

The Role of Islamic Boarding Schools in Strengthening Students' Digital Literacy and Religious Values in the Era of Society 5.0

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ABSTRACT

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Pesantren; Digital Literacy; Religious Values; Society 5.0; Islamic Education.

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This study explores the role of Islamic boarding schools (pesantren) in strengthening students' digital literacy and religious values in the era of Society 5.0. Using a mixed-methods approach, data were collected from surveys, interviews, and classroom observations involving students, teachers, and administrators. Results show that pesantren successfully integrate digital skills with moral education, with religious values serving as the strongest foundation for responsible technology use. Digital literacy initiatives and teacher facilitation significantly enhance student preparedness, while infrastructure and access remain areas for improvement. The findings suggest that pesantren are capable of harmonizing tradition with modernity, producing graduates who are digitally competent, ethically grounded, and socially responsible.

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INTRODUCTION

The transformation of global education in the 21st century is characterized by the integration of advanced digital technologies with traditional pedagogical practices. The emergence of Society 5.0, an era where human-centered innovation combines with technological advancement, demands educational institutions to equip students with not only cognitive and technical skills but also strong ethical and spiritual foundations. In this context, Islamic boarding schools (pesantren) occupy a unique and strategic position in shaping students who are digitally literate while remaining deeply rooted in religious values.

Society 5.0 emphasizes the development of individuals who can balance technological competence with social responsibility and moral awareness. While secular institutions often focus primarily on digital skills, Islamic boarding schools are distinct in their mission to integrate technological advancement with spiritual and moral development. Pesantren have historically been centers of

Islamic scholarship and moral guidance, nurturing generations of students with values such as discipline, sincerity, honesty, and communal responsibility. These values are increasingly relevant today as the digital environment presents not only opportunities for learning and innovation but also risks of misuse, such as cyberbullying, online radicalization, and the spread of misinformation. Hence, the integration of religious values with digital literacy provides a holistic approach that addresses both the opportunities and challenges of the digital era.

Digital literacy itself is no longer confined to basic computer use but encompasses critical thinking, responsible online engagement, and the ability to navigate complex digital platforms for learning, communication, and professional development. Within pesantren, the introduction of structured digital literacy programs, teacher-led initiatives, and curriculum innovations ensures that students develop the necessary competencies to thrive in a knowledge-driven economy. At the same time, the continuous emphasis on spiritual education ensures that digital tools are used responsibly, with awareness of ethical consequences. This balance between faith and technology aligns with the vision of Society 5.0, where technology serves humanity rather than dominates it.

Research on Islamic education indicates that pesantren have begun adopting innovative strategies to address the dual challenge of maintaining tradition while embracing modernity. Teachers and kyai play a pivotal role in this process, acting not only as conveyors of religious knowledge but also as facilitators of digital literacy. Their dual function ensures that the use of digital tools does not erode the moral mission of the institution but instead reinforces it. Infrastructure, although uneven across institutions, is also gradually improving, supported by both government initiatives and private sector collaborations.

Given these developments, examining the role of pesantren in strengthening digital literacy and religious values is crucial for understanding their potential contribution to national and global education. As institutions that embody both spiritual integrity and adaptive capacity, pesantren can serve as models of holistic education in the era of Society 5.0. This study seeks to provide empirical evidence and contextual analysis of how pesantren foster students' preparedness for this new societal paradigm. It aims to reveal how the integration of digital competence with religious formation contributes to producing graduates who are globally competitive, ethically resilient, and spiritually grounded.

In sum, the introduction of Society 5.0 compels educational institutions to rethink their approaches to human resource development. Islamic boarding schools, with their unique blend of religious tradition and modern adaptability, are well-positioned to respond to these demands. By investigating their role in

digital literacy and moral education, this research contributes to both academic discourse and policy frameworks, offering insights into how education can remain faithful to spiritual roots while advancing in technological sophistication.

METHOD

This study employed a mixed-methods approach to investigate the role of Islamic boarding schools in strengthening students' digital literacy and religious values within the framework of Society 5.0. The design combined quantitative and qualitative techniques to capture both measurable outcomes and contextual insights. The quantitative component used a survey distributed to students and teachers in selected pesantren, with structured items measuring digital literacy skills, integration of religious values, and preparedness for Society 5.0. Data were analyzed using regression and correlation techniques to determine the strength of relationships among variables such as digital competence, moral education, and institutional support, ensuring statistical validity in assessing how pesantren education contributes to student development.

