

## TRANSFORMATION OF HADITH EDUCATION IN INDONESIA; Methods, Scholarly Authority, and Technology from Sorogan to Artificial Intelligence (AI) Tutor

**Zulfarizal**

Universitas Muhammadiyah Jakarta, Indonesia

[zulfarizal@umj.ac.id](mailto:zulfarizal@umj.ac.id)

**Indal Abror**

Universitas Islam Negeri Sunan Kalijaga Yogyakarta, Indonesia

[indal.abror@uin-suka.ac.id](mailto:indal.abror@uin-suka.ac.id)

**Muhammad Abdul Kharis**

Universitas Islam Negeri Syarif Hidayatullah Jakarta, Indonesia

[muhammad54kharis@gmail.com](mailto:muhammad54kharis@gmail.com)

### ***Abstract:***

*This article examines the evolution of hadith education in Indonesia by highlighting transformations in learning methods, shifts in scholarly authority, and the role of technology from traditional sorogan and bandongan systems to the use of e-learning and Artificial Intelligence (AI) Tutor platforms. This study employs a qualitative approach using historical-conceptual analysis and literature review to trace developments in hadith education and Islamic learning technologies. The findings indicate that hadith education has historically been grounded in direct teacher–student relationships emphasizing sanad transmission, scholarly authority, and ethical internalization. Digital technologies have introduced more open, rapid, and personalized learning models, while simultaneously challenging traditional structures of authority. The main finding of this article shows that the transformation of hadith education in Indonesia is non-linear and adaptive rather than purely technological. Its original contribution lies in demonstrating that AI Tutor and digital platforms do not replace the ethical and spiritual dimensions of hadith education, but instead require a critical reconfiguration of the relationship between technology, authority, and Islamic epistemology.*

**Keywords:** *artificial intelligence (AI) tutor, digital learning, hadith education, scholarly authority, sorogan and bandongan*

### **Abstrak:**

Artikel ini mengkaji evolusi pendidikan hadis di Indonesia dengan menyoroti transformasi metode pembelajaran, pergeseran otoritas keilmuan, serta peran teknologi dari tradisi sorogan dan bandongan hingga pemanfaatan e-learning dan Artificial Intelligence (AI) Tutor. Penelitian ini menggunakan pendekatan kualitatif dengan metode analisis historis-konseptual melalui telaah literatur terkait perkembangan pendidikan hadis dan teknologi pembelajaran Islam. Hasil kajian menunjukkan bahwa pendidikan hadis secara historis bertumpu pada relasi guru–murid yang menekankan transmisi sanad, otoritas keilmuan, dan internalisasi adab. Perkembangan teknologi digital menghadirkan model pembelajaran yang lebih terbuka, cepat, dan terpersonalisasi, namun sekaligus menantang struktur otoritas

tradisional. Temuan utama artikel ini menunjukkan bahwa transformasi pendidikan hadis bersifat non-linear dan adaptif, bukan sekadar pergeseran teknologi. Kontribusi orisinal artikel ini terletak pada penegasan bahwa Artificial Intelligence (AI) Tutor dan platform digital tidak menggantikan dimensi etis-spiritual pendidikan hadis, melainkan menuntut rekonstruksi kritis relasi antara teknologi, otoritas, dan epistemologi keilmuan Islam.

**Kata Kunci:** *artificial intelligence (AI) Tutor, pembelajaran digital, pendidikan hadis, otoritas ilmiah, sorogan dan bandongan*

## INTRODUCTION

In the development of Islamic education in Indonesia, hadith learning has a strategic position as one of the main pillars in strengthening religious knowledge. Moreover, Islamic boarding schools are *tafaqquh fi ad-dīn* institutions that use the Qur'an and hadith as authoritative sources in their learning.<sup>1</sup> Historically, the study of hadith in Indonesia has existed alongside the arrival of Islam in the Indonesian archipelago. However, it has not yet become a distinct discipline, but rather remains a practical one.<sup>2</sup> The study of hadith began in the 13th century AD, with the inclusion of hadith in Islamic jurisprudence studies. It began to develop in the 17th century and became significantly visible in the 19th century.<sup>3</sup>

Islamic boarding schools as the oldest Islamic educational institutions in Indonesia have an important role in the formation of the character of the nation's children, including classical books, including hadith books as part of the elements that cannot be separated.<sup>4</sup> The religious book, which is often known as the yellow book, is studied in Islamic boarding schools using two main methods, namely

---

<sup>1</sup> Syafe'i Imam, 'Model Kurikulum Pesantren Salafiyah Dalam Prespektif Multikultural', *Al-Tadzkiyyah: Jurnal Pendidikan Islam*, 8.11 (2017), 127–43, p. 127.

<sup>2</sup> Hasep Saputra, 'Genealogi Perkembangan Studi Hadis DI Indonesia', *AL QUDS : Jurnal Studi Alquran Dan Hadis*, 1.1 (2017), 41–68 <<https://doi.org/10.29240/alquds.v1i1.164>>, p. 57.

<sup>3</sup> Muhammad Abdul Kharis, *Genealogi Ulama Ahli Hadis Jawa Abad XIX-XX Masehi: Jejaring Dan Kontribusinya Bagi Masyarakat Indonesia* (Pekalongan: Penerbit NEM, 2022), p. 35.

<sup>4</sup> Dia Fathul Jannah, Fauzia Adista Wati, and Nurul Mubin, 'Kitab Kuning: Metode Sorogan Dan Bandongan Di Pondok Pesantren', *AN NAJAH: Jurnal Pendidikan Islam Dan Sosial Keagamaan*, 4.4 (2025), 225–30 <<https://journal.nabest.id/index.php/annajah/article/view/573>>, p. 226.

*bandongan* and *sorogan*.<sup>5</sup> Both methods have become part of the Islamic boarding school tradition, offering alternative learning opportunities in Islamic boarding schools because they both require a direct relationship between teacher and student, which can serve as a means of legitimizing and transmitting scholarly authority. Furthermore, these models tend to focus not only on the study of texts but also on deepening the meaning, *sanad* (chain of narration), and moral dimensions inherent in the learning process.<sup>6</sup> Even in terms of learning psychology, the *bandongan* and *sorogan* methods reflect the synergy between behaviorism, cognitivism and constructivism which is in accordance with the development of modern Islamic boarding school curriculum.<sup>7</sup>

However, globalization, which offers technology and information, certainly presents a different perspective from the long-established traditions in education. This digital era demands adjustments in various areas, including communication and education in general, including Islamic education.<sup>8</sup> This progress is certainly welcomed by the public because through the use of Artificial Intelligence (AI) platforms and AI Tutors, it is very possible that learning will be more adaptive, interactive, contextual and personalized.<sup>9</sup> It must be acknowledged that this global era is forcing educational systems across all sectors to adapt to the use of technology and information. This includes students, including Islamic students (*santri*) and students of Islamic studies. They must possess adequate

---

<sup>5</sup> Muhammad Iqbal Rosyid, Rifdatul Aisy, and Nurul Mubin, 'Sinergi Tradisi Dan Psikologi; Efektivitas Sorogan Dan Bandongan Dalam Pembelajaran Pesantren', *Jurnal Budi Pekerti Agama Islam*, 3.5 (2025), 167–73 <<https://doi.org/10.61132/jbpai.v3i5.1563>>, p. 168.

<sup>6</sup> Ririn Inayatul Mahfudloh, 'Peran Sanad Keilmuan Dalam Pengembangan Pondok Pesantren', *Qomaruna*, 1.1 (2023), 23–30 <<https://doi.org/10.62048/qjms.v1i1.7>>, p. 29.

<sup>7</sup> Muhammad Iqbal Rosyid, Rifdatul Aisy, and Nurul Mubin, p. 172.

<sup>8</sup> Muslim Muslim, 'Internalising Digital Technology in Islamic Education', *Scaffolding: Jurnal Pendidikan Islam Dan Multikulturalisme*, 6.3 (2024), 180–97 <<https://doi.org/10.37680/scaffolding.v6i3.6309>>, p. 181..

<sup>9</sup> Darni Hafizah Almardiah and Andi Abd. Muis, 'The Effectiveness of Digital Media in Learning Islamic Religious Education (Pai) in the Era of Society 5.0: Study of the Integration of Technology and Religious Values', *Jurnal Eduslamic*, 3.1 (2025), 45–55 <<https://doi.org/10.59548/jed.v3i1.463>>, p. 46.

competencies, including scientific and moral competencies, adaptability, and competitiveness in an increasingly competitive global environment.<sup>10</sup>

In Indonesia, the use of educational technology has been implemented in various forms, ranging from the use of digital media in learning, institutional administration systems, to the provision of learning resources that expand access to a wealth of Islamic literature, both classical and contemporary.

