformation of Islamic educational identity. Rather than replacing traditional educational practices, digital technologies are increasingly integrated into existing systems of religious learning, administration, and community engagement. This result supports arguments that institutional identities are dynamic and continuously reconstructed in response to social and technological change. The coexistence of classical Islamic scholarship, digital literacy, and modern governance mechanisms suggests the emergence of a hybrid educational identity. This observation is consistent with studies highlighting the capacity of pesantren to adapt to changing societal contexts without abandoning their foundational values (Kawakip & Sulanam, 2023; Rochim et al., 2025). Similarly, Malizal (2025) argues that globalization and digital integration are reshaping Islamic educational institutions by creating new intersections between tradition, curriculum development, and technological innovation. Consequently, digitalization should be viewed not as a threat to pesantren identity but as a process through which identity is renegotiated and rearticulated.

A critical implication of these findings concerns the relationship between tradition and modernity in Islamic education. The evidence suggests that the dichotomy frequently constructed between religious tradition and technological advancement may be overly simplistic. Rather than operating as opposing forces, tradition and innovation appear to interact through processes of adaptation, selection, and reinterpretation. This finding resonates with Lukens-Bull's (2001) argument that pesantren possess a unique capacity to synthesize Islamic traditions with contemporary social demands. However, the present study advances this perspective by demonstrating that such synthesis is increasingly mediated by digital technologies and policy frameworks associated with Society 5.0. Therefore, the relationship between tradition and modernization should be understood as a dynamic process of institutional negotiation rather than a zero-sum competition between preservation and change.

The study further suggests that effective digitalization policies require greater sensitivity to institutional diversity. Existing policy approaches often assume that technological innovation can be implemented through standardized frameworks applicable to all educational institutions. However, the findings indicate that pesantren vary considerably in terms of organizational culture, leadership

structures, technological readiness, and educational priorities. This observation supports recent scholarship emphasizing the importance of context-sensitive governance and human resource development in educational transformation (Pamungkas et al., 2025). Furthermore, successful digitalization depends not only on infrastructure provision but also on leadership capacity, organizational learning, and stakeholder participation. As demonstrated by Yusuf et al. (2024), transformational leadership plays a critical role in balancing institutional continuity with educational innovation. Consequently, policymakers should adopt differentiated strategies that recognize the diversity of pesantren rather than pursuing uniform models of digital reform.

Taken together, these findings contribute to the global literature on educational transformation by positioning digitalization as a process of political negotiation, religious mediation, and identity reconstruction. Previous studies have predominantly examined digital transformation through technological, pedagogical, or managerial lenses. In contrast, this study highlights how state power, religious authority, and institutional identity interact to shape educational change within faith-based institutions. The conceptual contribution lies in demonstrating that digitalization is not simply an instrument of modernization but also a site where competing visions of educational futures are negotiated. By integrating perspectives from educational policy, leadership studies, and Islamic education, this study provides a broader analytical framework for understanding technological transformation in religious educational contexts. Such a perspective is increasingly relevant within global debates concerning the future of faith-based education in digitally mediated societies.

CONCLUSION

This study explored the politics of pesantren digitalization in Indonesia and its implications for the transformation of Islamic educational identity in the Society 5.0 era. The findings demonstrate that digitalization is not merely a technological initiative but a complex process shaped by interactions among state policies, religious authority, institutional culture, and contemporary societal demands. Government efforts to modernize Islamic education through digitalization have expanded opportunities for improving educational quality, governance, digital literacy, and institutional competitiveness. However, the implementation of these policies is neither uniform nor linear, as pesantren actively negotiate technological change according to their values, traditions, leadership orientations, and organizational capacities. The study further reveals that the *kyai* plays a pivotal role in legitimizing, directing, and regulating digital transformation, ensuring that technological innovation remains aligned with the moral, educational, and religious foundations of pesantren.

The findings also indicate that pesantren respond to digitalization through diverse patterns ranging from resistive and adaptive approaches to progressive and hybrid models. These variations confirm that digital transformation within Islamic educational institutions cannot be understood solely through technological or administrative perspectives but must be viewed as a process of political and cultural negotiation. Theoretically, this study contributes to the literature by positioning pesantren digitalization as an arena where state agendas, religious authority, and institutional identity intersect and evolve. Practically, the findings suggest that future digitalization policies should adopt participatory, contextual, and differentiated approaches that recognize the diversity of pesantren while strengthening their technological capacity. Ultimately, sustainable digital transformation should not weaken the distinctive identity of pesantren but rather reinforce its role as an adaptive, autonomous, and value-based Islamic educational institution capable of responding to the challenges of the digital age.

AUTHOR CONTRIBUTIONS STATEMENT

SA contributed to the conceptualization of the study, literature review, research design, data collection, document analysis, interpretation of findings, and preparation of the original manuscript draft. **MH** contributed to the development of the theoretical framework, methodological refinement, critical review of the analysis, supervision of the research process, and revision of the manuscript.

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