



DIGITAL TRANSFORMATION OF ISLAMIC STUDIES IN INDONESIAN PESANTREN: FROM THE MOSQUE TO THE SCREEN



M. Deni Hidayatullah¹, Abdul Wahid²

*Correspondence:

Email:
denysofficialstore.id@gmail.com

Author Affiliation:

^{1,2} Annuqayah University,
Sumenep

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Abstract

Advances in digital technology have driven a transformation in the spaces and systems of Islamic studies at Indonesian pesantren. Studies that were previously centered in the langgar—a traditional physical space—have now shifted to digital screens via online platforms. This study aims to analyze the digital transformation of Islamic studies in Indonesian pesantren by highlighting changes in the study spaces, teaching patterns, the scholarly authority of the kiai, and the perceptions of santri toward contemporary digital-based Islamic learning. This study employs a descriptive—qualitative approach using a literature review method, integratively combined with cyber observation or netnography, at three Islamic boarding schools in Indonesia. The results indicate that digitization has shaped a hybrid scholarly space that integrates traditional pedagogical methods with modern technology. However, this transformation also presents challenges in the form of varying technical infrastructure capacities, as well as the need to negotiate the kiai's scholarly authority and the students' etiquette (adab) in virtual spaces. Therefore, digital transformation in Islamic boarding schools requires a balance between the utilization of public technology and the strengthening of autonomous internal scholarly structures.

INTRODUCTION

Advances in digital technology in the contemporary era have brought about significant shifts in all aspects of human life, including the Islamic education sector and religious practices in Indonesia. One crucial phenomenon in the current landscape of the sociology of religion is the digitization of Islamic studies within Islamic boarding schools (pondok pesantren). Pesantren, historically recognized as one of the traditional (indigenous) Islamic educational institutions in the Indonesian archipelago, are now in a phase of adaptation to the development of digital civilization. Historically, sociologically, and spiritually, the langgar or mushala plays a central role in the transmission of Islamic knowledge within pesantren. In these physical spaces, students interact directly using classical methods such as bandongan and sorogan. These conventional methods place great emphasis on values of etiquette, the continuity of the scholarly chain of transmission (sanad), and expertise in understanding classical religious texts (al-kutub al-turatsiyyah). This tradition of face-to-face interaction serves as a sociocultural medium that strengthens the psychological and spiritual bond between teacher and student, while preserving the authenticity and sacredness of traditional Islamic scholarship.

The development of digital media has subsequently transformed the way people access and consume religious information. Through cyberspace, Islamic studies—which were previously exclusive to communities residing in pesantren—are now openly accessible to a broad audience without geographical limitations. However, this expansion of spatial reach has also raised a series of epistemological and structural challenges regarding the pesantren's ability to maintain the quality and scholarly authority of its teachings. These challenges include the potential marginalization of the depth of knowledge and the cultural legitimacy of the kiai due to the characteristics of cyberspace,



which tends to be instantaneous, fast – paced, and fragmented. On the internet, anyone can claim to be a new religious authority based on digital popularity and visual rhetoric, even without a formal pesantren educational background or a clear scholarly lineage (sanad). Therefore, digitization strategies within the pesantren environment require careful planning to integrate tradition with modern technological advancements so that local values, spirituality, and the distinctive character of the pesantren remain firmly preserved (Bahari, 2025).

The dynamics of digitalization in today's pesantren environment cannot be separated from the demographic shift among santri, who are now dominated by Generation Z and Generation Alpha. As digital natives, these contemporary santri are characterized by a high level of intimacy with their devices, a reliance on visual information, and a mindset accustomed to the speed and immediacy of the digital world. These sociological conditions have given rise to a unique phenomenon: a paradoxical cultural dualism within the students themselves. On the one hand, when they enter the classroom or prayer hall, they are required to submit absolutely to the medieval Islamic scholarly tradition, represented through the study of classical Islamic texts (al – kutub al – turatsiyyah). This classical tradition demands linear patience, strict physical discipline, and hierarchical submission to the kiai's authority in order to attain divine blessing (barakah). On the other hand, the moment a smartphone is in their hands, their identity immediately merges into the fast – paced, fluid, egalitarian, and often profane ecosystem of 21st – century algorithms.

