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Balancing Tradition and Innovation: Curriculum Integration, Digital Competence, and Islamic Identity in Indonesian Pesantren

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Abstract

Objective: This study aims to analyze how Islamic boarding schools (*pesantren*) in Indonesia formulate and implement strategies for integrating curriculum reform, digital competence, and Islamic identity in response to contemporary educational modernization. **Theoretical framework:** The study is grounded in Homi Bhabha's Cultural Hybridization Theory, which explains the negotiation between tradition and modernity, and the Technological Pedagogical Content Knowledge (TPACK) Framework, which emphasizes the effective integration of technology, pedagogy, and content knowledge in educational practice. **Literature review:** The literature review highlights ongoing debates concerning pesantren modernization, curriculum integration, digital transformation, state educational policies, and the preservation of Islamic authenticity. **Methods:** This research employs a qualitative case study approach involving three pesantren in Java representing urban, semi-urban, and rural contexts. Data were collected through semi-structured interviews with *kyai*, teachers, and students, classroom observations, document analysis, and triangulated qualitative coding using NVivo. **Results:** The findings reveal three distinct modernization patterns: full integration, hybrid integration, and traditional resistance. Urban pesantren demonstrate successful incorporation of STEM, ICT, and digital learning platforms while maintaining religious commitments. Semi-urban pesantren adopt selective hybrid models, whereas rural pesantren tend to resist technological integration due to concerns regarding cultural and spiritual erosion. Leadership orientation, institutional readiness, teacher competence, and infrastructure availability emerge as critical factors influencing modernization outcomes. The study further identifies digital tools such as WhatsApp, Google Meet, Maktabah Syamilah, and Moodle as important instruments supporting educational innovation. **Implications:** The implications suggest that modernization and Islamic authenticity are not mutually exclusive but can be harmonized through balanced educational reform, adaptive leadership, and context-sensitive policies. **Novelty:** The novelty of this study lies in proposing an integrative strategic model that simultaneously combines curriculum integration, digital competence, and Islamic identity within a single analytical framework, offering a practical pathway for sustainable pesantren modernization while preserving religious and cultural values.

Keywords: pesantren modernization, curriculum integration, digital competence, islamic identity, educational transformation.

INTRODUCTION

Pesantren, as the oldest Islamic educational institution in Indonesia, has a central role in the moral, spiritual, and intellectual development of the people. Since its inception, the pesantren emphasized education based on the yellow book, mastery of classical Islamic sciences, and the formation of student character that is firmly rooted in the values of the archipelago's Islamic tradition. However, as the times develop, pesantren cannot avoid the demands of modernization, especially in terms of the integration of the national curriculum, mastery of digital competencies, and its relationship with the dynamics of education policies at the national and global levels. This modernization is both a challenge and an opportunity: how to be able to adopt educational innovations without sacrificing their Islamic identity [1].

On the one hand, the government encourages the standardization of education through the implementation of the national curriculum so that Islamic boarding school graduates have academic and professional competitiveness in society. On the other hand, the development of digital technology requires mastery of digital literacy, 21st-century skills, and the use of ICT (Information and Communication Technology) in the learning process. A major challenge arises when this integration has the potential to raise concerns among Islamic boarding schools about the fading of the authenticity of Islamic education, especially related to the values, traditions, and authority of classical science [2].

The research gap arises from the limitations of studies that specifically highlight integration strategies between the national curriculum, digital competence, and Islamic identity in Islamic boarding schools. Most previous research has tended to discuss the modernization of pesantren in a general framework, such as digitizing learning or curriculum development, but not many have studied in depth how pesantren formulate balanced and measurable strategies in dealing with modernization demands. In addition, previous research has often highlighted the dichotomy between progressive pesantren groups and innovation-resistant groups, without providing a strategic model that applies to pesantren in responding to these dynamics. In other words, there is a research gap on managerial-strategic aspects that integrate curriculum, digitalization, and the preservation of Islamic identity simultaneously [3].