Various studies have shown that the use of AI has significant potential to improve the quality of collaborative learning and the governance of Islamic education. AI enables personalized learning, accelerated access to learning resources, and presentations and visualizations that support deeper understanding of the material.<sup>11</sup> In line with this, a study concluded that students play an urgent role as key actors in driving technological innovation in Islamic boarding schools. This role is evident in the development of student data management systems, the design of AI-based learning platforms, and the use of chatbots to support administrative services. This technological integration not only improves institutional efficiency and transparency but also raises awareness of the importance of digital literacy in Islamic boarding schools. However, the implementation of this technology still faces many challenges, such as limited technological infrastructure, cultural resistance, and the need to improve digital literacy for both administrators and students.<sup>12</sup>

Thus, the digital transformation of religious education still requires more in-depth scholarly investigation, particularly in the field of hadith studies, where learning is traditionally grounded in the concept of *sanad* as the epistemological

---

<sup>10</sup> Sudarsri Lestari, 'Peran Teknologi Dalam Pendidikan Di Era Globalisasi', *Edureligia*, 2.2 (2018), 94–100 <<http://jurnal.unikastpaulus.ac.id/index.php/jpkm/article/view/54>>, p.99.

<sup>11</sup> Umar Samsudin, 'Exploration of Artificial Intelligence (AI) in Increasing Student Collaboration in Digital-Based Islamic Education Learning', *Al-Hayat: Journal of Islamic Education*, 9.1 (2025), 216–30 <<https://doi.org/10.35723/ajie.v9i1.106>>, 217.

<sup>12</sup> Khairunisa and others, 'Integrasi Ai Dalam Sistem Pembelajaran Dan Administrasi Pesantren Oleh Mahasiswa: Telaah Terhadap Upaya Digitalisasi Lembaga Pendidikan Keagamaan Melalui Studi Kasus Ponpes Darussalam Dan Mukhtar Syafaat Di Blokagung', *An Najah (Jurnal Pendidikan Islam Dan Sosial Keagamaan)*, 04.04 (2025), 126–33 <<https://journal.nabest.id/index.php/annajah/article/view/552%0Ahttps://journal.nabest.id/index.php/annajah/article/download/552/347>>, p. 126.

foundation of Islamic knowledge. This raises critical questions regarding how Islamic pedagogical and ethical values embedded in hadith, such as worship practices and moral norms, can be meaningfully integrated into digital learning environments without compromising their epistemological integrity. It also invites a broader inquiry into the evolution of hadith education in Indonesia, particularly in relation to shifts in learning methods, scholarly authority, and technological adoption from traditional *bandongan* and *sorogan* systems to contemporary digital platforms.

Based on this background, this study addresses the following research questions: (1) How has hadith education in Indonesia evolved from traditional *bandongan* and *sorogan* systems to contemporary digital learning models? (2) How does the transformation of learning technologies influence the structure of scholarly authority and *sanad*-based epistemology in hadith education? and (3) In what ways can Islamic pedagogical and ethical values embedded in hadith be integrated into digital learning platforms such as AI Tutor without losing their epistemological foundation?

## METHOD

This study is designed as a qualitative inquiry using a library research strategy with a historical–conceptual approach. It seeks to explore the transformation of hadith education in Indonesia by examining how learning methods, scholarly authority, and technological influences have evolved over time, moving from traditional *pesantren* practices such as *sorogan* and *bandongan* toward contemporary digital platforms and AI-assisted learning environments.

The data in this study are collected from both documentary and digital sources. The documentary materials include classical hadith texts, *fiqh* and hadith-related works used in *pesantren* learning systems, academic books, and peer-reviewed journal articles on Islamic education and hadith studies. Meanwhile, digital sources consist of online hadith learning platforms, educational YouTube

lectures, official pesantren websites, and AI-based learning tools related to Islamic studies. The selection of sources is guided by three main considerations: their relevance to hadith education, pedagogy, or authority structures; the credibility and academic reliability of the authors or institutions; and their temporal significance, with attention given both to foundational classical works and recent studies that reflect ongoing digital transformation.

This study also conducts non-participant digital observation of selected online platforms through systematic engagement. The focus is on mapping key features of digital learning tools, including AI Tutor interactions, automated hadith explanations, and structured learning modules, as well as examining how knowledge is delivered and how scholarly authority is represented in digital spaces, such as references to scholars, sanad display, or algorithm-based interpretations. Observations are conducted repeatedly over a defined period, followed by structured note-taking and systematic data archiving.

Data analysis proceeds in three stages: data reduction by selecting relevant materials on pedagogical change, authority shifts, and technological integration; thematic categorization into learning methods, scholarly authority, and technology; and interpretive analysis to identify patterns of continuity and transformation in hadith education.

To ensure analytical rigor, the study employs source and theoretical triangulation, drawing on perspectives from Islamic educational history, sociology of knowledge, and digital religion studies. This allows for a more comprehensive understanding of how technologies such as AI tutors reshape the transmission, authority, and pedagogical structures of hadith education in contemporary Indonesia.

## FINDING AND DISCUSSION

### Historiography of Hadith Education in Indonesia

The historical development of Islamic education in Indonesia, including hadith studies, demonstrates a progressive transformation of religious knowledge alongside the spread of Islam in the archipelago. Rather than constituting a static tradition, hadith education has undergone at least three interrelated epistemological shifts, reflected in changes in scholarly authority, pedagogical methods, and learning media. These transformations can be observed from early informal settings such as homes, *surau*, mosques (*langgar*), and later pesantren, to the establishment of more structured institutions such as madrasas.<sup>13</sup> In its early phase, hadith transmission was primarily embedded within oral preaching practices carried out by scholars, with limited systematic textual documentation. Within this context, hadith (longside the Qur'an) functioned as a foundational epistemic source integrated into Islamic learning, shaping the scientific, moral, and spiritual orientation of Muslim society in the archipelago. Beyond its role as a textual reference, hadith also operated as a normative framework that contributed to character formation and religious commitment among students.<sup>14</sup>

In parallel with the development of Islamic education, various religious expressions in the Indonesian archipelago demonstrate how Islamic teachings have been culturally embedded within local traditions. The celebration of the Prophet Muhammad's birthday (*maulid Nabi*) illustrates this dynamic, where its popularity is shaped by the strong influence of Sufi-oriented Islam, the prominence of tarekat traditions, and the cultural emphasis on reverence toward the Prophet and spiritual figures. These elements are expressed through *maulid* and *manaqib* literature, which, through their poetic and emotional richness as well as mystical concepts

---

<sup>13</sup> Ya'kub and Bahaking Rama, 'Sejarah Perkembangan Pendidikan Islam Di Indonesia', *Journal Edigama*, 15.1 (2024), 75–93, 75.

<sup>14</sup> Warda Salamah Ulya and Muhammad Ghifari, 'Perkembangan Kajian Hadis Di Indonesia: Sejarah Dan Masa Depan', *THE INTERNATIONAL JOURNAL OF PEGON:: ISLAM NUSANTARA CIVILIZATION*, 12.1 (2024), 113–34, p. 117.

such as *syafaat*, *tawassul*, and *tabarruk*, reinforce their acceptance as lived religious practice.<sup>15</sup>

A similar pattern is evident in the tradition of *tahlilan*, which remains widely practiced despite ongoing theological debates regarding its legitimacy. While some groups reject it for lacking explicit prophetic precedent, others consider it valid through broader textual and interpretive frameworks in the Qur'an, Hadith, and scholarly reasoning. In practice, *tahlilan* functions as a socio-religious expression of solidarity and communal empathy for bereaved families, reflecting the intersection between Islamic teachings and local cultural wisdom.<sup>16</sup>

Through the contributions of Indonesian scholars, hadith studies did not remain limited to transmission and reception, but also developed through processes of interpretation and contextual adaptation to local socio-cultural realities. This development gave rise to distinctive characteristics within the Indonesian Islamic scholarly tradition, in which the understanding of hadith evolved in harmony with societal dynamics while remaining grounded in the classical Islamic epistemic framework.<sup>17</sup>

Historical research into Islamic education in Indonesia shows that Islamic boarding schools are traditional religious educational institutions which are the main centers for the preservation and transmission of hadith knowledge.<sup>18</sup> Pesantren (Islamic boarding schools) are traditional Islamic educational institutions whose term is often traced to the word *fundūq*, meaning a lodging or place of residence, and *pesantren*, which derives from the Javanese word *santri*, referring to students. Within *pesantren*, the study of hadith is not merely

---

<sup>15</sup> Ahmad Suriadi, *Akulturasi Budaya dalam Tradisi Maulid Nabi Muhammad di Nusantara*, *Khazanah: Jurnal Studi Islam dan Humaniora*, 17. 1 (2019), 167-191 DOI: 10.18592/khazanah.v16i2.2324.

<sup>16</sup> Ahmad Mas'ari and Syamsuatir, *Tradition Tahlilan: Portrait Acculturation Islam Religion and Culture Typical Nusantara*, *KONTEKSTUALITA Jurnal Penelitian Sosial dan Keagamaan* 33. 1 (2017), <https://doi.org/10.30631/10.30631/kontekstualita.%25x>.

<sup>17</sup> R. Rezeki Alam, Muhammad Al-Mighwar, and Engkos Kokasih, 'Historiografi Ulama Hadits Nusantara', *AL-AFKAR: Journal for Islamic Studies*, 8.3 (2025), 34-45 <<https://doi.org/10.31943/afkarjournal.v8i3.1483.Historiography>>, p. 35.