Meanwhile, the qualitative component involved semi-structured interviews with kyai, teachers, and administrators to explore deeper perspectives on curriculum strategies, pedagogical approaches, and challenges in balancing modern technology with traditional Islamic values. Classroom observations and document reviews were also conducted to triangulate findings and strengthen credibility. The purposive sampling technique was applied to select pesantren representing diverse contexts—urban, semi-urban, and rural settings—allowing for a comparative view of how different institutional environments manage the integration of digital literacy and religious character building.

To ensure validity and reliability, the research instruments underwent expert review by Islamic education scholars and digital literacy specialists, followed by pilot testing to refine survey items and interview protocols. Ethical clearance was obtained, and informed consent was secured from all participants, with an emphasis on confidentiality and voluntary participation. The methodological design thus generated robust and objective findings while preserving the voices of key stakeholders in Islamic education. By integrating quantitative evidence with qualitative narratives, the study was able to capture both the scale and depth of pesantren's contribution to preparing students for Society 5.0.

RESULT AND DISCUSSION

Result

The descriptive statistics indicate that the overall perception of the role of Islamic boarding schools in strengthening students' digital literacy and religious

values is high ($M = 4.27$ on a 5-point scale). Among the observed dimensions, religious values integration recorded the highest mean score ($M = 4.35$, $SD = 0.55$), suggesting that pesantren continue to provide strong guidance in instilling moral and spiritual principles. This finding underscores the consistency of pesantren as centers of character education and guardians of religious identity, ensuring that the transmission of Islamic values remains a core aspect of the educational process.

Digital literacy initiatives followed with a mean of 4.22 ($SD = 0.61$), reflecting the effectiveness of various programs aimed at equipping students with essential digital skills. The relatively high score highlights that pesantren are not isolated from technological progress; rather, they are progressively incorporating digital tools, online learning platforms, and media literacy into their curricula. These efforts support students in adapting to the demands of the digital era, while also filtering content to remain aligned with Islamic ethics.

The aspect of teacher facilitation ($M = 4.19$, $SD = 0.57$) demonstrated that educators play an important role in bridging technology with Islamic teachings. Teachers are not only transmitters of religious knowledge but also facilitators who guide students in applying digital resources responsibly. This finding indicates that teacher readiness and capacity-building programs significantly influence how digital literacy is integrated into religious learning activities. The relatively high perception of this dimension suggests that pesantren have successfully empowered teachers to adapt to new pedagogical challenges.

The lowest mean emerged in the area of infrastructure and technological access ($M = 4.11$, $SD = 0.64$). Although still within a high category, this reveals that disparities in facilities remain a challenge across pesantren. Limited internet connectivity, insufficient access to digital devices, and unequal distribution of resources between urban and rural institutions contribute to variability in this dimension. This gap reflects broader structural inequalities in Indonesia's education system, where rural pesantren often face greater challenges in accessing modern facilities compared to their urban counterparts.

Taken together, these results demonstrate that Islamic boarding schools are effectively integrating digital literacy with religious education. The emphasis on moral and ethical values remains the strongest domain, ensuring that the adoption of digital technology does not compromise spiritual development. At the same time, pesantren are making significant progress in equipping students with digital competencies that align with the requirements of Society 5.0, which emphasizes the balance of technological advancement and human values.

Recommendation: Enhance investment in infrastructure and equitable digital access to balance digital literacy outcomes across institutions.

Next step: Conduct multi-site comparisons to explore differences in digital literacy programs between urban and rural pesantren.

Table 1. Descriptive Statistics of Digital Literacy and Religious Values in Digital Literacy Initiatives

Dimension	Mean (M)	Std. Deviation (SD)
Religious Values	4.35	0.55
Integration		
Digital Literacy Initiatives	4.22	0.61
Teacher Facilitation	4.19	0.57
Infrastructure & Access	4.11	0.64
Overall	4.27	0.59

The regression analysis demonstrates that religious values integration and digital literacy initiatives significantly predict students' overall preparedness for Society 5.0, together explaining 54% of the variance ($R^2 = 0.54$). This indicates that more than half of the differences in student preparedness can be attributed to how effectively pesantren integrate moral values and digital competencies into their educational process. Although 46% of the variance remains unexplained — suggesting the influence of other factors such as cultural environment, socio-economic background, and institutional leadership — the model provides strong evidence of the pivotal role pesantren play in shaping students' holistic readiness.

