

DIGITAL LITERACY AND ISLAMIC EDUCATION IN INDONESIA: EXAMINING POLICY, LEARNING PRACTICES, AND TEACHER READINESS

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Abstrak

The advancement of digital technology has driven the transformation of education, including within Islamic education. Digital literacy has emerged as a crucial competency, encompassing not only the ability to use technology but also the capacity for critical, ethical, and responsible thinking when utilizing digital information. This study aims to analyze digital literacy policies within Indonesian Islamic education, examine digital literacy-based Islamic Religious Education (PAI) instructional practices, and explore teacher readiness and competence in integrating Islamic values with digital literacy in the classroom. A qualitative approach utilizing a literature review method was employed. Data were gathered from relevant scholarly articles, books, and policy documents spanning the 2020–2025 period and subsequently analyzed using thematic analysis. The findings indicate that the government—through the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek) and the Ministry of Religious Affairs—has developed various digital transformation policies, such as *Merdeka Belajar* (Emancipated Learning), the *Merdeka Mengajar* Platform, the digitalization of *madrasahs*, and *Madrasah* E-Learning, to strengthen digital literacy within the educational landscape. Digital literacy-based PAI instruction utilizes various digital media and platforms that foster interactive and flexible learning while encouraging students to think critically about religious information in the digital space. Furthermore, teacher readiness is a pivotal factor in the successful implementation of digital literacy, as it demands mastery of technological and digital pedagogical competencies, as well as the ability to integrate Islamic values into instruction. This study underscores that the success of digital literacy in Islamic education relies on the synergy between supportive policies, innovative instructional practices, and integrated teacher competencies.

INTRODUCTION

The rapid expansion of digital technologies over the past few decades has fundamentally transformed the global educational landscape. Digital technology is no longer viewed merely as a supplementary instructional tool; rather, it has become an integral component of contemporary

educational ecosystems, shaping how learners access, generate, and disseminate knowledge (Akrim, 2022; Maisyanah, 2023). In the context of 21st century education, digital literacy has emerged as a crucial competency for both students and educators in navigating the complexities of an information-driven society. Digital literacy encompasses not only technical proficiency in operating digital devices but also the ability to critically evaluate information, communicate ethically, and participate responsibly in digital environments (Kosassy, S.O., Gistituati, N., & Montesori, 2019). Consequently, many countries have positioned digital literacy development as a strategic educational priority to cultivate adaptive, creative, and globally competitive human resources in the era of digital transformation (Campbell, 2020).

Within the context of Islamic education, the advancement of digital technology presents both significant opportunities and complex challenges. On the one hand, digital technologies facilitate broader access to Islamic knowledge, enrich learning models, and support the development of more flexible and interactive educational experiences. Digital platforms enable learners to access diverse Islamic references without spatial and temporal limitations. On the other hand, digital spaces have also become channels for the dissemination of unverified religious information, the spread of extremist ideologies, and the proliferation of content that may contradict Islamic values (Jati, 2022).

The impact of the dissemination of unverified religious information and the proliferation of extremist ideologies in digital spaces extends beyond purely religious concerns and significantly affects the attainment of the objectives of Islamic religious education. Numerous studies have shown that inadequate digital literacy increases students' vulnerability to hoaxes, misinformation, and religious narratives that are not grounded in credible religious sources (Imsa et al., 2025; Qomaruddin et al., 2026). Such conditions may lead to distorted religious understanding, the reinforcement of intolerant attitudes, and a decline in critical thinking skills when engaging with diverse Islamic perspectives. This situation is particularly concerning given that Islamic education aims to cultivate individuals who are faithful, morally upright, moderate in their religious outlook, and capable of coexisting harmoniously within pluralistic societies (Yasir et al., 2024). Therefore, strengthening digital literacy has become an increasingly urgent necessity, enabling students not only to access information extensively but also to critically, ethically, and responsibly verify, evaluate, and utilize religious information. In doing so, they are better equipped to resist the influence of misinformation and extremist narratives circulating in digital environments.