<sup>18</sup> Solehah Muchlas, 'Sejarah Pendidikan Islam Di Nusantara', *Jurnal Pendidikan Dan Keguruan*, 2.2 (2024), 45217-23, p. 45217.

positioned as a body of texts to be memorized, but is examined in depth with regard to its meanings, chains of transmission (sanad), and the internalization of its ethical and spiritual values. This process is carried out through the *bandongan* and *sorogan* learning methods, which have become distinctive features of the *pesantren* scholarly tradition. Both methods require a direct pedagogical relationship between teacher and student in the study of classical Arabic works, commonly known as the *kitab kuning* (yellow books).<sup>19</sup>

The development of hadith studies became increasingly visible during the 16th to 18th centuries, marked by the influx of various currents of Islamic thought and the emergence of early, more structured, though still rudimentary and not yet formally institutionalized, efforts to study hadith. In the 17th century, coinciding with the intensifying pressure of colonialism in the Indonesian archipelago, Islamic boarding schools (*pesantren*) as arenas for hadith studies occupied a central position in society's social life. Within this social structure, *kyai* (Islamic scholars) were positioned as holders of two authorities simultaneously: religious authority as inheritors of the prophetic tradition and social authority, playing a crucial role in every decision-making and directing community policy.<sup>20</sup>

In this era, the study of hadith became more widespread as Islam spread. A number of Indonesian *ulama* played an important role in the introduction and dissemination of hadith to the local community, including Shaykh Nuruddin ar-Raniri through his work *Hidāyah al-Ḥabīb* in which he presented hadiths in Arabic accompanied by Malay translations and linked them with verses from the Koran to strengthen hadith-based religious arguments and Shaykh Abdul Rauf as-Sinkili with his work *Syarah Ḥadīth Arbaʿīn an-Nawawī* and the book *al-Mawā'izh al-Badī'ah* which contains a collection of *qudsī hadiths*.<sup>21</sup> The development of the treasury of hadith studies during this period was increasingly evident in the

---

<sup>19</sup> Fauzan Syahru Ramadhan and others, 'Pendidikan Islam Di Indonesia Dalam Kajian Ilmu Sejarah: Perkembangan, Pengaruh, Dan Eksistensi Terhadap Kehidupan Masyarakat Indonesia', *Chronologia*, 6.1 (2024), 32–43 <<https://doi.org/10.22236/jhe.v6i1.14208>>, p. 40.

<sup>20</sup> Muhammad Arwani, 'STUDI HADIS DI PESANTREN (Pesantren Sebagai Salah Satu Center of Excellent Kajian Hadis Di Indonesia)', *Al-I'jaz*, 3.2 (2021), 80–95, 82.

<sup>21</sup> Ulya and Ghifari, p. 119.

increasing attention paid to them by scholars. This was marked by the increasing number of Indonesian scholars, particularly those from Islamic boarding schools (*pesantren*), who began traveling to the Middle East to deepen their study of Islam, including hadith. This phenomenon demonstrated the intellectual awareness and connectedness of Indonesian scholars to the global network of Islamic scholarship.<sup>22</sup> For example, Sheikh Nawawi al-Bantani who chose to go to Haramain to deepen his knowledge of Islam. His love for knowledge made him continue to study and master many various fields of Islamic knowledge until he was finally trusted as one of the teachers in Mecca and Medina and received respect as *Imām al-Ḥaramain*.<sup>23</sup> The step of studying in the Middle East was also chosen by Shaykh Mahfudz at-Tarmasi and Shaykh Hasyim Asy'ari who eventually became Indonesian scholars who had expertise in the field of hadith and *sanad*.<sup>24</sup>

Entering the 19th century, with the growth of Islamic educational institutions such as madrasas, the study of hadith experienced more systematic strengthening through the role of Indonesian scholars. The dynamics of hadith studies further developed in the early 20th century, when the influence of modernization and Islamic renewal movements encouraged the emergence of a more contextual approach to understanding hadith, in line with the needs and social realities of Indonesian society.<sup>25</sup> It was in this era that hadith became an independent discipline, namely when it became one of the curricula in Islamic boarding schools with the emergence of the work of Shaykh Mahfudz at-Tarmasi called *Manhaj Dzawī an-Nazhar* and the making of hadith as one of the courses in Islamic universities which were founded on December 19, 1946. Of course, these

---

<sup>22</sup> Luthfi Maulana, 'Periodesasi Perkembangan Studi Hadits', *Essensia*, 17.1 (2016), 111–23 <<http://jurnal.stainponorogo.ac.id/index.php/kodifikasia/article/view/746/564>>, p. 117.

<sup>23</sup> Muhammad Abdul Kharis, Zulfarizal, and Ahmad Fudhaili, 'The Credibility of Shaykh Nawawi Al-Bantani in Ḥadīth Studies: A Study of His Sanad and Ḥadīth Books', *Al Quds*, 9.1 (2025), 208–20 <<https://doi.org/10.22373/jid.v18i2.3241.3>>, p. 210.

<sup>24</sup> Muhammad Abdul Kharis, 'Two Hadith Scholars from Java: Study of Shaykh Mahfudz at-Tarmasi and Shaykh Hasyim Asy'ari', *Religia: Jurnal Ilmu-Ilmu Keislaman*, 84.1 (2025), 58–84, p. 80.

<sup>25</sup> Ulya and Ghifari, p. 118.

two institutions have different visions and missions in the study of hadith, thus giving birth to different characteristics in students.<sup>26</sup> (Yuliharti et al., 2024, p. 108)

In Islamic boarding schools (pesantren), hadith is generally studied as the primary foundation for establishing and strengthening sharia law. This is demonstrated in the book *Tanqīh al-Qawl al-Ḥatsīth* by Shaykh Nawawi al-Bantani. In this book, al-Bantani presents a selective and systematic approach to understanding hadith, resulting in the ideas contained therein being accepted not only by Indonesian society but also internationally. Furthermore, this work demonstrates that al-Bantani's efforts to build integration and coherence among scientific sources confirm his role as a key figure in the development of hadith studies in Indonesia.<sup>27</sup> Furthermore, it must also be acknowledged that the emergence of the book *Manhaj Dzawī an-Nazhar* by Shaykh at-Tarmasi opened the discussion on the science of hadith in Islamic boarding schools. Other works that demonstrate the development of hadith studies in Islamic boarding schools are *al-Khil'ah al-Fikriyyah bi Syarḥ al-Minḥah al-Khairiyyah* by at-Tarmasi and *Risālah ahl as-Sunnah wa al-Jamā'ah* by Shaykh Hasyim Asy'ari.

Meanwhile, academics tend to position hadith as an object of critical inquiry aimed at advancing the development of hadith studies, such as *takhrij*, the contextualization of hadith interpretation, biographical studies of scholars, as well as the development of methodologies for hadith criticism and the compilation of hadith collections. A number of Indonesian Muslim scholars have made significant intellectual contributions to the modern development of hadith studies, including Hasbi ash-Shiddiqie through his work *Sejarah dan Pengantar Ilmu Hadis* (History and Introduction to Hadith Studies), Syuhudi Ismail with *Kaidah Keshahihan Sanad Hadis* (Principles of the Authenticity of Hadith Chains of Transmission),

---

<sup>26</sup> Yuliharti Yuliharti and others, 'The Development of Hadith Study in Islamic Boarding Schools and Islamic Higher Education in Indonesia', *SYAMIL: Jurnal Pendidikan Agama Islam (Journal of Islamic Education)*, 12.1 (2024), 107–18 <<https://doi.org/10.21093/sy.v12i1.8964>>, p. 108.

<sup>27</sup> Alam, Al-Mighwar, and Kokasih, p. 44.

Ali Mustafa Ya'qub with Imam Bukhari dan Metodologi Kritik Hadis (Imam Bukhari and the Methodology of Hadith Criticism), and Said Aqil Husin Munawwar through Kaidah Keshahihan Hadis: Telaah Kritis dan Tinjauan Sejarah (Principles of Hadith Authenticity: A Critical Study and Historical Review), all of whom have contributed substantially to the advancement of hadith and its sciences in the modern era.<sup>28</sup>

This shows that hadith studies in Islamic boarding schools and universities have different tendencies. Systematically and methodologically, Islamic universities are more prominent than Islamic boarding schools. Here, hadith studies not only focus on understanding the content (*matan*) and transmission channels (*sanad*), but also place the process of criticizing the *matan* and *sanad* as essential methodological components in the scientific analysis of hadith texts. This approach involves the use of theoretical frameworks, contemporary research methodologies, sanad studies, and scientific sources developed within the global discourse on hadith studies.<sup>29</sup> Meanwhile, in Islamic boarding schools, he still maintains traditional learning models such as *bandongan* and *sorogan*, especially in Salaf Islamic boarding schools. Through the yellow books, Islamic boarding school knowledge is transmitted by completing each study of the book to completion.<sup>30</sup> So that the understanding obtained by students is comprehensive.

In the context of globalization marked by rapid technological development, hadith studies have increasingly benefited from digital technology as a source of scholarly literature. One example is the use of software and online platforms such as *Jawāmi' al-Kalim* and *Islamweb.org*, an Islamic website that has long been developed by institutions affiliated with the Ministry of Awqaf and Islamic Affairs of Qatar since 1998. These platforms provide a wide range of resources, including fatwa services, multimedia content, Islamic encyclopedias, and various forms of scholarly studies. The primary strength of Islamweb lies in its ability to facilitate

---

<sup>28</sup> Kharis, *Genealogi Ulama Ahli Hadis Jawa Abad XIX-XX Masehi: Jejaring Dan Kontribusinya Bagi Masyarakat Indonesia*, p. 36.