This cultural dualism places modern santri in the position of having to navigate two intertwined yet contradictory realities: the depth of classical texts, which require prolonged contemplation, and the superficiality of instantaneous digital pop culture. The convergence of their identities as traditional scholars and active participants in a network society creates its own unique psychological and educational tensions. Santri are required to make an epistemological leap every day, upholding Eastern etiquette and the sacredness of orthodox scholarly lineage (sanad), while remaining adaptive and critical as they navigate the digital information jungle driven by commercial algorithms. Therefore, contextualizing the characteristics of Generations Z and Alpha is crucial, as there is concern that if Islamic boarding schools fail to bridge this cultural dualism, it could trigger moral alienation—a situation where students are physically present at the boarding school, yet their cognitive and spiritual orientations are completely estranged and co – opted by the simulacra of virtual spaces.

Islamic studies in Islamic boarding schools are fundamentally grounded in strong methodological values under the guidance of kiai, who serve as gatekeepers of continuous scholarly authority. This learning model differs from secular education because it emphasizes spiritual closeness and divine blessing (barakah). Through digitization, the delivery of Islamic education now includes the use of social media, the development of e – learning platforms, and the establishment of digital libraries. Previous studies indicate that the digitization of pesantren provides more open access to knowledge and expands the reach of da'wah, while also serving as a strategic step to address the demands of 21st – century learning (Nugroho & Astutik, 2024) .

Several researchers have examined the relationship between Islamic boarding schools and digital technology from various perspectives. Research on the concept of hybrid Islamic boarding schools indicates that digital technology has a positive impact on student engagement and learning flexibility, although technical infrastructure constraints and the digital skills gap remain critical concerns (Abidin et al., 2025). Digitalization strategies are also employed to instill the Islamic values of Ahlussunnah wal Jama'ah

(Aswaja) in the younger generation through the optimization of digital library applications and training in "literacy". However, the adoption of technology in teaching at some rural Islamic boarding schools remains minimal due to infrastructure disparities, thus requiring a massive upgrade of technical facilities (Jamil et al., 2025).

Although these studies have addressed the topic of digitization in Islamic boarding schools, a fundamental research gap has been identified. The majority of previous research has tended to focus on instrumental – technocratic analyses, such as device optimization, e-learning curriculum management, administrative efficiency, or practical digital literacy. No study has specifically highlighted the spatial – sociological dimension – namely, how the transition of space from the physical – sacred realm (the langgar) to the virtual realm (the screen) affects the structure of the kiai's religious authority and the code of conduct for santri. The shift from the langgar to the screen is not merely a change in teaching tools, but a cultural dynamic that carries the risk of the desacralization of knowledge, the blurring of the transmission of scholarly chains of authority (sanad), and the fracturing of spiritual relationships due to mediation by anonymous public screen algorithms. Without a critical sociological understanding of this spatial transformation, there is concern that digital adaptation will give rise to superficial religious standardization in the public cyberspace.

Based on the identification of these issues and research gaps, the focus of the analysis in this article is explicitly directed toward addressing three interrelated main research questions. First, this study examines how digital transformation is shifting the space for Islamic studies in Indonesian pesantren, particularly from traditional physical spaces such as the langgar to digital screens. Furthermore, the analysis aims to unravel how this spatial shift influences the teaching patterns of classical Islamic texts (kitab kuning) and triggers a transition and negotiation regarding the scholarly authority of kiai in the digital age. Finally, this study explores how the perceptions and constructions of adab (etiquette) and the depth of the students' scholarly traditions shape their engagement with contemporary digital – based models of Islamic education. Through this integrated set of research questions, this study aims to map the digital transformation of Islamic studies in Indonesian pesantren by analyzing the spatial shift from the langgar to the screen, the patterns of "kitab kuning" instruction and the transition of kiai authority, as well as the perceptions of santri etiquette in virtual spaces within the scope of the sociology of Islamic education in Indonesia (Happyana et al., 2025).