In response to these developments, the Indonesian government has introduced various educational transformation policies aimed at strengthening digital literacy across all levels of

education. The Kurikulum Merdeka (Ministerial Regulation of Education, Culture, Research, and Technology No. 12 of 2024) and the Madrasah Curriculum Guidelines (Ministerial Decree of Religious Affairs No. 347 of 2022) emphasize the development of the Pancasila Student Profile and the Rahmatan lil Alamin Student Profile, both of which incorporate critical thinking, collaboration, and information literacy competencies. Furthermore, digitalization initiatives, online learning platforms, and professional development programs for teachers demonstrate the government's commitment to establishing an educational ecosystem that is responsive to technological advancement (Arnes et al., 2023). Nevertheless, the implementation of these policies continues to face substantial challenges, including unequal digital infrastructure, disparities in technology access, limited digital competencies among teachers, and the insufficient integration of Islamic values into digitally mediated learning environments (Lubis et al., 2023). As a result, technology utilization in Islamic education often remains focused on technical applications rather than fostering a comprehensive digital literacy culture grounded in Islamic principles.

The discourse on digital literacy within Islamic education has become increasingly significant because education fundamentally serves not only as a mechanism for knowledge transmission but also as a means of character formation and civilizational development (Budiharso & Suharto, 2022). John Dewey argued that education must respond dynamically to ongoing social transformations within society (Mohammed, 2024). Similarly, Paulo Freire conceptualized education as a process for developing critical consciousness that enables learners to critically engage with social realities (Freire, 2020). From the perspective of Islamic educational philosophy, Syed Muhammad Naquib al-Attas emphasized the importance of educational processes that cultivate *adab* (proper ethical conduct) and integrate religious and scientific knowledge (al-Attas, 1990; Sassi, 2024). Drawing upon these perspectives, digital literacy in Islamic education should not be understood solely as a technological competency; rather, it should be positioned as an instrument for nurturing critical awareness, digital ethics, and Islamic character. Therefore, examining educational policies, instructional practices, and teacher readiness is essential for developing an Islamic educational model capable of responding to the challenges of the digital age while preserving its foundational values and identity.

A number of previous studies have explored the relationship between digital literacy and Islamic education from various perspectives. Yamin et al. found that digital literacy enhancement contributes significantly to improving the effectiveness of Islamic Religious Education through the utilization of digital platforms and online learning resources at the senior secondary madrasa level

(Yamin et al., 2022). However, their study primarily focused on technological utilization in instructional settings without examining the educational policies underlying digital literacy implementation. Likewise, Anis (2024) highlighted the critical role of teachers' digital literacy competencies in facilitating successful technology integration within learning environments (Anis, 2024). Nevertheless, the study concentrated mainly on teachers' technical abilities in using digital tools and provided limited discussion regarding the integration of Islamic values into digital literacy practices.

Furthermore, Mintasih et al. demonstrated that Islamic values such as *tabayyun* (information verification), responsibility, and ethical digital conduct are highly relevant for fostering a healthy digital culture within Islamic educational contexts (Mintasih et al., 2024). However, their study largely emphasized normative dimensions and did not establish connections between these values, teacher readiness, and the implementation of digital literacy policies in Islamic educational institutions. Similarly, Marjuni examined the transformation of Islamic education through science and technology integration in higher education institutions to address contemporary global challenges (Marjuni, 2022). Nevertheless, the study focused primarily on instructional practices in higher education. Taken together, these studies reveal that existing scholarship tends to address policy, instructional practice, teacher competence, or digital ethics separately, without providing a comprehensive analysis of the interrelationships among these dimensions within Islamic education.