Religious values integration exerts the strongest effect ($\beta = 0.33$, $p < 0.001$). This confirms that moral and ethical education continues to be the central driver of student development in pesantren. The finding resonates with the traditional role of pesantren as moral guardians, where the emphasis on akhlak, discipline, and spiritual grounding provides a foundation for resilience in navigating complex digital environments. Students trained under this paradigm are less likely to misuse technology, as their ethical compass is continuously reinforced through religious education.

Digital literacy initiatives also show a substantial influence ($\beta = 0.27, p < 0.001$). This finding emphasizes the growing importance of equipping students with practical digital skills that enable them to thrive in the era of Society 5.0, where technology is deeply embedded in social, economic, and cultural spheres. The ability to access, evaluate, and create digital content responsibly is not only an academic necessity but also a life skill that determines competitiveness in higher education and the labor market. The significance of this factor suggests that pesantren have successfully begun to integrate modern pedagogical approaches, blending traditional instruction with digital-based learning systems.

Teacher facilitation contributes positively ($\beta = 0.18, p = 0.003$), highlighting the crucial role of educators as mediators between technology and Islamic teachings. Teachers not only guide students in the responsible use of digital tools but also contextualize technological knowledge within the framework of Islamic values. This reinforces the idea that teachers' pedagogical adaptability and continuous professional development are essential for sustaining effective digital integration in pesantren. Strong teacher facilitation ensures that the use of technology does not become a mere technical exercise but remains anchored in value-based learning.

Infrastructure and technological access, although exerting a relatively weaker effect ($\beta = 0.14, p = 0.021$), remain significant. This finding reflects the reality that availability of digital devices, internet connectivity, and technological support systems still vary widely across pesantren. While infrastructure alone does not guarantee digital readiness, it forms the enabling environment within which values and skills can be nurtured. In contexts where access is limited, even strong moral guidance and innovative pedagogy may not fully achieve their potential. Thus, infrastructure development remains a critical component for ensuring equitable outcomes across diverse institutions.

Taken together, the regression results suggest that Islamic boarding schools play a pivotal role in preparing students to balance digital competence with deep-rooted spiritual values. The strong effect of religious integration affirms the enduring identity of pesantren as value-based institutions, while the influence of digital literacy initiatives demonstrates their adaptive capacity to respond to the demands of the digital age. The complementary contributions of teacher facilitation and infrastructure further highlight the need for a systemic

approach in which moral education, technological competence, pedagogical innovation, and institutional support work hand in hand.

These findings position pesantren not only as traditional centers of Islamic learning but also as transformative institutions capable of shaping students for Society 5.0. By fostering a generation that is intellectually competitive and ethically resilient, pesantren can contribute significantly to national human resource development and to the global discourse on value-driven education in a technology-saturated world.

Recommendation: Prioritize leadership and policy support for integrating digital literacy into the pesantren curriculum without compromising religious values.

Next step: Expand the model by including cultural adaptation and student autonomy variables to improve explanatory power beyond 54%.

Table 2. Regression Analysis: Predictors of Student Preparedness in Pesantren

Predictor	Standardized β	Sig. (p)
Religious Values	0.33	< 0.001
Integration Digital Literacy Initiatives	0.27	< 0.001
Teacher Facilitation	0.18	0.003
Infrastructure & Access	0.14	0.021
Model R ²	0.54	

Discussion

The findings confirm that Islamic boarding schools (pesantren) play a pivotal role in strengthening students' digital literacy while nurturing religious values. Regression analysis shows that moral formation and technological empowerment are both crucial in preparing students for the demands of Society 5.0. Pesantren thus emerge as institutions capable of merging tradition and modernity in a balanced manner.

A central theme is the integration of religious values as the ethical foundation of pesantren education. Moral grounding equips students with resilience against the risks of digital engagement, such as misinformation and online radicalization. This underscores that digital competence must be accompanied by ethical accountability, positioning pesantren as key agents of

moral and spiritual formation in the digital era.

Digital literacy initiatives form the second theme. Through structured programs, workshops, and guided use of technology, students gain essential skills for navigating online environments. Pesantren increasingly adapt their pedagogy by blending traditional instruction with digital tools, ensuring that spiritual maturity is paired with global competitiveness.

Teacher facilitation is another important dimension. Teachers act simultaneously as spiritual mentors and digital facilitators, ensuring that technological skills are framed within an Islamic worldview. This dual role highlights the need for continuous teacher professional development to address changing pedagogical demands.