RESEARCH METHODS

This study employs a qualitative – descriptive approach by applying a literature review method integrated with cyber observation, or netnography. The use of netnography in this study is specifically focused on capturing the cultural realities, patterns of interaction, and transformations of Islamic learning spaces that occur naturally in the virtual realm. To provide clear and measurable boundaries for the cyber analysis, this study defines the units of netnographic analysis as three Islamic boarding schools in Indonesia, selected purposively based on their historical representativeness of the "kitab kuning" tradition and their level of digital transformation activity in cyberspace. The three boarding schools serving as the subjects of netnography in this study include Pondok Pesantren An – Nur 2 Al – Murtadlo in Malang (East Java) as a representation of institutional digitization; Darul Mustafa Islamic Boarding School (Banten) as a representation of management and information media digitization; and As – Sa'idiyyah 2 Bahrul Ulum Tambakberas Islamic Boarding School in Jombang (East Java) as a representation of a pioneer in hybrid and live – streamed "kitab kuning" studies.

The digital observation period and cyber data collection were conducted intensively over 6 (six) months, from November 2025 through April 2026. The official social media accounts of the three Islamic boarding schools used as the basis for the cyber observation space included the official YouTube channel @AnNur2Malang and the Instagram account @annur2malang for the An–Nur 2 Malang Islamic Boarding School; the YouTube channel @DarulMustafaBanten and the Instagram account @darulmustafa_banten for Darul Mustafa Islamic Boarding School; and the YouTube channel @ppassaidiyyah2230 and the Instagram account @assaidiyyah2_bu for As–Sa'idiyyah 2 Bahrul Ulum Jombang Islamic Boarding School. Through these digital platforms, netnography is used to observe units of empirical data analysis, including the visual transmission of classical Islamic text instruction, interaction texts in the comment sections between viewers (virtual students) and instructors, the use of digital symbols, adherence to digital etiquette during lessons, and daily content distribution patterns. The focus of this digital observation aligns with the thesis put forward by that the effectiveness of digital transformation in Islamic boarding schools is not merely measured by the mechanical availability of technological infrastructure, but rather by how educational interactions, moral values, and the distribution of religious content can be functionally integrated into cyberspace to form an adaptive and measurable digital learning ecosystem.

The process of collecting cyber data was conducted through digital documentation techniques, downloading study transcripts, and capturing screenshots of live–streamed religious lectures. Subsequently, all empirical data from digital observations as well as textual data from the literature review were analyzed using descriptive–interpretive analysis techniques through the stages of data reduction, categorization of findings based on the research questions, presentation of cyber data, and drawing sociological conclusions. Through this rigorous netnographic design, the validity of cyber data is consistently maintained to objectively and thoroughly elucidate the phenomenon of spatial shift from the mosque to the screen. This interpretive analytical approach and organization of cyber data align with the applied methodological framework (Huri et al., 2025) in examining the phenomenon of cyber religion, where systematic digital data exploration through textual and visual documentation serves as a crucial tool for comprehensively and authentically capturing behavioral shifts and the transformation of religious practices within virtual communities in cyberspace.

RESULTS AND DISCUSSION

RESULTS

Based on cyber observations (netnography) and digital documentation at three Islamic boarding schools from November 2025 to April 2026, two main patterns of the transmission of classical Islamic texts in cyberspace were identified. First, regarding visual transmission and teaching patterns, the YouTube channel @AnNur2Malang (An–Nur 2 Al–Murtadlo Islamic Boarding School in Malang) demonstrates the integration of traditional religious study sessions into a Learning Management System (LMS).

Technically, the kiai or ustaz still wears traditional attire—a sarong and peci—and reads from a physical book on a small table. However, there is a secondary screen next to the instructor that displays the book's digital text in sync to help virtual students follow the text line by line with precision. Meanwhile, footage on the YouTube channel @ppassaidiyyah2230 (As–Sa'idiyyah 2 Bahrul Ulum Islamic Boarding School in Jombang) demonstrates a hybrid live–streaming teaching model. These Quran recitation sessions, conducted using the "bandongan" method, are attended in person by 40–60 students in

the prayer hall, while simultaneously being accessed by 150 – 300 online viewers (real – time views) during each digital broadcast session.