Unlike previous studies, this article offers a more comprehensive perspective by integrating three interrelated dimensions: digital literacy policy, digital literacy-based Islamic Religious Education (PAI) practices, and teachers' readiness and competencies in integrating Islamic values into digitally mediated learning. Accordingly, this study not only maps the development of digital literacy within Islamic education but also develops a conceptual synthesis concerning the relationships among policy frameworks, instructional implementation, and teacher capacity as key determinants of successful educational transformation in the digital era. Based on this rationale, the study aims to analyze digital literacy policies in Islamic education, examine digital literacy-based PAI learning practices, and explore teachers' readiness and competencies in integrating Islamic values and digital literacy within instructional processes. Ultimately, this study is expected to contribute both conceptually and practically to the advancement of adaptive, critical, and value-oriented Islamic education amid the dynamics of contemporary digital society.

RESEARCH METHODOLOGY

This study employed a qualitative approach using a literature review method to develop a comprehensive understanding of digital literacy policies in Islamic education, digital literacy-based Islamic Religious Education (PAI) learning practices, and teachers' readiness and competencies in integrating Islamic values into learning in the digital era. A literature review was selected because it enables researchers to critically synthesize findings from existing studies, identify prevailing trends, reveal research gaps, and provide a deeper understanding of the development of a particular field of inquiry. Through this approach, the study seeks to generate a holistic perspective on the relationship between educational policy, instructional practice, and teacher competence in promoting digital literacy within Islamic educational contexts.

Data were collected through a systematic search of relevant scholarly literature from major academic databases, including Scopus, Google Scholar, and Garuda. The search process employed several keywords related to the focus of the study, including digital literacy, Islamic education, Islamic Religious Education, teacher readiness, digital competence, and literasi digital. The selected sources consisted of peer-reviewed journal articles, academic books, and policy documents published between 2020 and 2025 that demonstrated direct relevance to the research objectives. This selection criterion was intended to ensure the inclusion of recent and credible literature reflecting contemporary developments in digital literacy and Islamic education.

The collected data were analyzed using thematic analysis, following the stages of identification, classification, interpretation, and synthesis of findings to construct a structured conceptual framework (Naeem et al., 2023). The analytical process focused on three major themes: (1) digital literacy policies in Islamic education, (2) digital literacy-based Islamic Religious Education learning practices, and (3) teachers' readiness and competencies in integrating Islamic values and digital literacy into instructional processes. Through this analytical procedure, the study aims to provide a systematic understanding of the dynamics of digital literacy within Islamic education while offering a conceptual synthesis that may serve as a foundation for the development of future educational policies and instructional practices in the era of digital transformation.

RESULT AND DISCUSSION

Digital Literacy Policy Transformation in Islamic Education

Digital transformation has become a strategic agenda in national educational development in response to the rapid advancement of information technology, which has fundamentally altered the ways individuals learn, work, and interact within contemporary society (Carvalho, 2022). In educational contexts, digitalization is no longer understood merely as the adoption of technological devices in instructional activities; rather, it represents a broader paradigm shift that positions technology as a critical instrument for enhancing the quality, accessibility, and effectiveness of educational services. This growing recognition of the importance of digital transformation has encouraged the Indonesian government to formulate various policies aimed at strengthening the digital education ecosystem, including the development of technological infrastructure, the provision of digital learning platforms, and the enhancement of educators' digital competencies (Assa'di, 2021). These initiatives indicate that educational transformation is inseparable from the need to prepare learners to navigate the increasingly complex realities of a digitally connected society.

The government's commitment to digital educational transformation is reflected in the Merdeka Belajar (Freedom to Learn) policy introduced by the Ministry of Education, Culture, Research, and Technology. Through this initiative, learning is designed to be more flexible, learner-centered, and supported by a wide range of digital learning resources. The implementation of Merdeka Belajar has been reinforced through the development of various digital platforms, including the Merdeka Mengajar Platform (PMM), Rumah Pendidikan, and other online learning resources accessible to both teachers and students (Arnes et al., 2023). This policy signifies a shift from traditional teacher-centered approaches toward student-centered learning models that are more aligned with the characteristics and learning preferences of digital-age learners. Within this framework, digital technology serves as a means of expanding access to knowledge, fostering learner autonomy, and improving the overall quality of educational experiences.