<sup>29</sup> Yuliharti and others, p. 116.

<sup>30</sup> Imam, p. 130.

comprehensive and in-depth hadith exploration. Through this platform, users can examine the quality of hadith, trace chains of transmission, and assess the credibility of narrators based on biographical data, *jarḥ wa taʿdīl* evaluations, and the authoritative judgments of hadith scholars. Consequently, researchers are able to determine the extent of a hadith's transmission, the validity of its *sanad*, and its overall classification.<sup>31</sup>

More recent developments indicate a further transformation toward artificial intelligence-driven hadith corpora, such as the Najm Corpus, which represents a large-scale AI-based initiative for the automatic extraction, enrichment, and evaluation of hadith texts. Using a fully automated large language model (LLM) pipeline, this system has processed more than 1.5 million narrations comprising nearly 392 million words. These narrations are enriched with multiple analytical layers, including multilingual machine translation, intelligent diacritization, abstractive summarization, thematic tagging, and semantic-lexical relationship detection. Expert-based multidimensional evaluation further confirms the robustness of this system, with an average score of 8.46/10, demonstrating clear superiority over previously manually curated corpora. This development signals a shift from database-oriented digital access to AI-driven analytical infrastructures in hadith studies.<sup>32</sup>

In addition, the rise of digital transformation has also opened new possibilities for reconstructing hadith literacy paradigms, particularly among Generation Z who are immersed in AI-based information ecosystems. Hadith literacy in this context extends beyond textual comprehension to include the ability to navigate, evaluate, and verify hadith information across digital platforms. AI integration in hadith studies further demonstrates significant potential in automating *sanad* tracing, analyzing *matn*, and mapping thematic

---

<sup>31</sup> Junaid bin Junaid and Muh. Nasruddin A, 'Historitas Perkembangan Hadis (Dari Periode Klasik Hingga Kontemporer)', *CARITA: Jurnal Sejarah Dan Budaya*, 2.2 (2024), 146–58 <<https://doi.org/10.35905/carita.v2i2.7135>>, p. 156.

<sup>32</sup> Majid Asgari-Bidhendi, et.al., Rezwan: Leveraging Large Language Models for Comprehensive Hadith Text Processing: A 1.2M Corpus Development, arXiv preprint arXiv:2510.03781, 2025, <https://doi.org/10.48550/arXiv.2510.03781>.

structures, thereby accelerating and systematizing authentication processes. The conceptual model of AI-based hadith literacy proposed in this direction reflects a synthesis between classical hadith epistemology and adaptive digital technologies oriented toward contemporary learners. Conceptual validation suggests that such a model is theoretically sound and has strong potential to enhance critical literacy and epistemic awareness regarding hadith authority. However, as it remains at a conceptual stage, further empirical studies are needed to test its effectiveness in real educational and religious practice settings.<sup>33</sup>

The availability of such digital and AI-based resources has made hadith studies more practical, efficient, and aligned with the needs of contemporary academic research.

### **Transformation of the Scientific Authority of Hadith**

The transformation of scholarly authority in hadith studies in Indonesia is part of a long-standing shift in the structure of Islamic knowledge that has taken place from the traditional era to the modern contemporary era. Naturally, Islamic boarding schools (*pesantren*) are the first place where this authority emerged, as the oldest Islamic educational institutions and have become part of the subculture of Indonesian society. As centers for the transmission of religious knowledge and Islamic spiritual development, *pesantren* play a role in preserving, developing, and passing on Islamic values across generations. *Pesantren* education is not solely oriented toward the transfer of knowledge but also focuses on the moral, ethical, and spiritual development of students through a holistic and sustainable educational process.<sup>34</sup> In general, hadith learning in Islamic boarding schools utilizes authoritative hadith books such as the "*kutub as-sittah*" (the texts of hadith), which include the *Sahih al-Bukhārī*, *Sahih Muslim*, *Sunan Abu Dawud*, *Sunan at-Tirmidhi*, *Sunan an-Nasāī*, and *Sunan Ibn Majah*. In addition,

---

<sup>33</sup> Khoirun Nisa Siregar, Pengembangan Model Literasi Hadis Digital untuk Generasi Z: Analisis terhadap Pemanfaatan AI dalam Studi Hadis, *Hamidah: Jurnal Ilmu Hadis* 1. 1 (2025), <https://doi.org/10.64691/arba.v1i3.13>.

<sup>34</sup> Tamjidnor and others, 'Transformation of Hadith Teaching as an Effort to Revitalize Islamic Science in *Pesantren*', *Nazhruna: Jurnal Pendidikan Islam*, 8.1 (2025), 123–38 <<https://doi.org/10.31538/nzh.v8i1.9>>, p. 124.

explanatory books (*syarah*) and summaries of the hadith compiled by kyai (Islamic scholars) are also studied. This practice is common in Islamic boarding schools to facilitate students' understanding of material deemed important to learn.<sup>35</sup>

In the classical pesantren tradition, the scientific authority of hadith is closely tied to chains of scholarly transmission (*sanad*) that are conveyed face-to-face from teachers or kyai to their students through methods such as *talaqqī*, *musyāfahah*, and *sanad ijāzah*. This *sanad* system functions not merely as a channel for transmitting texts, but also as a mechanism of epistemic legitimation that ensures hadith understanding is derived from teachers whose scholarly credibility has been conventionally recognized.<sup>36</sup> In fact, the term *sanad* is an important element in hadith. It is a chain of narrators that connects a hadith from its transmitter to the Prophet Muhammad. The *sanad* is not simply a list of names, but rather an epistemic mechanism that serves to ensure that information truly originates from the Prophet Muhammad through a reliable and traceable transmission channel.<sup>37</sup> The evaluation of the *sanad* focuses on the moral integrity (*‘adālah*) and intellectual precision (*ḍabt*) of the transmitters. Through *sanad* criticism, hadith scholars are able to classify hadiths into the categories of *ṣaḥīḥ*, *ḥasan*, and *dhāʿif*, and even *mawḍūʿ* (fabricated), based on the strength and reliability of their chains of transmission. The urgency of *sanad* criticism becomes even more evident when considering the historical fact that the fabrication of hadith did occur, particularly after the death of the Prophet Muhammad, within socio-political contexts marked by conflict and competing interests.<sup>38</sup>

---

<sup>35</sup> Lailiyatun Nafisah and others, 'Deauthorization of Hadith Studies on The Internet: Shift of Religious Authority in The Digital Age', *Muslim Heritage*, 10.1 (2025), 78–90 <<https://doi.org/10.21154/muslimheritage.v10i1.10633>>, p. 83.

<sup>36</sup> Faiqotul Mala, 'Hadis Dan Pergeseran Otoritas Keagamaan : Transmisi , Resepsi , Dan Peran Pesantren Di Era Kontemporer', *Moderasi : Journal of Islamic Studies*, 05.02 (2025), 585–602, p. 586.

<sup>37</sup> Faizatul Ulya and Khoirun Nikmah, 'Upaya Pesantren Dalam Menjaga Tradisi Sanad Keilmuan Di Era Society 5.0', *Jurnal Mudarrisuna: Media Kajian Pendidikan Agama Islam*, 14.1 (2024), 18–29 <<https://doi.org/10.22373/jm.v14i1.20668>>, p. 18.

<sup>38</sup> Hilgha Mustin, Muhammad Tasbih, and Zaenab Abdullah, 'Kritik Sanad (Naqd Al-Sanad) Dalam Ilmu Hadis: Metodologi Dan Implementasinya', *Socius: Jurnal Penelitian Ilmu-Ilmu Sosial*, 3.1 (2025), 852–58 <<https://ojs.daarulhuda.or.id/index.php/Socius/article/download/2113/2262>>, p. 852.

As briefly mentioned previously, the *kyai* (Islamic scholars) are figures who possess authority in religious knowledge (including *hadith*) within the *pesantren* (Islamic boarding school). The application of this *sanad* (Islamic chain of transmission) stems from the view that divine authority on earth is represented by God's vicegerents, namely the prophets, the *umara* (leaders), and the *ulama* (scholars). In a religious context, *ulama*, commonly referred to as *kyai*, *sheikh*, *tuan guru*, or *ajengan* (leaders), are positioned as inheritors of the prophetic mission due to their profound mastery of religious knowledge.<sup>39</sup> This authority does not stem solely from institutional positions, but is built through a multi-layered foundation of knowledge, encompassing mastery of classical texts, a continuous chain of transmission, and collective recognition from the community and wider society. *Kyai* are seen as figures who represent an intense and long-term teacher-student relationship.<sup>40</sup>

Apart from being a legitimation of knowledge in the form of a diploma or text, *sanad* can also be a process of emulation by a *kyai* for students to help students understand and internalize religious evidence correctly and responsibly, as in the practice of transmitting knowledge exemplified by the Prophet Muhammad.<sup>41</sup> Thus, learning *hadith* accompanied by the *sanad* will foster a sense of responsibility in students towards the Islamic intellectual heritage. Students are taught to always uphold the values of honesty, thoroughness, and integrity in conveying religious information to others. Students thus understand that as inheritors of knowledge, they have a moral obligation to preserve and disseminate Islamic teachings correctly and ethically.<sup>42</sup>

Currently, Islamic boarding schools (*pesantren*), as institutions with scientific validity, face serious challenges in maintaining their scholarly authority.