The significance of this research lies in its contribution to enriching the discourse on Islamic education reform in Indonesia. First, academically, this research provides a new understanding of the mindset, management strategies, and real practices taken by pesantren in maintaining a balance between modernization and tradition. Second, practically, the results of this research can be a reference for Islamic boarding school caregivers, policy makers, and Islamic education practitioners in formulating policies and development programs that are contextual, adaptive, and rooted in Islamic values. Third, socio-religiously, this research contributes to maintaining the relevance of pesantren in modern society without sacrificing its historical role as a moral and spiritual fortress for the ummah. Thus, this research not only emphasizes the importance of integrative strategies in dealing with the flow of educational modernization but also offers a conceptual model that can be applied to improve the quality of Islamic boarding schools. Modernization is not understood as a threat, but an opportunity to strengthen the existence of Islamic boarding schools as superior, relevant, and still based on Islamic values. This makes this research significant for the development of Islamic education management in the digital era, as well as relevant to the dynamics of national education policies [4], [5].

One of Indonesia's oldest and most important Islamic educational establishments, Pesantren is essential to the moral, intellectual, and spiritual advancement of Muslim culture. They began as educational institutions and places of religious teaching in the early years of Islam's spread throughout the archipelago. Pesantren has continuously produced notable religious leaders, academics, and intellectuals over the ages, who have had a significant impact on Islamic practice and philosophy in Indonesia and throughout Southeast Asia [6], [7], [8]. Widely regarded for its strict discipline and character education, the pesantren system is distinguished by its distinctive fusion of traditional education with community involvement. Santri, or students, engage themselves in a curriculum that emphasizes memorizing and studying Kitab

Kuning, or traditional Islamic books, which cover a variety of subjects such as Arabic language studies, theology, and jurisprudence. This method guarantees that knowledge is transmitted between generations and that students gain a profound comprehension of Islamic teachings in addition to moral and ethical principles. Furthermore, pesantren have evolved to address modern issues while preserving their fundamental, historically based principles. This flexibility highlights their ongoing importance in forming Indonesian society's sociocultural dynamics as well as religious identity. Pesantrens, as hubs of community and knowledge, are still crucial for promoting a comprehensive view of Islam and adding to the larger conversation about faith in contemporary settings [\[9\]](#).

Research on curriculum integration strategies, digital competencies, and Islamic identity in the modernization of pesantren education has important implications for the academic world, education practitioners, and policymakers. From the academic side, this research expands the horizon of the study of Islamic boarding school modernization by providing a new perspective related to managerial strategies that not only focus on the adoption of innovations, but also on how these innovations are blended in harmony with Islamic values. This implication confirms that the modernization of pesantren education cannot only be seen as a technical process, but also as a strategic process that requires philosophical, social, and spiritual considerations. Thus, this research can enrich the literature on Islamic education reform, especially in the context of the relationship between tradition and modernity [\[10\]](#), [\[11\]](#).

For education practitioners, especially pesantren caregivers and teachers, the implication of this research lies in the provision of a strategic framework that can be used in developing an integrative curriculum. Pesantren can learn from the findings of this research to design internal policies that allow strengthening digital literacy and STEM mastery, while still maintaining a balance with learning the yellow book and strengthening Islamic values. This strategy also helps to increase the competitiveness of Islamic boarding school graduates without losing their identity as students rooted in Islamic scientific traditions. Meanwhile, in terms of policy, this research can be a valuable input for the government and related institutions in formulating more adaptive pesantren education regulations. The findings of this study show that not all pesantren have the same response to modernization; Some are progressive, some tend to be resistant. Therefore, education policies need to provide space for flexibility and respect for the diversity of Islamic boarding schools, while still encouraging quality improvement through curriculum integration and mastery of technology [\[12\]](#), [\[13\]](#).

The novelty of this research lies in the strategic approach offered. In contrast to previous research that tends to dichotomize between modernist pesantren and traditional pesantren, this study actually presents a conceptual model that emphasizes balance. Another novelty lies in the research focus that combines three dimensions at once: the national curriculum, digital literacy, and Islamic identity, in one integrative strategic framework. This approach offers a new alternative in understanding the dynamics of Islamic boarding school modernization, not only as a challenge, but also as an opportunity to build distinctive institutional excellence [\[14\]](#), [\[15\]](#).