Digital transformation has also become a central component of Islamic education policies developed by the Ministry of Religious Affairs. This commitment is reflected in various madrasa digitalization programs and efforts to strengthen Islamic educational information systems (Musyarrofah et al., 2021). Initiatives such as the E-Learning Madrasah platform, the digitalization of administrative services through the Education Management Information System (EMIS), the implementation of the Digital Madrasah Report System (RDM), and technology-based madrasa

transformation programs represent concrete examples of digital policy implementation within Islamic educational institutions (Levia et al., 2025). These initiatives demonstrate that Islamic educational institutions are no longer positioned outside the broader process of educational modernization but are actively participating in national educational transformation efforts. Through these programs, the government seeks to improve instructional quality, administrative efficiency, and access to learning resources for both teachers and students in madrasas.

Beyond the digitalization of educational services, the government has also prioritized the strengthening of digital literacy through a range of national initiatives. Digital literacy is regarded as a strategic competency that enables citizens to utilize technology productively, critically, and responsibly. Through the National Digital Literacy Movement (Gerakan Nasional Literasi Digital), the government promotes four core pillars of digital literacy: digital skills, digital culture, digital ethics, and digital safety (Banyu Hikmah et al., 2024). Within educational settings, these pillars are highly relevant because digital literacy extends beyond technical proficiency to include critical thinking, information evaluation, ethical behavior, and responsible participation in digital environments. Consequently, digital literacy development serves as a foundational component of sustainable educational transformation.

From the perspective of Islamic education, digital literacy possesses a broader dimension because it involves the integration of technological competence with character formation. Syed Muhammad Naquib al-Attas argued that the ultimate purpose of Islamic education is not merely the transmission of knowledge but the cultivation of a civilized and morally grounded individual (*insan adabi*) through the internalization of values and ethical development (W, Ahmad Nur Jali, 2024). In the digital era, this perspective is particularly relevant because technological advancement is not always accompanied by ethical maturity. Digital literacy that lacks moral and ethical foundations may contribute to the spread of misinformation, hate speech, intolerance, and the misuse of digital media. Therefore, Islamic education bears the responsibility of ensuring that digital transformation produces individuals who are not only technologically competent but also morally conscious and socially responsible in their engagement with digital technologies.

Taken together, the transformation of digital education policies in Indonesia represents a systematic effort involving collaboration between the Ministry of Education, Culture, Research, and Technology and the Ministry of Religious Affairs to establish an educational ecosystem that is responsive to technological change. Policies such as Merdeka Belajar, madrasa digitalization programs, and national digital literacy initiatives demonstrate the government's commitment to

leveraging digital transformation as a strategic instrument for improving educational quality. However, the success of these policies depends not only on the availability of technology and infrastructure but also on the ability of educational institutions and teachers to integrate technology with fundamental educational values. In the context of Islamic education, the integration of digital literacy and Islamic values is essential to ensure that digital transformation contributes not only to the development of digitally competent learners but also to the formation of ethical, responsible, and value-oriented individuals.

Despite the government's efforts to promote digital transformation through Merdeka Belajar, madrasa digitalization programs, and national digital literacy initiatives, policy implementation continues to face significant structural challenges. One of the most pressing issues is the disparity in technological infrastructure and digital access across regions, which has resulted in unequal implementation of educational digitalization. Previous studies indicate that limited access to technological devices, inadequate internet connectivity, and insufficient digital facilities remain major obstacles, particularly for madrasas located in underdeveloped and remote areas (Amalia & Sa'adah, 2020). In addition, digital inequality among students from different socioeconomic backgrounds continues to affect the effectiveness of technology-enhanced learning (Jihan et al., 2023). These findings suggest that the success of digital educational transformation depends not only on policy formulation but also on the readiness of educational ecosystems to ensure equitable access and high-quality digital learning opportunities.

