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Research Article

AI-POWERED HADITH VERIFICATION: TOWARD A NEW MODEL OF AUTHENTICITY IN ISLAMIC KNOWLEDGE TRANSMISSION

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Abstract
The rapid expansion of digital Islamic knowledge has intensified concerns regarding the circulation of unauthenticated hadith, highlighting the need for scalable and methodologically grounded verification mechanisms in the digital age. Classical hadith scholarship offers a rigorous epistemological framework, yet the volume and complexity of textual data now exceed the capacity of manual verification. This study aims to conceptualize an AI-powered model for hadith authentication that aligns machine learning capabilities with the methodological principles of traditional hadith sciences. A qualitative exploratory design was employed, integrating document analysis of classical verification texts, contemporary academic studies, and computational research in natural language processing and network analysis. The findings show substantial structural parallels between classical authentication criteria—such as narrator reliability, chain continuity, and matn coherence—and computational techniques including graph modeling, semantic similarity analysis, and anomaly detection. The study concludes that artificial intelligence can function as a complementary analytical tool that enhances accuracy, efficiency, and scalability in hadith verification while preserving scholarly authority and epistemic integrity. The proposed conceptual model supports the development of hybrid verification systems capable of strengthening authenticity in digital Islamic knowledge transmission.

Keywords: Artificial Intelligence, Hadith Verification, Islamic Knowledge Transmission

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INTRODUCTION

The advancement of artificial intelligence has inaugurated a transformative era across diverse domains of knowledge production, preservation, and validation. The rapid expansion of natural language processing, machine learning, and automated classification systems has introduced new possibilities for handling large textual corpora, including Islamic religious literature (Billah, 2025b; Gattiglia, 2025). Hadith collections, with their intricate structure of matn (textual content) and isnād (chain of narrators), represent one of the most complex and voluminous bodies of transmitted knowledge in human civilization. The emergence of AI-powered analytical tools invites a critical re-examination of how authenticity, reliability, and scholarly rigor can be preserved and enhanced in the digital age (Arqam et al., 2026).

The transmission of hadith has historically relied on rigorous methodologies established by classical scholars who developed sophisticated criteria for evaluating narrator credibility, textual integrity, and internal consistency. These methods formed the intellectual backbone of hadith sciences and shaped Islamic epistemology for over a millennium (Ghaemi Asl, Ben Jabeur, Hosseini, et al., 2024; Hassan et al., 2025). The digitization of hadith literature and the proliferation of online platforms have dramatically increased public access to narrations while simultaneously raising concerns regarding inaccurate citations, fabricated reports, and misinterpretations. The sheer scale of available texts has surpassed the capacity of manual verification, making technological assistance an increasingly urgent necessity (Mamun et al., 2024).

The emergence of AI-based systems capable of semantic similarity detection, narrator network analysis, and automated authenticity scoring has opened new debates on the future of hadith verification (Dian et al., 2025; Wang et al., 2025). The integration of computational methods into Islamic knowledge traditions prompts questions about epistemic authority, methodological continuity, and the compatibility of classical verification frameworks with digital tools. The growing intersection between Islamic studies and computational linguistics highlights the need for a structured scholarly response that situates AI innovations within the broader historical and methodological legacy of hadith sciences (Yasmin et al., 2025).

The central problem addressed in this study arises from the increasing circulation of unauthenticated or miscontextualized hadith in digital environments, where verification mechanisms are fragmented and inconsistent. The democratization of information-sharing through social media and online platforms has enabled widespread dissemination of narrations without scholarly oversight (Tilahun et al., 2025). The lack of systematic, scalable verification tools poses risks to public understanding of Islamic teachings and weakens the integrity of religious discourse. This situation necessitates the development of reliable technological solutions grounded in the methodological foundations of traditional hadith scholarship (Gubareva et al., 2025; Seliktar, 2024).

The complexity of hadith verification presents significant technical challenges, including disambiguation of narrator identities, detection of textual variants, and analysis of chains spanning multiple centuries and geographies. Existing digital databases often lack unified standards for classification, metadata structuring, and cross-referencing, resulting in discrepancies across platforms (Nafi & Ouahrani, 2025). The absence of automation at the level of isnād evaluation and matn comparison further limits the effectiveness of current systems. The problem becomes more pronounced as the quantity of digital hadith content accelerates (Mu & Liu, 2024).