Thus, the novelty of this research not only makes a theoretical contribution to the study of Islamic education management but also offers a practical contribution in the form of a model strategy that can be applied by Islamic boarding schools in a real context. This research proves that modernization and preservation of traditions do not have to be in conflict, but can be combined in a sustainable, integrative strategy.

The Challenge

Traditional Islamic boarding schools, known as pesantren, are finding it more and more difficult to maintain their religious validity while modernizing in the twenty-first century. Some variables, such as the strict requirements of national education standards, the quick development of technology, and the long-term effects of the worldwide epidemic, are making

this balancing act increasingly urgent [16], [17], [18]. Many pesantren are at a crossroads as society changes, and they must confront the pressing issue of fusing their traditional religious teachings with contemporary educational curricula. How to balance their fundamental identity, which is firmly anchored in tafaquh fid-din, or the pursuit of profound religious knowledge, with the need to integrate STEM-based learning (Science, Technology, Engineering, and Mathematics) and improve students' digital literacy is one of the biggest challenges these institutions face [19], [20], [21], [22], [23]. This problem has several facets. On the one hand, the value of giving students contemporary abilities that will enable them to function in a society that is becoming more and more reliant on technology is becoming widely acknowledged. However, it is the responsibility of pesantren leaders to make sure that the educational and spiritual principles that have long characterized their institutions are not compromised by this modernization. To enhance students' educational experiences in a fast-evolving environment, the difficulty is not only in developing curricula but also in creating an atmosphere where traditional values and contemporary knowledge coexist and support one another [24].

Policy Context

The Indonesian government has introduced policies such as UU No. 18 Tahun 2019 tentang Pesantren (Pesantren Law) and Kurikulum Merdeka, which promote flexibility and contextualized learning. While this enables pesantren to preserve religious content, it also encourages integration with general subjects and digital pedagogy. Additionally, the national digital education agenda—including Madrasah Digital, SPBE, and digital platforms by the Ministry of Religious Affairs—pushes pesantren to embrace new tools, including e-learning, digital kitab, and educational apps. The implementation of these progressive initiatives is still uneven on the ground, though, because of differences in infrastructure, teachers' low levels of computer literacy, and pesantren leaders' divergent ideological positions. A lack of training in digital pedagogy and outmoded facilities plagues many rural pesantren, while urban pesantren with better internet connectivity and qualified personnel have started implementing multimedia materials and blended learning techniques. Concerns about upholding the sacredness of Islamic teachings also frequently result in the careful or selective acceptance of technology. This emphasizes the necessity of contextualized support systems, such as digital waqf programs, culturally appropriate ICT tools, and localized teacher training, to guarantee fair and spiritually congruent modernization for all kinds of pesantrens [25].

Theoretical Framework

Two complementary theories serve as the foundation for this investigation:

Homi Bhabha's Theory of Cultural Hybridization

Cultural change is not a straightforward process of substituting the old with the new, nor is it a dichotomy between tradition and modernity, according to Homi Bhabha's idea of cultural hybridization. Rather, Bhabha highlights that traditional institutions participate in a constant process of negotiation, combining indigenous values with outside influences to produce something fresh and pertinent to the context. This "third space" of hybridity turns into a place where meaning is created via engagement as opposed to copying. Modernization in the context of pesantren (Islamic boarding schools) does not mean a sudden change or a complete embrace of digital technology and Western-style education. Instead, the new tools—like digital innovation, contemporary instructional techniques, and formal academic structures—are carefully and selectively incorporated into the preexisting theological framework. While simultaneously adjusting to modern needs, Pesantren uphold their fundamental Islamic identity and dedication to the Kitab Kuning (ancient Islamic literature). Because of this hybridization, pesantren can adapt to change in a way that is both culturally and spiritually authentic while maintaining tradition. As evidenced by the development of pesantren, this process of cultural hybridization shows how tradition may be a dynamic, adaptable force rather than a stagnant holdover from the past. Many pesantren reframe modernization as a chance to strengthen their