---

<sup>39</sup> Damanhuri, 'KITAB-KIAI MADURA: Kuasa Teks Dan Otoritas Keagamaan', in *Islam Indonesia: Dialektika Agama, Budaya, Dan Gender* (Yogyakarta: LKiS, 2020), pp. 52–88 <<https://doi.org/10.1017/CBO9781107415324.004>>, p. 60.

<sup>40</sup> Hasanatul Jannah, 'Pondok Pesantren Sebagai Pusat Otoritas Ulama Madura', *Jurnal Al-Hikmah*, 17.1 (2019), 91–108 <<https://doi.org/10.35719/alhikmah.v17i1.9>>, p. 106.

<sup>41</sup> Mahfudloh, p. 28.

<sup>42</sup> Tamjidnor and others, p. 130.

The pace of modernization and digitalization has transformed the learning patterns of students, particularly regarding access to online sources that do not always possess adequate scholarly legitimacy. This shift is already evident in Islamic boarding schools, which tend to be more technologically and modern. In contemporary studies of Islamic education in Indonesia, the scholarly authority of hadith is no longer understood as a single entity, but rather demonstrates the existence of two parallel patterns of scholarly legitimacy: the genealogical-traditional *sanad*, deeply rooted in Islamic boarding schools, and the epistemic-methodological authority that thrives within Islamic higher education institutions. This distinction is not intended as a normative dichotomy within classical hadith scholarship, but rather as a category for interpreting the transformation of hadith scholarly authority in modern social and institutional contexts.<sup>43</sup>

Unlike the Islamic boarding school tradition, which emphasizes the genealogical relationship between teacher and student, Muslim scholars with academic backgrounds are generally not bound by the formal formation of ulama networks. In academic circles, there is no mechanism for *sanad* (certificate of narration) or scholarly diplomas, as is the case in Islamic boarding schools. The process of knowledge transmission occurs primarily through written works such as books and scholarly publications. Scholarly networks are thus formed indirectly through the circulation of ideas and written texts that can be read, studied, and critiqued by the wider academic community without the need for personal relationships or direct scholarly authorization.<sup>44</sup> In this context, the *sanad* remains studied as an object of historical and methodological study, but it is no longer the sole source of scholarly legitimacy. The authority of hadith scholars is determined by their ability to apply *sanad* and *matan* criticism, historiographical approaches, and dialogue with the global discourse of contemporary Islamic and hadith studies.

---

<sup>43</sup> Alfatih Suryadilaga, *Metodologi Penelitian Hadis Kontemporer* (Yogyakarta: Kalimedia, 2017), p. 15-18.

<sup>44</sup> Hasan Su'aidi, 'Jaringan Ulama Hadits Indonesia', *Jurnal Penelitian, P3M STAIN Pekalongan*, 5.2 (2013), 1-16, p. 11.

Variations in hadith learning have also evolved with the advent of increasingly sophisticated artificial intelligence technology. Artificial intelligence (AI) is a branch of computer science that seeks to instill human-like thinking and acting abilities into machine systems. AI can also be understood as the ability of machines to learn from data, recognize patterns, and independently carry out specific goals. Its use is now expanding across various sectors of life, including education.<sup>45</sup> Artificial intelligence (AI) has had a significant impact on education systems globally. This technological advancement has not only transformed the way learning is delivered but also influenced the management and access of education for students and educators. The presence of AI has encouraged the development of more individualized, flexible, and innovative learning patterns. The impact of AI in education can be seen in various aspects, particularly its ability to adapt the learning process to students' needs. Through data processing and the application of intelligent algorithms, AI systems are able to map individual learning needs more precisely.<sup>46</sup>

In the context of hadith studies, the use of AI allows the learning process to be tailored to the level of understanding of students, both in terms of mastery of the *sanad* (translation system), the text of the hadith, and the methodology of hadith criticism. Through data and intelligent algorithms, AI-based systems can more accurately map individual learning needs, such as the ability to read hadith books, understand terminology in hadith science, and systematically trace the transmission paths of the *sanad* (translation chain). However, AI-based hadith learning should not be understood as a replacement for traditional scholarly authority, but rather as a supporting instrument. In hadith studies, the validity of knowledge is measured not only by the text's consistency, but also by the

---

<sup>45</sup> Sahara, Miftahul Ilmi, and Rudi Yanto Batara Silalahi, 'Pendampingan Edukasi Cerdas Menyikapi Tren AI(Artifial Intelligence) Dalam Dunia Pendidikan', *Jurnal Penelitian Dan Pengabdian Masyarakat*, 1.4 (2023), 354–64, p. 354.

<sup>46</sup> Eko Wahyuni, Arik Nur Akhidah, and Aring Pramukawati, 'Artificial Intelligence and Its Relationship in Forming Values and Character in Education', *International Conference on Aplied Social Sciences in Education*, 1.1 (2024), 518–23 <<https://doi.org/10.31316/icasse.v1i1.6923>>, p. 518.

legitimacy of the transmission of knowledge, maintained through the *sanad* (chain of transmission) and the authority of the teacher. AI can assist with analysis, data categorization, and personalized learning, but it lacks the moral-spiritual capacity to replace the role of the *kyai* (Islamic scholars) as epistemic and ethical authorities in assessing the validity of hadith and its experiential context.<sup>47</sup>

Changes in the learning ecosystem have the potential to shift the moral and intellectual authority of educators in the long term. Moreover, the flow of information globalization encourages the instant consumption of religious knowledge, often without a process of critical analysis. This condition renders scholarly *sanad* once again relevant to be examined as an instrument for the legitimation and authentication of religious knowledge amid contemporary epistemic disruption.<sup>48</sup>

### **Islamic Boarding Schools and the Digitalization of Hadith Education: Challenges and Directions of Development**

The transformation of hadith learning in Indonesia can be seen as a historical dynamic that unfolded through three main stages. Each stage reflects shifts in learning media, patterns of scholarly authority, and epistemological frameworks for the transmission of hadith knowledge. These three forms of change did not occur separately, but rather were interconnected and collectively shaped the character of contemporary hadith studies in Indonesia. *First*, the traditional-genealogical transformation phase, rooted in Islamic boarding schools (*pesantren*). In this era, hadith learning took place within the classical scholarly framework of the *pesantren*, the primary center for the transmission of Islamic knowledge. Hadith was studied through the practices of *talaqqī* and *manqūl* (recitation of the hadith) and the study of authoritative hadith books taught directly by *kyai* (Islamic

---

<sup>47</sup> Ijah Bahijah and Salma Aufie Khumairoh, 'Digital Transformation of Islamic Education through Deep Learning in the Postmodern Era', *Journal of Professional Teacher Education*, 3.1 (2025), 46–54 <<https://doi.org/10.12928/jprotect.v3i1.1489>>, p. 47.

<sup>48</sup> Mita Nur Khasanah, Akbar Yusgiantara, and Rustam Ibrahim, 'Model Pembelajaran Bersanad Sebagai Strategi Peningkatan Pengetahuan Di Pesantren', *ANWARUL Jurnal Pendidikan Dan Dakwah*, 5.6 (2025), 781–94, p. 783.

scholars), either through *bandongan* (religious gatherings), *sorogan* (religious gatherings), or *halaqah* (religious circles). The main characteristic of this phase lies in the central role of the *sanad* (chain of narrators), which affirms both epistemic and moral legitimacy. Scholarly authority is not solely determined by mastery of the text, but also by the genealogical relationship between the kyai and the students, the appreciation of scholarly *adab* (ethics), and spiritual integration. In this tradition, hadith is not only understood as a written text but also as living knowledge passed down through a network of scholars and Islamic boarding school communities

*Second*, the phase of academic-methodological transformation that developed within Islamic higher education. As formal Islamic education strengthened, the study of hadith shifted toward a more structured and scientific approach. In Islamic higher education institutions, hadith was positioned not only as a normative source of teachings but also as an object of academic study. Critical analysis of the *sanad* and *matan*, historical and hermeneutical approaches, and engagement with contemporary Islamic discourse became integral parts of the curriculum. In this phase, scholarly legitimacy no longer rested on *sanad* or personal credentials, but rather on the strength of methodology, the coherence of argumentation, and the scholarly contributions produced through academic publications. This transformation broadened the horizons of hadith studies and opened up space for critical dialogue, while also marking a shift in authority patterns from genealogical to discursive and institutional.

*Third*, the digital transformation phase, driven by information technology and artificial intelligence (AI). This latest phase is characterized by the use of digital platforms, online hadith databases, and the use of AI systems and algorithm-based tutors in the hadith learning process. The presence of these technologies enables more personalized learning, expanded access to classical and contemporary hadith literature on a global scale, automated text analysis, and the provision of rapid and continuous learning feedback. However, this digital transformation also raises complex epistemological issues. Reliance on

algorithmic authority has the potential to obscure the role of *sanad*, scholarly etiquette, and moral responsibility for hadith transmission if AI is treated as a stand-alone scholarly authority.