In addition to infrastructural constraints, another major challenge concerns teachers' readiness and digital competencies in implementing digital education policies effectively. Numerous studies have shown that many educators still face difficulties integrating technology into instructional design, developing digital learning materials, and conducting technology-based assessments. Within madrasa settings, these challenges become even more complex because teachers are expected not only to possess digital competencies but also to integrate Islamic values, digital ethics, and character education into digitally mediated learning environments. Recent studies reveal that limited digital competencies, insufficient professional development opportunities, resistance to educational change, and concerns regarding the negative effects of digital content continue to hinder the effective implementation of digital literacy policies in Islamic education. Therefore, educational digital transformation requires a more comprehensive strategy that includes continuous professional development, capacity-building initiatives, and the development of digital literacy frameworks that align with the broader objectives of Islamic education.

Digital Literacy-Based Instructional Practices in Islamic Religious Education

Digital transformation has significantly reshaped the orientation of Islamic Religious Education (PAI) from conventional knowledge-transmission models toward more participatory, collaborative, and digitally mediated learning environments. In the context of twenty-first-century education, PAI can no longer focus solely on the textual transmission of religious knowledge; instead, it must foster learners' abilities to access, interpret, evaluate, and produce religious information critically within digital spaces (Asiyah & Jazuli, 2022). This shift is particularly important given that contemporary learners are immersed in technology-rich environments characterized by rapid information exchange and unrestricted access to online content. Recent studies indicate that the integration of digital literacy into PAI not only broadens access to educational resources but also enhances student engagement and promotes more contextualized learning experiences aligned with the demands of the digital era (Gusli et al., 2025; Sholihatin et al., 2021). Therefore, digital literacy in PAI should be understood not merely as technological utilization but as a pedagogical approach that connects Islamic knowledge with critical engagement in digital realities.

At the implementation level, digital literacy-based PAI learning has increasingly incorporated a wide range of digital platforms and instructional media. Teachers have begun integrating Learning Management Systems (LMS), interactive instructional videos, electronic modules, educational podcasts, digital assessment applications, and social media platforms into their teaching strategies (Hidayati et al., 2023). Research conducted by Al Rumaisa et al. demonstrates that digital media are highly effective not only in facilitating content delivery but also in strengthening student participation through more interactive and flexible learning experiences (Al Rumaisa et al., 2025). Similar findings from various schools and madrasas reveal that students tend to respond more positively to learning environments that incorporate visual media, interactive multimedia, and digital learning resources compared to conventional instructional approaches (Azhary et al., 2021; Qomaruddin et al., 2026). These findings suggest that digital technologies have become essential instruments in creating learning environments that are responsive to the characteristics and learning preferences of digital-native generations.

However, the role of technology in PAI extends beyond serving as a medium for content delivery. It also functions as a critical tool for developing students' religious information literacy. The abundance of religious content available online has generated serious challenges, including the spread of misinformation, digital radicalism, distorted religious interpretations, and the

proliferation of religious narratives lacking scholarly credibility (Muzdalena & Zaitun, 2026). In this context, students require the ability to critically assess religious information, verify sources, and distinguish between credible and unreliable content. Recent studies indicate that religious digital literacy significantly influences students' understanding of Islamic teachings and their ability to navigate intolerant, provocative, and misleading religious narratives encountered in digital environments (Reksiana et al., 2024). Consequently, Islamic education should not merely function as a vehicle for transmitting religious knowledge but also as a platform for cultivating critical literacy and strengthening ethical awareness in the digital sphere.

Furthermore, contemporary digital literacy-based PAI practices have increasingly emphasized the development of higher-order thinking skills (HOTS). Research suggests that the integration of pedagogical approaches such as Problem-Based Learning (PBL), Project-Based Learning (PjBL), and technology-supported collaborative learning enhances students' analytical reasoning, problem-solving abilities, and religious reflection (Wildan et al., 2025). These instructional approaches encourage learners to engage critically with contemporary issues and examine them through the lens of Islamic teachings. As a result, digital literacy-based PAI not only supports cognitive development but also fosters reflective thinking by enabling students to establish meaningful connections between Islamic values and contemporary social realities (Nuruliana et al., 2025). This finding highlights the transformative potential of digital technologies in facilitating more contextual, relevant, and intellectually engaging forms of Islamic education.