educational purpose, empower their communities, and give students the skills they need in the contemporary world—all while adhering to Islamic principles—instead of seeing it as a threat. For instance, the introduction of information and communication technology (ICT) into the pesantren system does not dilute its religious essence; instead, it serves as a means to broaden the reach of Islamic knowledge and improve administrative efficiency. This reflects Bhabha's notion that hybridity allows for the coexistence of multiple identities and knowledge systems within a shared space, creating innovative forms of learning and leadership that are both modern and deeply rooted in faith [\[26\]](#), [\[27\]](#), [\[28\]](#).

Technical Pedagogical Content Knowledge (TPACK) Framework

Mishra and Koehler (2006) created the TPACK Framework, which offers a thorough model for comprehending the intricate interactions that occur between pedagogy, content, and technology during the teaching and learning process. It highlights that proficient use of digital tools is only one aspect of successful technology integration in education; another is knowing how to effectively combine them with relevant instructional approaches and subject matter. The framework emphasizes three fundamental elements—Technological Knowledge (TK), Pedagogical Knowledge (PK), and Content Knowledge (CK)—as well as how they interact to produce a dynamic and context-sensitive teaching methodology. The TPACK framework is a useful lens through which to assess how teachers integrate contemporary digital resources into their religious education in the setting of pesantren, or Islamic boarding schools. It helps assess the thoughtful integration of technologies such as learning management systems, YouTube lectures, digital Qur'an applications, and virtual classrooms alongside traditional texts like the Kitab Kuning and the Qur'an. Rather than merely adopting technology for the sake of modernization, TPACK encourages pesantren educators to critically evaluate how these tools enhance comprehension, engagement, and spiritual reflection. By aligning digital resources with both pedagogical methods and religious content, pesantren teachers can create enriched learning environments that uphold religious values while embracing 21st-century educational advancements. This alignment ensures that technology becomes a meaningful extension of Islamic pedagogy rather than a disruptive or foreign element [\[29\]](#).

LITERATURE REVIEW

Pesantren Education's Historical Development

Pesantren has always placed a strong emphasis on Bandongan and Sorogan approaches that emphasize the individual teacher-student transfer of religious knowledge. Many pesantren later institutionalized portions of their curriculum and adopted madrasah structures, particularly after independence [\[30\]](#), [\[31\]](#).

The State and Pesantren

Pesantren and state educational policy have long had a dynamic connection. Both opportunities and conflicts have resulted from reforms such as SKB 3 Menteri, UU Pesantren, and curricular mandates, particularly with relation to institutional autonomy and certification systems [\[32\]](#), [\[33\]](#).

Digital Transformation in Islamic Education

According to studies, Islamic pesantren and schools are experimenting with digital tools like Moodle, Google Classroom, and digital kitab apps. Nonetheless, obstacles include doctrinal opposition, infrastructure deficiencies, and a lack of teacher preparation.

Studies of Comparison (Indonesia, Pakistan, and Malaysia)

Islamic institutions all around Southeast Asia face comparable transformational problems. In Malaysia, national assessments are being integrated into state-linked pondok. The goal of

madrasa reform in Pakistan is to connect formal education with religion. Indonesia is a distinctive example due to its robust pesantren independence [34].