In the classical tradition of hadith scholarship, the transmission of knowledge was never understood as a mere mechanical process of transferring texts, but rather through a rigorous and multi-layered mechanism known as *taḥammul wa adā' al-ḥadīth*. The term *taḥammul* refers to the transmission of hadith from a teacher to his students, while *adā'* refers to the transmission of hadith to others. Based on this definition, there are at least three fundamental elements in the transmission of hadith: the process of receiving hadith, the process of conveying hadith, and the reliance of hadith on its transmitters. These three elements are interrelated and inseparable, forming the epistemic backbone of hadith authority.<sup>49</sup>

This mechanism can be analytically understood through three epistemological phases: traditional–pesantren, academic–methodological, and digital–AI transformation. Each phase reflects a distinct configuration of authority, transmission, and validation of knowledge.

In the study of *taḥammul wa ada' al-ḥadīth*, scholars generally classify them into eight forms of reception, which also represent the method of transmission. These forms indicate varying levels of authority and the narrator's closeness to the source of the hadith transmission.

*First, as-samā' min lafdz ash-shaikh* or *as-simā'*, namely receiving a hadith by directly listening to the teacher's recitation of the hadith. This method is considered the highest form of transmission because it is direct and done orally. *Second, al-qirā'ah 'alā ash-shaikh*, where the narrator reads the hadith in front of the teacher while the teacher listens and corrects it if necessary. *Third, al-ijāzah*, which is the permission given by the teacher to his student to narrate a particular

---

<sup>49</sup> Dina Sakinah Wijaya and Nurul Fitri Habibah, 'Periwayatan Hadis Nabi (Tahammul Wal Ada'), Ilmu Jarh Wa Ta'dil Dan Ilmu Nasikh Mansukh Dalam Hadis', *El-Sunnah: Jurnal Kajian Hadis Dan Integrasi Ilmu*, 5.1 (2024), 23–32 <<http://jurnal.radenfatah.ac.id/index.php/>>, p. 25.

hadith or book without direct recitation. *Fourth, al-munāwalah*, namely the teacher hands over a book of hadith to his student, whether accompanied by permission to narrate or not. *Fifth, al-mukātabah*, namely the delivery of hadith through writing sent by the teacher to the student, either directly or through an intermediary. *Sixth, al-i'lām*, namely the teacher's notification to his student that a hadith or book is his narration, without being accompanied by permission to narrate. *Seventh, al-washiyyah*, namely the inheritance of a book of hadith through a will to a certain party. *Finally, al-wijādah*, namely the acquisition of a hadith or book of hadith through the writings of a shaykh, whether known or not directly known to the narrator. Among these eight forms, *as-samā'* and *al-qirā'ah* are regarded as the most authoritative because they preserve the integrity of sanad continuity, accuracy of transmission, and the ethical relationship between teacher and student.<sup>50</sup>

This transmission mechanism has been concretely embodied in Islamic boarding schools through the study of classical texts (*kitab kuning*) and the direct authorization of learning by the kyai to their students. Within this tradition, the *bandongan* and *sorogan* methods function as practical realizations of the *taḥammul wa adā' al-ḥadīth* framework, corresponding respectively to *al-samā' min lafẓ al-shaykh* and *al-qirā'ah 'alā al-shaykh*. In these settings, knowledge is transmitted through close teacher–student interaction, preserving both textual accuracy and the ethical-spiritual dimensions of scholarly learning.

A vivid example of this living transmission can be observed in the scholarly practice of KH. Syansuri Badawi at Pesantren Tebuireng. As a direct student of Hadratussyaikh KH. M. Hasyim Asy'ari and later a teacher in the same institution, he played a central role in the annual Ramadan sessions of *Ṣaḥīḥ al-Bukhārī* and *Ṣaḥīḥ Muslim*. His pedagogical approach reflects an integrated application of both *riwāyah* and *dirāyah* within the *taḥammul wa adā'* tradition. From the perspective

---

<sup>50</sup> Putri Permata Gusnelly, Tesa Palisa, and Zikri Darussamin, 'Ilmu Tahammu Wa Ada' Dalam Kajian Hadis', *El-Mizzi: Jurnal Ilmu Hadis*, 3.2 (2024), 1–13 <<https://doi.org/10.25130/sc.24.1.6>>, p. 7-11.

of *riwāyah*, he emphasized precise transmission of hadith wording, clarification of transmission procedures, and careful preservation of the *sanad* lineage connected to KH. Hasyim Asy'ari, thereby maintaining the epistemic continuity of the pesantren tradition. From the perspective of *dirāyah*, his teaching extended into analytical interpretation, including juridical inference (*istinbāt al-aḥkām*), mastery of *muṣṭalaḥ al-ḥadīth*, and application of *jarḥ wa ta'dīl* in assessing narrators. This dual orientation demonstrates that pesantren-based transmission is not merely reproductive, but also interpretive, combining fidelity to textual transmission with critical intellectual engagement.<sup>51</sup>

In contrast, the transmission of ḥadīth in academic contexts has gradually moved away from the genealogical teacher–student model that characterizes the pesantren tradition. It is now increasingly grounded in intellectual connectivity through methodological rigor, theoretical frameworks, citation systems, and institutional validation. Within this paradigm, academic *isnād* is constructed through engagement with authoritative literature, critical dialogue with prior scholarship, and participation in broader national and international scholarly networks.

Although different in form, academic *isnād* still performs a comparable epistemological function to classical *isnād*: it ensures the continuity of knowledge while maintaining scholarly boundaries that prevent arbitrary claims detached from historical and intellectual tradition. In the classical pesantren context, *isnād* connects texts directly to the Prophet Muhammad through chains of transmitters, whereas in academic settings, this chain is replaced by citation networks, peer review mechanisms, and standardized methodological procedures that link ideas within a broader scholarly discourse.

However, this transformation also brings important implications. The locus of authority tends to shift toward more institutional and discursive

---

<sup>51</sup> Iqbal Nursyahbani, Metode KH. Syansuri Badawi dalam Kajian Riwayat dan Dirayah Hadis di Pesantren Tebuireng, *Nabawi: Journal of Hadith Studies* 3.1 (2022), <https://doi.org/10.55987/njhs.v3i1>.

structures, which may gradually weaken dimensions of moral integrity, spiritual depth, and personal exemplarity that are central to the traditional transmission of knowledge. For this reason, a synthesis between classical and academic models becomes necessary so that hadith studies do not drift into a purely positivistic paradigm but remain anchored in the ethical responsibility of knowledge transmission.

To further clarify the epistemological implications of AI in hadith studies, the discussion of digital transmission must be situated within a broader comparative framework that highlights how different epistemic phases construct authority, transmission, and validation in distinct ways. This comparison shows that the shift toward digital–AI systems is not merely technological, but fundamentally epistemological, as it reconfigures the structure of *tahammul wa adā* 'within Islamic scholarly traditions.

In the context of digital transformation, the transmission of hadith knowledge has increasingly shifted toward what can be described as digital *wijādah*, where hadith texts are accessed through online databases, search engines, and AI systems without the direct mediation of a teacher's authority. In classical hadith scholarship, *wijādah* itself is recognized as the lowest level of transmission authority when it is not accompanied by verification from qualified scholars. Consequently, AI-based hadith learning risks widening the gap between textual access and the embodied scholarly tradition that traditionally safeguards *sanad* authenticity and epistemic continuity.

At the same time, technological development has significantly expanded the landscape of hadith studies. Digital platforms such as *Maktabah Syamilah*, the *Ensiklopedi Hadis Kitab 9 Imam*, and various other applications now facilitate broader access, preservation, and analytical engagement with hadith literature. More advanced tools, including machine learning, AI-based text recognition, and data mining techniques, further enable processes such as classification, *takhrīj*, and verification of *sanad* and *matn* to be conducted with greater speed and precision. Despite these advantages, digitalization also introduces critical challenges,

including the spread of fabricated hadith, uneven digital literacy, and questions surrounding the validity and reliability of digital sources.<sup>52</sup>

From a normative perspective, AI remains limited in fulfilling the ethical and epistemological responsibilities embedded in *taḥammul wa adā'*. It does not bear moral accountability for transmission accuracy, lacks personal integrity, and is not grounded in *amānah 'ilmiyyah* (scholarly trustworthiness), which forms the ethical foundation of hadith transmission. Consequently, excessive reliance on AI risks reducing hadith learning to mere information retrieval rather than a meaningful epistemic process rooted in scholarly responsibility.

Within this framework, AI should be understood as a supportive instrument rather than an authoritative transmitter. It can assist in searching sanad structures, comparing narrations, and accessing vast hadith databases, but the legitimacy of transmission, interpretation, and validation remains anchored in teachers, kyai, and scholars who possess both scientific competence and ethical accountability.