Based on field notes from cyber – observations (netnography) on the @AnNur2Malang YouTube channel and the digital ecosystem of the An – Nur 2 Al – Murtadlo Islamic Boarding School in Malang, the integration of traditional religious instruction and a Learning Management System (LMS) is implemented in a structured manner to bridge the physical and virtual spaces . In practice, this hybrid teaching of classical Islamic texts is managed by a student multimedia team acting as technical operators behind the scenes. The ustaz's oversight of virtual students is facilitated through the integration of synchronized attendance tracking and a live chat interaction column, both of which are monitored periodically. The ustaz does not merely read the text linearly but periodically pauses to address the virtual audience, respond to questions posted in the comment section, or ask the virtual students to write down the legal conclusions (istinbath al – ahkam) derived from the lines of the text just read—all as a means of ensuring the quality of distance learning.

To objectively measure the depth of understanding among virtual students, this LMS ecosystem is equipped with a feature for periodic digital quizzes, the links to which are automatically shared via the video description or as a pinned message in the comments section once the live stream ends. These quizzes are designed using a platform that includes both multiple – choice and short – essay questions regarding the meanings of the book's vocabulary (mufradat), Arabic syntactic case (i'rab), and the contextual application of fiqh principles discussed in the session. Virtual students are required to complete these quizzes within a specified time limit to obtain a certificate of completion (digital sanad certificate), which is validated directly by the boarding school's administrators. Although this system is designed in a mechanistic – technocratic manner, netnographic field notes also document various natural technical challenges that affect the rhythm of this hybrid educational model. Interruptions in the form of frame drops or buffering caused by fluctuations in internet latency in the boarding school area were recorded on several occasions, obscuring the clarity of the ustaz's articulation. When these technical issues occurred, the dynamics of the virtual space were immediately filled with a flood of feedback from virtual students in the live chat column reporting visual or audio disruptions.

In addition, another challenge was identified: a misalignment of the visual focus on the secondary screen (chroma key or screen overlay), where the transition of text pages from the digital book (Kitab Turats Maktabah Syamilah) displayed on the screen was a few seconds behind the lines of text being recited aloud by the ustaz. This momentary desynchronization requires the student operators to make real – time adjustments so that the virtual students' attention is not distracted. This technical phenomenon reflects that the digitization of studies at PP An – Nur 2 Malang is not merely a shift in teaching medium, but rather a process of managing a new learning space that requires instant harmonization between the ustaz's scholarly authority, the readiness of the cyber infrastructure, and the responsive engagement of the virtual students themselves.

Second, variations were found in the adoption of instructional technology and digital infrastructure among Islamic boarding schools. The Darul Mustafa Islamic Boarding School in Banten emphasizes the integration of technology to strengthen internal information management, such as the implementation of digital attendance tracking for religious study sessions, the administration of computer – based exams, and the archiving of audio – visual recordings of independent study sessions. On the other hand, the An – Nur 2 Islamic Boarding School in Malang specifically implements the tracking of Islamic

legal references (bahtsul masail) using the digital applications Maktabah Syamilah and Jawami' al – Kalim as a mandatory competency for advanced – level students.

Based on cyber observations conducted from November 2025 to April 2026, data on digital activities at the three boarding schools under analysis can be empirically mapped as follows:

Table 1. Format of Netnographic Observation Results

Subject: Islamic Boarding Schools	Channels and Empirical Digital Evidence	
	Platforms & Official Accounts	
	Empirical Evidence from Compiled Netnography Data	
PP An – Nur 2 Al – Murtadlo Malang	YouTube: @AnNur2Malang Instagram: @annur2malang	Synchronized integration of digital book text on a secondary screen during live streaming. Mandatory use of the Maktabah Syamilah and Jawami' al – Kalim apps on lab computers for three cohorts of upper – level students.
As – Sa'idiyyah 2 Bahrul Ulum Islamic Boarding School, Jombang	YouTube: @ppassaidiyyah2230 Instagram: @assaidiyyah2_bu	Hybrid bandongan teaching model. Attended in person by 40 – 60 students at the mosque and accessed by 150 – 300 online viewers (real – time views) per session.
PP Darul Mustafa Banten	YouTube: @DarulMustafaBanten Instagram: @darulmustafa_banten	Implementation of an internal management information system. QR Code – based digital attendance tracking for religious study sessions and visualization of computer – based exams.