Table 1. Summary of Relevant Literature on Pesantren Modernization

Author(s) & Year	Study Focus	Key Findings	Relevance to Current Study
Fauzi et al. (2018)	E-learning adoption in pesantren	Pesantren benefit from e-learning tools but face resistance due to theological and cultural gaps	Supports the digital competency section
Mahsusi et al. (2024)	Digital transformation in madrasah management	Emphasizes leadership and policy in managing digital change	Grounds discussion on policy and leadership
Masdul et al. (2024)	Use of interactive technology in Islamic education	Shows how interactive tools enhance learning engagement in religious schools	Supports section on teaching practices and tools
Abidin (2020)	Pesantren management in the digital era	Pesantren requires structured change management to implement technology effectively.	Reinforces the need for leadership and infrastructure planning
Maemonah et al. (2023)	Islamic education and social media use	Highlights the tension between online engagement and religious discipline	Connects to the identity and institutional culture section
Ju'subaidi et al. (2025)	Internet and Islamic learning	Islamic schools are cautiously adopting internet tools, balancing modernity with tradition.	Supports cultural hybridization theory
Syakroni et al. (2019)	IoT in pesantren	IoT-based learning is possible with tailored technology and values	Adds to the innovation discussion in infrastructure and pedagogy
Al-Kathiri (2020)	Distance learning in Islamic institutions during COVID-19	Highlights the rapid adoption of online platforms under emergency conditions	Provides context for the acceleration of digitalization
Abdullah & Mahmud (2023)	Challenges of integrating secular and religious subjects	Institutional resistance stems from fear of losing pesantren authenticity	Supports the curriculum integration dilemma
Noh & Samsudin (2021)	Pedagogical models in digital Islamic education	TPACK is a useful model to align Islamic content with tech-based pedagogy	Theoretical basis for teaching method analysis

METHODOLOGY

Research Design

To investigate how particular pesantren (Islamic boarding schools) are reacting and adjusting to the opportunities and demands of modernity, this study uses a qualitative case study methodology [35]. Because of its capacity to capture intricate social phenomena and offer deep insights into lived experiences, cultural norms, and institutional change in educational contexts, the qualitative method was selected [36].

Sites

Three Javan pesantrens were specifically chosen to reflect a range of settings and degrees of modernization:

1. Urban Pesantren is a cutting-edge educational institution with modern ICT labs and a significant emphasis on integrating digital technologies into the classroom.
2. Semi-Urban Pesantren: This is a transitional school that combines traditional Islamic studies with formal national education programs.
3. A traditional institution that maintains a traditional Islamic education approach with little to no digital integration is known as a rural pesantren.
4. Comparative analysis and contemplation of the range of modernity within pesantren are made possible by this site-based variety [37].

Data Collection Techniques

To guarantee the collection of rich and triangulated data, a multi-method strategy was used: A variety of stakeholders, including santri (students), teachers, and kyai (religious leaders), participated in semi-structured interviews to learn about their opinions, experiences, and attitudes toward technology, curriculum creation, and internet use. Examining institutional papers, including proposals for digital infrastructure, curriculum frameworks, strategic plans, and internal school regulations of modernization, was part of the document analysis process [38].

To look at instructional strategies, the use of digital tools, and creative student activities, observations were made in both classrooms and extracurricular settings. To facilitate contextual understanding, field notes were methodically documented [39].

Data Analysis

Data analysis was done with a variety of digital tools:

To find fundamental patterns, frequencies, and correlations among participants' replies about technological integration, the data gathered through Google Forms were exported to Google Sheets and examined. NVivo software was used to handle qualitative data from observations, interviews, and documents, and inductive theme coding was carried out. Iterative analysis was used to improve the emerging themes, and the results of the Google Form were compared with the results for consistency and validation. To increase credibility and provide a fair assessment of how pesantren are adjusting to modernity, triangulation was used across data sources, including questionnaires, observations, papers, and interviews [40].

Discussion: Views from the Field

Teachers, kyai (religious leaders), and santri (students) from the chosen pesantren were interviewed to obtain a better understanding of the modernization process within the institution. Their viewpoints demonstrate the range of backgrounds and viewpoints regarding curriculum reform, digital change, and upholding Islamic principles [41], [42].

Santri 1 (Urban Pesantren): "I even watch science lessons on YouTube and use them to review Tafsir. The internet is helpful, but we are constantly reminded to watch what we see. We stay on course because our ustadh keeps an eye on us. By integrating contemporary means with spiritual discipline, this quote demonstrates how urban pesantrens permit controlled digital access.

Santri 2 (Semi-Urban Pesantren): "We learn both Kitab Kuning and Math, but sometimes it feels like two separate worlds. Some teachers know how to use laptops, others just teach traditionally." This highlights the challenge of pedagogical integration where digital skills vary among staff.