To further clarify these dynamics, the following comparative epistemological model illustrates how different phases construct authority, transmission, and validation in distinct ways:

### Comparative Epistemological Model

| Aspect                         | Pesantren Phase                                     | Academic Phase                   | Digital-AI Phase             |
|--------------------------------|-----------------------------------------------------|----------------------------------|------------------------------|
| <b>Epistemic Basis</b>         | Sanad & presence                                    | Methodology & citation           | Algorithm & database         |
| <b>Form of <i>Taḥammul</i></b> | Oral transmission ( <i>samā'</i> , <i>qirā'ah</i> ) | Textual-analytical learning      | Digital retrieval            |
| <b>Form of <i>Adā'</i></b>     | Ijazah & oral teaching                              | Publication & academic discourse | Platform-based dissemination |
| <b>Authority Structure</b>     | Kyai-centered                                       | Institution-based                | System/AI-based              |
| <b>Type of <i>Isnād</i></b>    | Genealogical-spiritual                              | Academic-discursive              | Networked-data driven        |

<sup>52</sup> Suciati Fatimah, et.al., Peran Teknologi dalam Mengembangkan Kajian Hadis di Era Modern, *SALIMIYA: Jurnal Studi Ilmu Keagamaan Islam* 7.1 (2026), <https://doi.org/10.58401/salimiya.v7i1.3013>.

|                      |                           |                               |                                  |
|----------------------|---------------------------|-------------------------------|----------------------------------|
| <b>Main Strength</b> | Moral-spiritual integrity | Critical-methodological rigor | Speed & accessibility            |
| <b>Main Risk</b>     | Limited textual expansion | De-spiritualization           | Loss of epistemic responsibility |

The comparative mapping indicates that each epistemological phase preserves certain elements of the transmission tradition while simultaneously transforming others. The pesantren and academic phases still maintain human-centered authority, rooted in either spiritual lineage or scholarly methodology, whereas the digital–AI phase introduces a non-human intermediary that significantly reshapes the ethics and structure of knowledge transmission.

At the same time, Islamic education, including hadith studies, continues to face broader structural challenges such as infrastructure disparities (particularly in 3T regions), unequal digital competencies among educators, limited access to high-quality digital content, and ongoing demands for curriculum and policy reform. Addressing these issues requires cross-sectoral synergy involving government, educational institutions, educators, parents, and communities, along with sustained capacity-building initiatives to ensure that digital transformation proceeds effectively without detaching from core Islamic educational values.<sup>53</sup>

In this context, although AI enhances accessibility and efficiency in hadith studies, it simultaneously demands a renewed ethical and epistemological framework so that knowledge transmission does not deteriorate into mere information retrieval. The continuity of *tahammul wa adā*’ thus depends on maintaining a balanced integration between technological mediation and the enduring moral responsibility embedded in classical Islamic scholarly traditions, including *adab al-‘ilm*, scholarly trustworthiness, and ethical accountability in transmitting knowledge.

---

<sup>53</sup> Nanang Abdillah and others, ‘Digital Transformation in Islamic Religious Education Learning: A Study of Theory and Implementation in Schools’, *International Journal of Educational and Psychological Sciences*, 3.4 (2025), 351–66 <<https://doi.org/10.59890/ijeps.v3i4.76>>, p. 365.

## CONCLUSION

Hadith education in Indonesia has been evolving through three closely connected phases: the pesantren tradition, the academic system, and the digital–AI era. These phases do not replace one another, but instead build upon and interact with each other. The pesantren tradition forms the foundation through *sanad*, ethical discipline, and close teacher–student relationships. Universities then broaden this foundation by introducing systematic methods and critical scholarly analysis. More recently, digital technologies and AI have expanded access to hadith materials, making learning faster, more flexible, and more widely available.

Still, this study highlights an important point: technology, especially AI, is not neutral in how it shapes knowledge. Without strong educational grounding and ethical awareness, AI can easily reduce *tahammul wa adā' al-ḥadīth* to simple information searching. In doing so, it risks weakening the role of *sanad*, diminishing scholarly authority, and blurring the moral responsibility involved in transmitting knowledge. For this reason, AI cannot take the place of *kyai*, teachers, or academics, whose authority is rooted in integrity, responsibility, and continuity of tradition.

### Theoretical implications

This study helps broaden the way we understand hadith epistemology. Authority in hadith learning is not only built through classical *sanad* networks, but also shaped by academic systems and digital infrastructures. This suggests the need for a more integrated way of thinking that brings together traditional transmission, modern methodology, and digital tools.

### Practical implications

In practice, students and researchers need stronger digital literacy so they can use AI more critically and responsibly. AI should be treated as a tool that helps with searching *sanad*, comparing narrations, and accessing sources, not as a final authority in religious knowledge.

### Policy implications

From a policy perspective, there is a need for closer collaboration between Islamic educational institutions, universities, and government bodies to set clear guidelines for the use of digital technologies in Islamic studies. These guidelines should ensure that digital transformation respects scholarly ethics and does not marginalize the role of *ulama*' and academic experts.

### Recommendations

This study recommends developing an integrated model of hadith learning that combines pesantren traditions, academic approaches, and digital tools. It also calls for ethical guidelines for AI use in hadith studies, better digital literacy training for educators and students, and stronger collaboration between scholars, academics, and technology developers.

In the end, digital transformation in hadith studies should not be seen as a replacement of tradition, but rather as a way to strengthen its continuity, keeping Islamic epistemological values and scholarly ethics alive in a rapidly changing world.

### BIBLIOGRAPHY

- Abdillah, Nanang, Ratna Hidayati, Nur Kholis, and Muhammad Najib, 'Digital Transformation in Islamic Religious Education Learning: A Study of Theory and Implementation in Schools', *International Journal of Educational and Psychological Sciences*, 3 (2025), 351–66  
<https://doi.org/10.59890/ijeps.v3i4.76>
- Alam, R. Rezeki, Muhammad Al-Mighwar, and Engkos Kokasih, 'Historiografi Ulama Hadits Nusantara', *AL-AFKAR: Journal for Islamic Studies*, 8 (2025), 34–45  
<https://doi.org/10.31943/afkarjournal.v8i3.1483.Historiography>
- Asgari-Bidhendi, Majid, et.al., Rezwan: Leveraging Large Language Models for Comprehensive Hadith Text Processing: A 1.2M *Corpus Development*, arXiv preprint arXiv:2510.03781, 2025, <https://doi.org/10.48550/arXiv.2510.03781>.
- Bahijah, Ijah, and Salma Aufie Khumairoh, 'Digital Transformation of Islamic Education through Deep Learning in the Postmodern Era', *Journal of Professional Teacher Education*, 3 (2025), 46–54

- <sup>7</sup><https://doi.org/10.12928/jprotect.v3i1.1489>
- Damanhuri, 'KITAB-KIAI MADURA: Kuasa Teks Dan Otoritas Keagamaan', in *Islam Indonesia: Dialektika Agama, Budaya, Dan Gender* (Yogyakarta: LKiS, 2020), pp. 52–88 <https://doi.org/10.1017/CBO9781107415324.004>
- Dina Sakinah Wijaya, and Nurul Fitri Habibah, 'Periwayatan Hadis Nabi (Tahammul Wal Ada)', Ilmu Jarh Wa Ta'dil Dan Ilmu Nasikh Mansukh Dalam Hadis', *El-Sunnah: Jurnal Kajian Hadis Dan Integrasi Ilmu*, 5 (2024), 23–32 <http://jurnal.radenfatah.ac.id/index.php7>
- Fatimah, Suciati, et.al., Peran Teknologi dalam Mengembangkan Kajian Hadis di Era Modern, *SALIMIYA: Jurnal Studi Ilmu Keagamaan Islam* 7.1 (2026), <https://doi.org/10.58401/salimiya.v7i1.3013>.
- Gusnelly, Putri Permata, Tesa Palisa, and Zikri Darussamin, 'Ilmu Tahammu Wa Ada' Dalam Kajian Hadis', *El-Mizzi: Jurnal Ilmu Hadis*, 3 (2024), 1–13 <https://doi.org/10.25130/sc.24.1.6>
- Hafizah Almardiah, Darni, and Andi Abd. Muis, 'The Effectiveness of Digital Media in Learning Islamic Religious Education (Pai) in the Era of Society 5.0: Study of the Integration of Technology and Religious Values', *Jurnal Eduslamic*, 3 (2025), 45–55 <https://doi.org/10.59548/jed.v3i1.463>
- Imam, Syafe'i, 'Model Kurikulum Pesantren Salafiyah Dalam Prespektif Multikultural', *Al-Tadzkiyyah: Jurnal Pendidikan Islam*, 8 (2017), 127–43, <https://doi.org/10.24042/atjpi.v8i2.2121>.
- Jannah, Dia Fathul, Fauzia Adista Wati, and Nurul Mubin, 'Kitab Kuning: Metode Sorogan Dan Bandongan Di Pondok Pesantren', *AN NAJAH: Jurnal Pendidikan Islam Dan Sosial Keagamaan*, 4 (2025), 225–30 <https://journal.nabest.id/index.php/annajah/article/view/573>
- Jannah, Hasanatul, 'Pondok Pesantren Sebagai Pusat Otoritas Ulama Madura', *Jurnal Al-Hikmah*, 17 (2019), 91–108 <https://doi.org/10.35719/alhikmah.v17i1.9>
- Junaid bin Junaid, and Muh. Nasruddin A, 'Historitas Perkembangan Hadis (Dari Periode Klasik Hingga Kontemporer)', *CARITA: Jurnal Sejarah Dan Budaya*, 2 (2024), 146–58 <https://doi.org/10.35905/carita.v2i2.7135>
- Khairunisa, Nadila Shafa, Nadiatul Ngazijah, and Muhammad Husain, 'Integrasi Ai Dalam Sistem Pembelajaran Dan Administrasi Pesantren Oleh Mahasiswa: Telaah Terhadap Upaya Digitalisasi Lembaga Pendidikan Keagamaan Melalui Studi Kasus Ponpes Darussalam Dan Mukhtar Syafaat Di Blokagung', *An Najah (Jurnal Pendidikan Islam Dan Sosial Keagamaan)*, 04 (2025), 126–33 <https://journal.nabest.id/index.php/annajah/article/view/552%0Ahttps://journal.nabest.id/index.php/annajah/article/download/552/347>
- Kharis, Muhammad Abdul, *Genealogi Ulama Ahli Hadis Jawa Abad XIX-XX Masehi: Jejaring Dan Kontribusinya Bagi Masyarakat Indonesia*