DISCUSSION

Forms of Digital Transformation in Islamic Studies at Islamic Boarding Schools

To gain a deep understanding of the sociological implications of the transition in the space of study at Islamic boarding schools, analysis must not be confined to an instrumental perspective that views digital screen technology merely as a mechanical tool. The transition from the langgar to the screen is, in essence, an event of epistemological despatialization and a radical deconstruction of sacred space. From the perspective of spatial sociology, particularly through Henri Lefebvre's theory of 'The Production of Space', space is not a passive, empty container (Sholihah, 2024) . Lefebvre divides space into an intertwined spatial triad: spatial practice (the physical – material space that is experienced), representations of space (space that is designed or conceptualized), and representational spaces (lived spaces brought to life through symbols and collective imagination).

From a historical and cultural perspective, the langgar within the pondok pesantren ecosystem is not merely an architectural entity made of brick and wood that functions as a physical space (spatial practice). More than that, the langgar is a representational space—a sacred space produced socially, spiritually, and culturally from generation to generation. Inside the langgar, religious habitus (to borrow Pierre Bourdieu's term) is intensively shaped through disciplined bodily routines: sitting cross – legged (timbangan) for extended periods, bowing one's head in reverence, reciting verses rhythmically, and observing the kiai's movements as he reads the classical Islamic texts. The physical space of the langgar—with its distinctive scent of fragrant oil, the echo of an old microphone, and subdued lighting—shapes the students' cognitive and affective structures, guiding them into a transcendent state of consciousness. The sacredness of traditional Islamic scholarship is embedded here, where the physical space acts as an emotional anchor that

directly connects textual understanding with the internalization of adab values through face – to – face interaction.

When this sacred space undergoes a transformation and shifts into a pixelated form on a virtual screen, what (Soja, 2008) refers to as a "spatial distortion" within the concept of "Thirdspace" occurs. The digital screen dissolves the material boundaries of the conventional mosque, breaks down the geographical walls of the Islamic boarding school, and replaces them with a fluid and fragmented cyberspace. Psychologically from a religious perspective, this spatial shift has a significant distorting effect on the spiritual depth of virtual santri. In cyberspace, students are no longer subject to the control of the langgar's sacred architecture, which disciplines the body. Instead, the etiquette of religious study—which was originally embodied in a reverent physical posture—is now mediated and distorted by electronic devices. The process of absorbing sacred religious knowledge is now forced to coexist simultaneously within the same screen space as social media notifications, pop entertainment videos, and commercial advertising algorithms.

This spatial distortion from the pesantren to the screen has the potential to trigger the desacralization of knowledge. When the study of classical Islamic texts is consumed in the form of pixels, the inner connection and spiritual energy (barakah) that typically flow through the spatial proximity between the kiai and the student lose much of their meaning. Virtual students experience spatial alienation, in which they witness the transmission of knowledge but lose their physical connection to the living space of the pesantren. As a result, their attention becomes fragmented (continuous partial attention), and profound spiritual experiences often shift into superficial consumption of religious information. Therefore, the transition to digital screens is not merely a technical challenge regarding the visual quality of streaming, but a sociological struggle over how to maintain spiritual intimacy, mental discipline, and the santri's habitus of propriety amidst an anonymous and profane virtual space.

Empirical data from netnography indicate that the digitization of Islamic studies in pesantren settings has triggered a phenomenon of epistemological de – spatialization. This process no longer functions merely as a mechanical – administrative tool but has instead shaped a new epistemological space to reproduce traditional learning practices through social media, e – learning platforms, and hybrid learning models (Muttaqin, 2020) . This transformation is reshaping the landscape of da'wah delivery, the management of teaching and learning spaces, and socio – religious communication patterns among kiai, santri, and the broader community (Khoirunisa, T., & Yulianti, 2016). This integration of technology underscores that cyberspace is now adopted as an extension of the traditional physical space (langgar) without compromising its primary scholarly focus.

Pedagogical Hybridization and the Democratization of Access to Islamic Knowledge

The integration of conventional religious study sessions on YouTube @AnNur2Malang with a digital management system confirms the thesis of the hybridization of educational spaces— . This blended learning system systematically combines physical classroom interactions with digital technology. When this concept is adopted into the pesantren ecosystem, this hybridization has an accelerating effect on both resident students and the broader community in gaining access to religious knowledge. Through this technological mediation, classical Islamic knowledge sources—which were previously limited by the geographical boundaries of the pesantren—can now be openly accessed by the broader public who face physical distance barriers or time constraints (Arifin, 2017) . This hybrid learning model, which combines digital pedagogy

with Islamic values, has proven effective in enhancing students' competencies relevant to contemporary demands (Sugito, 2024) .