Santri 3 (Rural Pesantren): "I've never used a computer. Our learning is based on memorization and face-to-face reading of texts. Kyai says the old ways are better for the heart."

This reflects the resistance in rural pesantren, where tradition is prioritized over technological innovation.

Kyai 1 (Urban Pesantren): "We believe digital tools are part of Allah's knowledge given to mankind. We use them with niyyah (intention) to improve learning without compromising our faith." This shows a progressive view that harmonizes modern tools with spiritual values.

Kyai 2 (Semi-Urban Pesantren): "Change is necessary, but we must move slowly. Many teachers fear that too much modernization may dilute our Islamic character." This indicates cautious acceptance, showing awareness of both opportunity and risk.

Kyai 3 (Rural Pesantren): "The Prophet did not use computers, but he created strong people. We follow his path. Our pesantren will not include machines in learning." This suggests complete resistance, where faith and tradition are seen as incompatible with digital tools.

A spectrum of adaptability is revealed by a cross-analysis of various viewpoints: semi-urban pesantren are experimenting with hybrid models, urban pesantren are spearheading integration efforts, while rural pesantren continue to be rooted in traditional teaching methods. These answers also show how leadership mentality, teacher ability, and institutional readiness to change all have a significant impact on the success of digital adaptation [43].

RESULTS AND DISCUSSION

Curriculum Integration

It is clear from looking at the different methods used by pesantren to integrate their curricula that there is a wide range of activities. Some pesantren have adopted a thorough integration approach in which their connected madrasah programs methodically incorporate national subjects, including science, math, and Bahasa Indonesia. This method seeks to give pupils a well-rounded education in addition to being in line with national educational requirements. On the other hand, some pesantren show opposition to official integration because they are worried that their educational system would become secularized. The desire to uphold the sanctity and purity of traditional Islamic teachings is the source of this concern. The use of a mixed educational paradigm is one prominent tendency among some pesantren. In this model, the revered Kitab Kuning is taught during morning sessions, allowing students to engage deeply with classical Islamic texts. In the afternoon, students shift their focus to general subjects, blending religious and secular education to prepare them for diverse futures [44].

Table2. Curriculum Integration Models Observed

Integration Model	Number of Pesantren
Full Integration	1
Hybrid Model	1
Traditional Only	1

Adoption of Digital Competencies

Pesantren's use of digital technologies in the classroom has varied greatly, reflecting varying degrees of resource availability and technology uptake. One of the most often used networks is WhatsApp, which facilitates communication between students and teachers and is used for assignment distribution. Furthermore, Google Meet has grown in popularity as a tool for doing tafsir (interpretation) sessions since it allows for engaging conversations even when participants are physically separated. Systems (LMS) like Moodle help plan and simplify their teaching procedures. On the other hand, because they have less access to sophisticated technology infrastructure, rural pesantren usually rely on cellphones and messaging apps. However, challenges persist, including unstable internet connections, significant digital literacy gaps among educators, and the absence of structured programs to train teachers in effective digital pedagogy [36].

Table3. Usage of Digital Tools in Pesantren

Tool/Platform	Usage Level (0–5)
WhatsApp	5
Google Meet	3
Maktabah Syamilah	4
Moodle	2
Smartphones	5