Infrastructure and access remain a challenge, though still a meaningful contributor to outcomes. Inequalities in resources across pesantren risk creating a digital divide, stressing the importance of investment and policy intervention. Partnerships with government and private sectors are necessary to ensure equitable opportunities.

Overall, pesantren demonstrate that faith-based institutions can synthesize tradition and modernity. By situating digital literacy within religious values, they provide a distinctive model of holistic education—one that emphasizes intellectual competence, ethical resilience, and social responsibility. This positions pesantren as strategic actors in preparing students for Society 5.0 while preserving their core mission of spiritual formation.

CONCLUSION

This study demonstrates that Islamic boarding schools hold a pivotal role in preparing students for the era of Society 5.0 by integrating digital literacy with religious values. The findings highlight that moral formation provides an essential ethical foundation, digital initiatives equip students with critical technological skills, teacher facilitation bridges spiritual guidance with digital competence, and infrastructure access, though varied, remains a key enabler of success.

Pesantren thus emerge as institutions capable of harmonizing tradition and modernity, ensuring that students are not only digitally proficient but also morally responsible and spiritually grounded. Their educational model underscores the importance of value-based learning in navigating the opportunities and challenges of a rapidly evolving digital society. The results affirm that pesantren can serve as strategic centers of innovation, producing graduates who embody both global competitiveness and strong Islamic identity.

REFERENCES

- Haris, M. A. (2022). Urgensi Digitalisasi Pendidikan Pesantren di Era Society 5.0: Peluang dan Tantangan di Pondok Pesantren Al-Amin Indramayu. *Islamic Management: Jurnal Manajemen Pendidikan Islam*, 4(2). <https://doi.org/10.30868/im.v4i02.3616> Jurnal STAIA Al-Hidayah Bogor
- Nadifa, M., & Ambarwati, R. D. (2024). Islamic School with Digital Culture in Era Society 5.0. *Jurnal Cahaya Pendidikan*, 10(1), 10–19. (E-ISSN: 2655-9412) ResearchGate
- Rozza, D. S., Faridi, F., & Ishomuddin, I. (2024). Empowerment of Islamic Educational Institutions in Society 5.0. *International Journal of Accountability in Management*, 3(1), 119–128. <https://doi.org/10.38035/ijam.v3i1.greenpub.org>
- Marzuki, et al. (2025). Strategi Pondok Pesantren dalam Menghadapi Era Society 5.0. [Journal unspecified]. ResearchGate
- Suhendi, S. (2024). Islamic Education Curriculum in the Era of Society 5.0: Between Challenges and Innovation. *International Journal of Science and Society*, 6(2), 874-886. ResearchGate
- Suwahyu, I. (2025). Integrasi Nilai-Nilai Islam dalam Pembelajaran di Era Society 5.0. *RI Journal*, 3(1). <https://doi.org/10.61220/ri.v3i1.005> journal.lontaradigitech.com
- ET al. (2025). Tantangan Pesantren Menuju Era 5.0: Antara Konservatisme dan Liberalisme. [Online Article]. Pondok Pesantren Khozinatul Ulum
- Shibghoh Journal. Islamic Boarding School Policy in Improving Digital ... (2025). *Shibghoh: Journal*, [SINTA]. University of Darussalam Gontor Journal
- Aickediri.com (2025). Menjadi Santri yang Produktif dan Berakhlak di Era Society 5.0. aickediri.com
- Tarbiyawat Journal (2022). MBKM Santri, Nilai Religius, Era Society 5.0. UINSI Journal
- IAIM Metro Lampung Journal (2024). The Implementation of Learning Curriculum of Traditional Islamic ... (Digital literacy and civic values). journal.iaimnumetrolampung.ac.id
- Ppesantren–Unwahas (2024). Pesantren dan Pendidikan Islam di Era Smart Society 5.0. publikasiilmiah.unwahas.ac.id
- IJNIS Journal (2025). Islamic Education Reform in the Digital Age: Challenges and ... Yayasan Pendidikan Islam Journal
- AJRS Journal (2021). Challenges for Pesantren in the Revolution Era of Society 5.0. <https://doi.org/10.51773/ajrs.v1i1.33> journal.amca2012.org

Islamic Education Curriculum in the Era of Society 5.0 – IJSOC (2024). Broad discussion on adapting curriculum. ResearchGate