However, this expansion of spatial reach has sociological consequences in the form of heightened demands for content oversight, curation, and moderation. Cyber oversight has become a crucial tool to ensure that the dissemination of religious preaching in cyberspace continues to convey a message of religious moderation (wasathiyah) and avoids potential social conflicts (Mabrur & Hairul, 2022) . As digital natives, the younger generation demands an adaptive pedagogical bridge without compromising the substance of classical religious texts (Umar, 2025) . The shift from in-person preaching from the mosque pulpit to digital screen-based preaching—such as hybrid broadcasts on the YouTube channel @AsSaidiya2BU—requires religious scholars and teachers to possess both deep religious scholarship (tafaqquh fiddin) and critical literacy regarding media technology (Efendi, 2024) . It is this integration of digital media with conventional learning traditions that has given rise to an adaptive space for educational hybridization (Khotdriyah & Astuti, 2024) .

Knowledge Management, E-Learning, and the Cultural Legitimacy of Kiai

The implementation of e-learning platforms in contemporary Islamic boarding schools has become an essential tool for effectively and systematically managing Islamic knowledge. The integration of this technology introduces two new dimensions to Islamic pedagogy: the systematization of digital archiving for classical texts, which enables repetitive learning, and more measurable learning assessments to complement conventional individualized instruction. The digitization of religious materials through digital libraries facilitates independent religious research, the search for references on Islamic law (bahtsul masail), and the development of an adaptive curriculum without compromising the substance of the pesantren's original traditions (Yanto et al., 2023) . The integration of instructional technology into the pesantren curriculum—such as the implementation of digital attendance tracking and computer-based exams at Pesantren Darul Mustafa—also contributes positively to strengthening digital literacy and empowering students' capabilities (Musthofa & Haryanto, 2024) .

The rise of digital Islam in Indonesia demonstrates that the use of cyber technology has deep traditional roots within the pesantren community. In this landscape, a kiai's authority in the digital age no longer relies exclusively on his physical presence at the pulpit of the langgar, but is reflected in the quality of his content, the depth of his narratives, and the consistency of his virtual presence. Traditional pesantren attributes visually displayed in live broadcasts serve as a powerful symbol of cultural legitimacy to preserve the pesantren's authenticity in the eyes of the online community (Rachman et al., 2025) . This transition of media formats from paper to screen ultimately strengthens the transmission of classical Islamic scholarship in the contemporary era.

Mediated Charisma and the Negotiation of Religious Authority in the Cyberspace Public Sphere

Within the cultural landscape of traditional Islamic boarding schools, a kiai's religious authority is constructed through charismatic relationships that manifest spatially and physically. Drawing on the sociology of traditional leadership, the kiai's charisma is reinforced by a series of intense sensory rituals in the physical space: the students' kissing of the kiai's hand (shafah) as a symbol of the transmission of divine blessing, direct eye contact that radiates spiritual authority, and the close physical proximity within the langgar that instills the students' obedience (sami'na wa atha'na). However, the migration

of “kitab kuning” study sessions to the cyber realm—as implemented by the An – Nur 2 Islamic Boarding School in Malang, the As – Sa’idiyyah 2 Islamic Boarding School in Jombang, and the Darul Mustafa Islamic Boarding School in Banten—has forced this traditional charisma to undergo a radical process of renegotiation under the dominance of cyber media logic (media logic).

In the virtual space, the kiai’s charisma no longer stands alone in an absolute sense, but must engage in an asymmetrical struggle with the algorithmic architecture of global digital platforms. The kiai’s religious narrative is forced to compete with video recommendation algorithms that often direct audiences toward profane pop culture content, interruptions from pop – up commercial ads, and the availability of a “skip” button that can at any moment cut off the transmission of knowledge with just a single tap of a finger. This phenomenon aligns with an analysis (Raya, 2025) that highlights a fierce contest between “kiai – ness logic” (the logic of pesantren cultural tradition) and “media logic,” which is characterized by liberating, decentralizing, and democratizing the free flow of information. Cyberspace blurs the boundaries between the sacred and the profane, transforming students from the role of spiritual disciples (muta’allim) into mere consumers of digital content (viewers). The sharpness of authority, which was once absolute in physical pesantren, risks being eroded when religious leaders must share the screen of their devices with other creators of pop entertainment content.