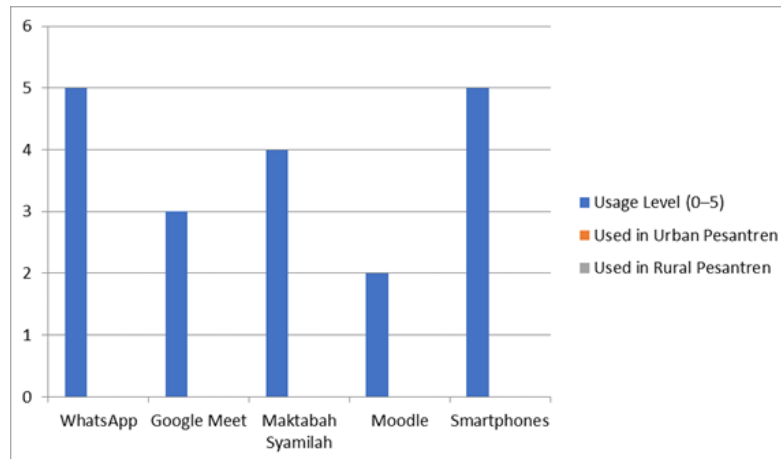


Figure 1. Digital Tool Usage in Pesantren

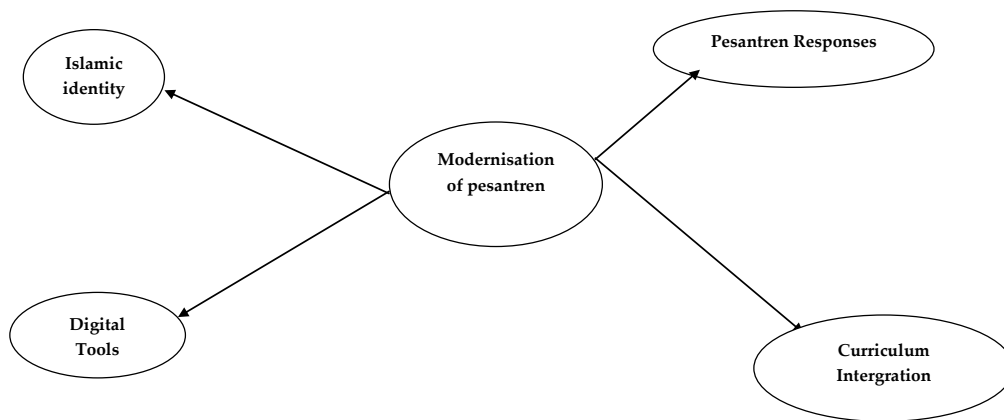


Figure 2. Concept Map: Modernization of pesantren

Institutional Culture and Islamic Identity

Many kyai (Islamic scholars) emphasize the significance of upholding adab (etiquette), spiritual rites, and halaqah (study circles) as ways to preserve Islamic identity within pesantren culture. Concerns over the discipline of santri (students) in virtual learning environments are developing, as the absence of physical presence may result in lower accountability and engagement. Some pesantren have responded to these issues by implementing digital halaqah sessions, which are intended to encourage students' ongoing religious participation and sense of community in an online environment. Despite the complexity brought forth by digital forms, these initiatives demonstrate a dedication to maintaining religious rituals and strengthening the pesantren's spiritual foundation [45].

Mediation of Policy and Leadership

Kyai's role in leadership has changed with time, especially when it comes to creating flexible digital rules that uphold their institutions' fundamental religious beliefs. By developing inclusive techniques that maintain traditional teachings while integrating contemporary educational methodologies, some Kyai have aggressively embraced the potential provided by digital media. But there are also concerns about possible policy meddling, especially in relation to uniform curricula that would lessen the distinctively religious nature of pesantren education. Given these difficulties, cooperation has become a key tactic, and many pesantren are using the assistance of IT volunteers and alumni. This coalition fosters a mutually beneficial relationship that not only enhances technological infrastructure but also reinforces the pesantren's mission to provide holistic Islamic education [46].

The findings demonstrate that Indonesian pesantren are successfully balancing the preservation of Islamic educational traditions with the demands of contemporary education through an integrated curriculum model. Rather than positioning religious instruction and modern knowledge as competing paradigms, pesantren increasingly adopt a complementary approach that strengthens students' intellectual, spiritual, and social competencies simultaneously. This integration enables learners to develop comprehensive knowledge while maintaining a strong commitment to Islamic identity, thereby responding effectively to globalization without sacrificing religious authenticity.

The incorporation of digital competence further represents a significant institutional transformation. Digital technologies are no longer viewed merely as instructional tools but as strategic resources that enhance learning quality, expand access to knowledge, and improve educational management. Nevertheless, pesantren maintain clear ethical boundaries by embedding Islamic values into digital literacy practices. Consequently, technological adaptation is accompanied by moral responsibility, critical thinking, and digital ethics, ensuring that innovation supports rather than undermines religious character formation.