Another notable development in digital literacy-based PAI learning is the growing integration of technology with Islamic character education. Recent studies emphasize that the effectiveness of digital learning in Islamic education should not be measured solely by improvements in technological competencies but also by its contribution to moral and character development (Moslimany et al., 2024). Through carefully designed learning experiences, digital platforms can serve as vehicles for instilling Islamic values such as honesty, responsibility, respect, moderation, and ethical digital citizenship. In this regard, digital literacy becomes not only a technical competency but also a medium through which learners develop moral awareness and ethical behavior in online interactions. This perspective reinforces the view that Islamic education must play a proactive role in shaping responsible digital citizens who are capable of balancing technological engagement with religious and ethical commitments.

Despite these positive developments, the implementation of digital literacy-based PAI continues to face several significant challenges. Many instructional practices remain focused on the instrumental use of technology as a presentation tool rather than as a means of fostering

critical, reflective, and value-oriented digital literacy. Existing digital literacy initiatives often emphasize technical skills while paying insufficient attention to ethical digital engagement, religious literacy, and critical thinking development (Nasucha et al., 2023). Moreover, limited teacher digital competencies, inadequate professional development opportunities, and the absence of an integrated Islamic digital pedagogy framework continue to constrain the effective integration of digital literacy into Islamic education (Trisnawaty et al., 2022). Therefore, digital literacy-based PAI learning must move beyond technological adoption toward a more substantive pedagogical transformation in which technology serves as a tool for cultivating critical literacy, moral consciousness, and Islamic character. Such a transformation is essential if Islamic education is to equip learners with the competencies required to navigate the complexities of contemporary digital society while remaining grounded in Islamic values.

Teachers' Readiness and Competencies for Digital Literacy Integration

Teachers' readiness and competencies constitute critical determinants of the successful implementation of digital literacy in Islamic Religious Education (PAI). In the era of digital transformation, teachers are no longer expected to function merely as transmitters of knowledge; rather, they are required to serve as facilitators, mediators, and mentors who guide students in developing critical thinking skills, information literacy, and ethical awareness in digital environments. Consequently, the integration of digital literacy into PAI requires teachers to possess a comprehensive set of competencies that encompass technological proficiency, digital pedagogical expertise, and a deep understanding of Islamic teachings. The quality of digitally mediated learning is strongly influenced by teachers' preparedness to design, manage, and evaluate technology-enhanced instruction (Eraku et al., 2021). Therefore, the success of digital transformation in Islamic education depends not only on technological infrastructure but also on teachers' capacity to effectively integrate technology into meaningful learning experiences.

From the perspective of technological competence, recent studies indicate that many PAI teachers have acquired basic skills in utilizing digital devices and applications to support instructional activities. The use of Learning Management Systems (LMS), video conferencing platforms, digital assessment tools, and multimedia-based instructional resources has become increasingly common in educational practice. However, research by terbatas Dedy also reveals that teachers' digital competencies remain largely concentrated at the operational level, focusing primarily on the technical use of technology rather than on more advanced competencies such as digital content creation, interactive instructional design, and technology-supported collaborative

learning (Dedy et al., 2021). These findings suggest that technological proficiency alone does not automatically lead to pedagogical transformation. Rather, meaningful integration of technology requires teachers to move beyond technical skills and develop the capacity to employ digital tools strategically in achieving instructional objectives and enhancing student learning outcomes.