Faced with this pressure toward decentralization, the kiai at the three pesantren studied demonstrated adaptation strategies characterized by “hybrid authority.” They did not reject modernity but rather recontextualized their channels of charisma. As examined in * , the digital space has transformed into a new “digital pulpit,” where traditional religious authorities renegotiate their roles amid the democratization of information. At PP An – Nur 2 in Malang, the defense of authority is carried out through the institutionalization of an integrated virtual guidance system (LMS) and digital quizzes, ensuring that control over the scholarly chain of transmission (sanad) remains formally in the hands of the religious leaders. At PP As – Sa’idiyyah 2 in Jombang, clerics maintain their authority by consistently preserving the authenticity of classical Islamic texts during live streams, demonstrating that the depth of knowledge (the depth of the turats) serves as a bastion of originality that cannot be replicated by instant preachers generated by social media algorithms. Meanwhile, at PP Darul Mustafa in Banten, the integration of a QR – code – based attendance management system reflects a blend of charismatic spiritual leadership and the rationality of modern governance.

Through a consistent live – streaming strategy, preserving the depth of classical Islamic texts, and upholding proper etiquette in virtual interactions within the comment section, these religious leaders have successfully tamed the unpredictability of digital algorithms. They have transformed screen – based technology—which initially had the potential to desacralize religion—into an extension of the space for da’wah that actually reinforces the sociological legitimacy of pesantren as resilient, adaptive institutions that remain orthodox in preserving the purity of the traditional Islamic scholarly chain of transmission in the era of artificial intelligence and networked society.

The presence of Islamic boarding schools (pesantren) in cyberspace has fundamentally shifted the structure of traditional religious authority and transformed the landscape of teaching and learning traditions through the formation of a new, more egalitarian Islamic public sphere (Patoni, 2019) . The role of the kiai has undergone a sociological transformation from that of a cultural broker to a cultural creator, giving rise to new methodologies in the conceptualization of Islamic education (Farhan, 2024) .

Nevertheless, this hybrid learning model involves a complex process of ethical negotiation between the demands of tradition and the realities of digital technology.

The discourse surrounding the classic text on teacher–student ethics has been contextually redefined in cyberspace through the formulation of a new code of ethics to uphold the values of decorum and sanctity during the online learning process. The implementation of this digital broadcasting technology has three significant sociological and educational impacts on the development of Islamic boarding schools: the breakdown of spatial and geographical boundaries (deterritorialization), the inclusivity of audience participation without physical barriers, and the flexibility of access—both synchronous and asynchronous— (Istiqomah et al., 2025) .

In the sociology of the digital society, pesantren are understood as religious institutions that are adaptive to change (Zahro et al., 2025) . The operational mechanisms of this digital transformation involve the integration of key, mutually supportive elements—ranging from strengthening e–learning systems and structuring technology–friendly teaching methods to professionalizing the management of pesantren's digital information media (Wijaya, 2025) . From an institutional sociology perspective, digitalization in small rural pesantren often emerges as a survival strategy to ensure the continued existence of education amid limited physical facilities. Meanwhile, in the context of large Islamic boarding schools, the digitization process serves as an accelerating medium that transforms the reach of local da'wah into a global cultural force (glocal Islam) without severing its core traditional roots (Supriyanto et al., 2019) .

The convergence of these strategic elements demonstrates the success of pesantren in fulfilling a harmonious dual role: preserving the authenticity of classical scholarly traditions while expanding the effectiveness, efficiency, and geographic reach of religious education (Zahro et al., 2025) . The complexity of interactions in this digital space ultimately influences the spiritual intelligence and cultural performance of the religious scholar community as a whole. This reality underscores the importance of positioning spirituality as a key predictor of students' moral resilience amid the tide of digitalization.