Another important finding concerns the resilience of Islamic identity within educational modernization. The evidence indicates that curriculum integration reinforces students' religious consciousness by connecting classical Islamic scholarship with contemporary scientific and technological developments. This approach encourages learners to perceive Islam as a dynamic intellectual tradition capable of addressing modern societal challenges instead of a static body of knowledge isolated from present realities. Such integration strengthens cultural continuity while fostering openness toward interdisciplinary learning and global engagement. Furthermore, the study suggests that successful curriculum innovation depends on visionary leadership, teacher professionalism, institutional adaptability, and collaboration among educational stakeholders. These interconnected factors create a sustainable ecosystem where tradition and innovation mutually reinforce each other. The proposed model contributes theoretically by extending discussions on Islamic educational transformation and practically by offering a replicable framework for other Islamic educational institutions seeking to modernize curricula while preserving their religious identity, cultural heritage, and educational philosophy in the digital era.

CONCLUSION

According to the study's findings, pesantren, or Islamic boarding schools, exhibit a wide range of reactions to the forces of modernization. These reactions range from total resistance based on tradition to progressive hybrid models that incorporate modern practices without sacrificing religious principles. The most prosperous pesantrens are those that carefully integrate contemporary teaching methods, administrative strategies, and technology while preserving their spiritual and cultural foundation. These hybrid models demonstrate how pesantren can continue to be recognized and relevant in a continually changing educational

environment. Implications. The results highlight an important realization: Islamic authenticity should not be sacrificed for pesantren development. On the contrary, modernization may be a potent weapon for fortifying the pesantren system, allowing it to better handle contemporary issues and give students the resources they need to succeed in the contemporary world, provided it is implemented wisely and with respect for tradition. But this change necessitates strategic infrastructure development, imaginative leadership, and policy frameworks that are not just supportive but also cognizant of the subtle cultural and theological aspects of Islamic education. To guarantee that the opinions of community stakeholders, educators, and religious leaders are heard and valued, the process must be open, transparent, and consultative. Recommendations. State-Pesantren Dialogue Forums: Provide continuing forums for communication between pesantren leadership and governmental entities. These forums ought to be created with the intention of promoting trust and understanding between participants, especially about topics like autonomy, contextualizing the curriculum, and putting quality control procedures into place. Clear communication will promote cooperative policy creation and aid in bridging ideological gaps. Personalized Digital Curriculum Resources: Invest in the creation of personalized, Sharia-compliant digital learning resources that honor the Kitab Kuning's (ancient Islamic texts) pedagogical traditions. Pesantren students should be able to take advantage of contemporary technologies while maintaining their foundation in Islamic knowledge, thanks to these resources, which should improve education without compromising religious substance. Leadership Development: Provide thorough training courses on contemporary management techniques, such as Total Quality Management (TQM), Information and Communication Technology (ICT), and spiritual leadership based on shura (consultative decision-making), to senior educators and kyai (religious leaders). Giving leaders these abilities will help create organizations that are not only powerful spiritually but also effective and adaptable.

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Author Contribution

Muhammad Rehan Sabir conceptualized the study, designed the methodology, conducted data analysis, and prepared the original manuscript. Abdam Yusif contributed to literature review development, theoretical interpretation, data validation, and critical manuscript revision. Alwy Ahmed Mohamed supervised the research process, refined the analytical framework, evaluated the findings, and finalized the manuscript for publication. All authors reviewed, approved, and accepted responsibility for the final version of the manuscript before submission.

Conflicts of Interest

The authors declare that there are no financial, professional, institutional, or personal conflicts of interest that could have influenced the design, implementation, analysis, interpretation, or reporting of this research. No external organization or funding body exerted any influence on the research process or publication decisions. The authors affirm that this manuscript represents original scholarly work conducted with integrity, transparency, academic independence, and adherence to established ethical research standards.

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