- (Pekalongan: Penerbit NEM, 2022)
- , ‘Two Hadith Scholars from Java: Study of Shaykh Mahfudz at-Tarmasi and Shaykh Hasyim Asy’ari’, *Religia: Jurnal Ilmu-Ilmu Keislaman*, 84 (2025), 58–84, <https://doi.org/10.28918/religia.v28i1.9242>.
- Kharis, Muhammad Abdul, Zulfarizal, and Ahmad Fudhaili, ‘The Credibility of Shaykh Nawawi Al-Bantani in Ḥadīth Studies: A Study of His Sanad and Ḥadīth Books’, *Al Quds*, 9 (2025), 208–20 <https://doi.org/10.22373/jid.v18i2.3241.3>
- Khasanah, Mita Nur, Akbar Yusgiantara, and Rustam Ibrahim, ‘Model Pembelajaran Bersanad Sebagai Strategi Peningkatan Pengetahuan Di Pesantren’, *ANWARUL Jurnal Pendidikan Dan Dakwah*, 5 (2025), 781–94
- Lestari, Sudarsri, ‘Peran Teknologi Dalam Pendidikan Di Era Globalisasi’, *Edureligia*, 2 (2018), 94–100 <http://jurnal.unikastpaulus.ac.id/index.php/jpkm/article/view/54>
- Mahfudloh, Ririn Inayatul, ‘Peran Sanad Keilmuan Dalam Pengembangan Pondok Pesantren’, *Qomaruna*, 1 (2023), 23–30 <https://doi.org/10.62048/qjms.v1i1.7>
- Mala, Faiqotul, ‘Hadis Dan Pergeseran Otoritas Keagamaan : Transmisi , Resepsi , Dan Peran Pesantren Di Era Kontemporer’, *Moderasi : Journal of Islamic Studies*, 05 (2025), 585–602, <https://doi.org/10.54471/moderasi.v5i2.142>.
- Mas’ari, Ahmad and Syamsuatir, Tradition Tahlilan: Portrait Acculturation Islam Religion and Culture Typical Nusantara, *KONTEKSTUALITA Jurnal Penelitian Sosial dan Keagamaan* 33. 1 (2017), <https://doi.org/10.30631/10.30631/kontekstualita.%25x>.
- Maulana, Luthfi, ‘Periodisasi Perkembangan Studi Hadits’, *Essensia*, 17 (2016), 111–23 <http://jurnal.stainponorogo.ac.id/index.php/kodifikasi/article/view/746/564>
- Muchlas, Solehah, ‘Sejarah Pendidikan Islam Di Nusantara’, *Jurnal Pendidikan Dan Keguruan*, 2 (2024), 45217–23
- Muhammad Iqbal Rosyid, Rifdatul Aisy, and Nurul Mubin, ‘Sinergi Tradisi Dan Psikologi; Efektivitas Sorogan Dan Bandongan Dalam Pembelajaran Pesantren’, *Jurnal Budi Pekerti Agama Islam*, 3 (2025), 167–73 <https://doi.org/10.61132/jbpai.v3i5.1563>
- Muslim, Muslim, ‘Internalising Digital Technology in Islamic Education’, *Scaffolding: Jurnal Pendidikan Islam Dan Multikulturalisme*, 6 (2024), 180–97 <https://doi.org/10.37680/scaffolding.v6i3.6309>
- Mustin, Hilgha, Muhammad Tasbih, and Zaenab Abdullah, ‘Kritik Sanad (Naqd Al-Sanad) Dalam Ilmu Hadis: Metodologi Dan Implementasinya’, *Socius: Jurnal Penelitian Ilmu-Ilmu Sosial*, 3 (2025), 852–58

- <https://ojs.daarulhuda.or.id/index.php/Socius/article/download/2113/2262>
- Nafisah, Lailiyatun, Rahman Alwi, Rahman Rahman, Sukiyat, and Saifuddin Yuliar, 'Deauthorization of Hadith Studies on The Internet: Shift of Religious Authority in The Digital Age', *Muslim Heritage*, 10 (2025), 78–90 <https://doi.org/10.21154/muslimheritage.v10i1.10633>
- Nursyahbani, Iqbal, Metode KH. Syansuri Badawi dalam Kajian Riwayah dan Dirayah Hadis di Pesantren Tebuireng, *Nabawi: Journal of Hadith Studies* 3.1 (2022), <https://doi.org/10.55987/njhs.v3i1>.
- Ramadhan, Fauzan Syahru, Nur Anggoro, Ikhwan Prakosa, and Muhammad Pramono, 'Pendidikan Islam Di Indonesia Dalam Kajian Ilmu Sejarah: Perkembangan, Pengaruh, Dan Eksistensi Terhadap Kehidupan Masyarakat Indonesia', *Chronologia*, 6 (2024), 32–43 <https://doi.org/10.22236/jhe.v6i1.14208>
- Rofi'i, Arwani, 'STUDI HADIS DI PESANTREN (Pesantren Sebagai Salah Satu Center of Excellent Kajian Hadis Di Indonesia )', *Al-I'jaz*, 3 (2021), 80–95, <https://doi.org/10.53563/ai.v3i2.58>.
- Sahara, Miftahul Ilmi, and Rudi Yanto Batara Silalahi, 'Pendampingan Edukasi Cerdas Menyikapi Tren AI(Artifial Intelligence) Dalam Dunia Pendidikan', *Jurnal Penelitian Dan Pengabdian Masyarakat*, 1 (2023), 354–64
- Samsudin, Umar, 'Exploration of Artificial Intelligence (AI) in Increasing Student Collaboration in Digital-Based Islamic Education Learning', *Al-Hayat: Journal of Islamic Education*, 9 (2025), 216–30 <https://doi.org/10.35723/ajie.v9i1.106>
- Saputra, Hasep, 'Genealogi Perkembangan Studi Hadis DI Indonesia', *AL QUDS : Jurnal Studi Alquran Dan Hadis*, 1 (2017), 41–68 <https://doi.org/10.29240/alquds.v1i1.164>
- Siregar, Khoirun Nisa, Pengembangan Model Literasi Hadis Digital untuk Generasi Z: Analisis terhadap Pemanfaatan AI dalam Studi Hadis, *Hamidah: Jurnal Ilmu Hadis* 1. 1 (2025), <https://doi.org/10.64691/arba.v1i3.13>.
- Su'aidi, Hasan, 'Jaringan Ulama Hadits Indonesia', *Jurnal Penelitian, P3M STAIN Pekalongan*, 5 (2013), 1–16
- Suriadi, Ahmad, Akulturasi Budaya dalam Tradisi Maulid Nabi Muhammad di Nusantara, *Khazanah: Jurnal Studi Islam dan Humaniora*, 17. 1 (2019), 167-191 DOI: 10.18592/khazanah.v16i2.2324.
- Suryadilaga, Alfatih, *Metodologi Penelitian Hadis Kontemporer* (Yogyakarta: Kalimedia, 2017)
- Tamjidnor, Suriagiri, Surawardi, Samdani, Fathul Amal, and Khuzaini, 'Transformation of Hadith Teaching as an Effort to Revitalize Islamic

- Science in Pesantren', *Nazhruna: Jurnal Pendidikan Islam*, 8 (2025), 123–38 <https://doi.org/10.31538/nzh.v8i1.9>
- Ulya, Faizatul, and Khoirun Nikmah, 'Upaya Pesantren Dalam Menjaga Tradisi Sanad Keilmuan Di Era Society 5.0', *Jurnal Mudarrisuna: Media Kajian Pendidikan Agama Islam*, 14 (2024), 18–29 <https://doi.org/10.22373/jm.v14i1.20668>
- Ulya, Warda Salamah, and Muhammad Ghifari, 'Perkembangan Kajian Hadis Di Indonesia: Sejarah Dan Masa Depan', *THE INTERNATIONAL JOURNAL OF PEGON:: ISLAM NUSANTARA CIVILIZATION*, 12 (2024), 113–34
- Wahyuni, Eko, Arik Nur Akhidah, and Aring Pramukawati, 'Artificial Intelligence and Its Relationship in Forming Values and Character in Education', *International Conference on Aplied Social Sciences in Education*, 1 (2024), 518–23 <https://doi.org/10.31316/icasse.v1i1.6923>
- Ya'kub, and Bahaking Rama, 'Sejarah Perkembangan Pendidikan Islam Di Indonesia', *Journal Edigama*, 15 (2024), 75–93
- Yuliharti, Yuliharti, Rahman Rahman, Lailiyatun Nafisah, Wawan Ahmad Ridwan, Muhammad Yudi Ali Akbar, Alfiah Alfiah, and others, 'The Development of Hadith Study in Islamic Boarding Schools and Islamic Higher Education in Indonesia', *SYAMIL: Jurnal Pendidikan Agama Islam (Journal of Islamic Education)*, 12 (2024), 107–18 <https://doi.org/10.21093/sy.v12i1.8964>