Reconstructing Virtual Etiquette: Redefining the Ethics of Classical Text Study in the Digital Age

The spatial transformation from the mosque to the screen fundamentally calls for a reconceptualization and redefinition of the ethical framework (adab) within the tradition of Islamic education. For centuries, foundational texts on the ethics of seeking knowledge—such as *Ta'lim al–Muta'allim Ila Thariq al–Ta'allum* by Sheikh al–Zarnuji or *Adab al–'Alim wa al–Muta'allim* by Hadratussyaikh Hasyim Asy'ari—according to * have become the absolute moral compass for the lives of santri. In these classical texts, the success of transmitting religious knowledge is measured not only by cognitive intelligence but also by the extent to which a student is able to treat the teacher and the sources of knowledge with total physical and spiritual respect (ta'dzim). However, as the process of studying the “kitab kuning” has migrated to the public cyberspace—as seen in the hybrid broadcast model on the YouTube channel @AsSaidiya2BU or the digital ecosystem @AnNur2Malang—the physical manifestations of this etiquette have faced a blurring of meaning and serious challenges of reductionism.

For example, Sheikh al–Zarnuji explicitly emphasizes that one of the pillars of etiquette in seeking knowledge is listening to the teacher's explanation with deep reverence, keeping one's gaze focused, and maintaining a respectful sitting posture. This concept faces a sharp sociological distortion when mediated by electronic devices, where virtual students can listen to studies of the holy scriptures or classical Islamic texts while

lying down, eating, or even simultaneously opening other entertainment apps (multitasking). This reality triggers a phenomenon known in the sociology of digital society as "continuous partial attention"—a condition in which human consciousness is fragmented across multiple focal points, thereby losing the capacity for deep spiritual contemplation (Ito, 2004). Under the shadow of social media algorithms designed to constantly trigger distractions, the essence of listening with reverence is often reduced to merely a superficial and profane consumption of religious content.

Therefore, Islamic boarding schools in the contemporary era bear a great responsibility to formulate a contextual manifesto of virtual etiquette or religious cyber ethics (cyber—adab) without uprooting the substantive values of the teachings of past scholars. This redefinition of adab in the digital age shifts the focus from physical discipline mediated by the local space of the langgar toward internal self—regulation in the face of anonymous public screens. Listening to a teacher's explanation with reverence in the screen—based era must be operationally redefined: namely, the willingness of virtual students to minimize distracting tabs, maintain sincere intentions (ikhlas) free from the pursuit of cyber popularity, fill comment sections with polite language (digital etiquette), and treating devices during religious study with the same sacred reverence as they treat the study desk in a physical langgar. Through this reconstruction of virtual etiquette, it is hoped that the originality of the pesantren tradition will remain firmly intact. Students are trained to realize that the blessing of knowledge (barakah) in the digital age is no longer determined by geographical boundaries, but rather by the moral integrity and purity of spiritual etiquette that they independently uphold behind the screens of their respective devices.

CONCLUSION

This study concludes that digital transformation in Islamic studies at Indonesian Islamic boarding schools has triggered a spatial shift and a change in the structured patterns of knowledge transmission from physical prayer halls to digital screens. Digitization within the pesantren environment has been shown to create a hybrid epistemological space that expands access to classical Islamic texts (al—kutub al—turatsiyyah) for the digital native generation without undermining the authenticity of tradition, such as the continuity of the sanad and the cultural legitimacy of the kiai. Theoretically, this phenomenon contributes to the sociology of Islamic education through the development of the concept of "mediated charisma" in an egalitarian cyberspace, demonstrating that sacred religious spaces can be virtually reconstructed. Religious authority in the cyber age is no longer singular but is continuously negotiated in the cyber public sphere through the consistency of virtual presence and the depth of the substance of the religious narratives presented by the teachers.

In practical terms, this study highlights the importance of formulating a code of ethics for online Quran recitation, improving media literacy among the student content management teams, and strengthening an independent internal knowledge management system so that Islamic boarding schools do not rely entirely on third—party commercial platforms. However, this study has limitations because it focuses on three Islamic boarding schools with well—established digital transformations. Therefore, the agenda for future research should be directed toward a broader comparative study of patterns of digital adaptation in small—scale Islamic boarding schools in rural areas with limited infrastructure. In addition, it is also important to conduct longitudinal research to examine the psychological impact and the depth of religious understanding among virtual students who engage with asynchronous classical Islamic texts over the long term.

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