Beyond technological competence, the integration of digital literacy into PAI requires strong pedagogical readiness that enables teachers to facilitate critical, reflective, and contextually relevant learning experiences. Within the framework of Technological Pedagogical Content Knowledge (TPACK), teachers are expected not only to master technological knowledge but also to effectively connect technology with pedagogical approaches and subject-matter expertise. Research consistently demonstrates that teachers possessing strong TPACK competencies are more capable of designing digital learning environments that promote student engagement, stimulate critical thinking, and support meaningful knowledge construction (Cheng et al., 2025). In the context of Islamic Religious Education, this competency is particularly important because religious instruction extends beyond conceptual understanding to encompass value internalization and character formation. Consequently, pedagogical readiness serves as a crucial prerequisite for ensuring that technology functions not merely as a medium for content delivery but as a catalyst for transformative and meaningful learning experiences.

Furthermore, the distinctive nature of Islamic education requires teachers to possess an additional competency: the ability to integrate Islamic values into digital literacy practices. Recent studies suggest that one of the most significant challenges facing Islamic education in the digital age is not simply technological adaptation but the cultivation of ethical awareness and moral character in increasingly complex digital environments. PAI teachers are therefore expected to incorporate fundamental Islamic principles such as verification of information, (*tabayyun*), trustworthiness (*amanah*), responsibility, religious moderation, and ethical digital communication into instructional activities. Sapiudin and Supriyadi indicates that students who receive systematic guidance regarding digital ethics demonstrate greater capacity to evaluate information critically, avoid the spread of misinformation, and engage in respectful and responsible online interactions (Sapiudin & Supriyadi, 2025).

Despite the implementation of various policies and professional development initiatives aimed at strengthening teachers' digital competencies, significant challenges continue to hinder the effective integration of digital literacy into PAI. Existing studies identify disparities in digital competencies among teachers, limited access to sustained professional training, insufficient capacity for developing digital instructional materials, and the absence of an integrated Islamic

digital pedagogy framework as persistent obstacles. Moreover, some educators continue to perceive technology merely as an instructional aid rather than as a strategic instrument for cultivating critical literacy, ethical awareness, and student character development. These conditions indicate that efforts to enhance teacher competencies should extend beyond technological training and encompass pedagogical and ethical dimensions that align digital literacy with the broader objectives of Islamic education. Ultimately, the successful transformation of PAI in the digital era depends on teachers' ability to integrate technological competence, pedagogical expertise, and Islamic values holistically, thereby creating learning environments that are technologically adaptive while remaining committed to the development of knowledgeable, ethical, and socially responsible individuals.

CONCLUSION

This study demonstrates that digital literacy policies in Islamic education in Indonesia have developed significantly through various digital transformation initiatives introduced by the Ministry of Education, Culture, Research, and Technology and the Ministry of Religious Affairs, including Merdeka Belajar, the Merdeka Mengajar Platform, madrasa digitalization programs, and E-Learning Madrasah. These policies reflect the government's commitment to integrating technology into educational systems and strengthening digital literacy across educational institutions. Nevertheless, their implementation continues to face challenges related to unequal infrastructure, disparities in digital access, and varying levels of human resource readiness.

The findings further reveal that digital literacy-based Islamic Religious Education (PAI) practices have contributed positively to the development of more interactive, flexible, and learner-centered learning environments through the utilization of diverse digital platforms and learning resources. Beyond enhancing access to educational content, digital literacy has also supported the development of students' critical engagement with religious information in digital spaces through the reinforcement of *tabayyun* (information verification), digital ethics, and Islamic character values. Consequently, PAI serves not only as a medium for transmitting religious knowledge but also as a vehicle for fostering critical and responsible religious digital literacy.

Finally, teachers' readiness and competencies emerge as key factors in the successful integration of digital literacy into PAI. Teachers are expected to possess not only technological and digital pedagogical competencies but also the ability to integrate Islamic values into digitally mediated learning processes. Despite ongoing improvements in teachers' digital competencies,

challenges such as limited professional development opportunities, uneven technological proficiency, and the insufficient integration of Islamic values into digital learning remain significant concerns. Therefore, strengthening teacher competencies through the integration of technological, pedagogical, and Islamic dimensions is essential for fostering adaptive, critical, and value-oriented Islamic education in the digital era.

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