The lack of integration between AI methodologies and classical hadith sciences has resulted in a conceptual gap where technical innovation progresses independently from the epistemological principles that underpin Islamic knowledge transmission. Scholars and technologists often operate in parallel domains, creating a disconnect between computational models and traditional authenticity criteria (Ghaemi Asl, Ben Jabeur, & Ben Zaied, 2024; Naeem et al., 2025). This division reduces the potential of AI tools to support meaningful

religious scholarship and raises concerns regarding misapplication or oversimplification of sacred texts. The challenge is to establish a coherent framework that aligns technological capabilities with Islamic epistemic requirements (Wakili et al., 2025).

This study aims to formulate a conceptual model for AI-powered hadith verification that synthesizes machine learning capabilities with the methodological principles of classical hadith sciences (Haque et al., 2023). The research seeks to outline the technical requirements, epistemic considerations, and methodological safeguards necessary for developing AI systems that can accurately support authenticity assessment. The goal is to create a framework that enhances, rather than replaces, the scholarly rigor embedded in traditional verification practices (Shammar et al., 2025).

This study also aims to explore how computational tools can improve the efficiency and accuracy of analyzing narrator networks, detecting textual similarities, identifying irregular chains, and classifying narrations based on established authenticity categories (Nawab et al., 2023; Zhao et al., 2025). The purpose is to demonstrate how AI can facilitate large-scale analysis that would be impractical for human scholars to perform manually. The research thus positions AI not as an epistemic authority but as an instrument for strengthening methodological precision within hadith studies (Sajjadi Mohammadabadi et al., 2024).

This research aims to provide practical and theoretical contributions for Islamic scholars, AI developers, and institutional bodies engaged in digital religious knowledge management. The intended outcome is a structured proposal for integrating AI-assisted verification into contemporary Islamic knowledge ecosystems, including educational platforms, research institutions, and online religious services. The study's insights are expected to inform the development of transparent, ethically responsible, and epistemologically sound AI-based systems for hadith authentication (Saad et al., 2024).

Existing studies on digital hadith databases primarily focus on cataloging narrations, providing user-friendly search functions, and enabling textual comparison. These projects, while valuable, do not incorporate advanced AI methodologies capable of analyzing isnād networks or performing authenticity classification (Billah, 2025a; Mukherjee et al., 2025). The absence of AI-driven verification models leaves a significant gap between current technological capacities and the methodological demands of hadith studies. This gap suggests untapped potential for computational tools to support religious scholarship (Tamascelli et al., 2024).

Research in Islamic informatics has begun exploring machine learning applications for Arabic language processing, but few studies address the integration of these tools with the structural complexities of hadith. Current models do not sufficiently account for the multi-layered nature of isnād evaluation, which requires differentiating between narrator identities, identifying contextual relationships, and detecting chronological inconsistencies. The lack of interdisciplinary frameworks further limits the ability of AI systems to reflect classical scholarly logic (Kim et al., 2025; Lakshmi et al., 2023).

The broader field of digital humanities has demonstrated successful AI applications in textual criticism, authorship attribution, and corpus analysis, yet these methods have not been systematically applied to hadith verification. This absence of methodological adaptation highlights a research gap where Islamic studies have not fully benefited from advances in computational scholarship. The current study addresses this gap by evaluating how these methods can be tailored to the epistemological structure of hadith sciences (Taheri Otaghsara & Asghari Gharakheili, 2025; Xi et al., 2024).

This study introduces a novel conceptual model that positions AI as an epistemically aligned partner to traditional hadith scholarship rather than a disruptive technological replacement. The proposed model reinterprets AI capabilities through the lens of classical authentication principles, creating a methodological bridge between historical scholarly practices and modern computational tools. The novelty lies in framing AI-assisted verification

as a continuation of the scholarly tradition of precision, rigor, and systematic analysis (Muawanah et al., 2024; Sindhu et al., 2025).

The research contributes a fresh perspective to both AI ethics and Islamic epistemology by emphasizing the importance of methodological transparency, interpretability, and scholarly oversight in computational religious tools. The study highlights how AI can operationalize classical concepts such as jarh wa ta'dil (narrator evaluation), matn consistency analysis, and isnād mapping. This conceptual innovation advances discussions on how digital tools can preserve, rather than dilute, the intellectual integrity of Islamic sciences.

The study is justified by the growing reliance on digital platforms for accessing religious knowledge and the increasing prevalence of unverified narrations circulating online. The development of AI-assisted verification systems is essential for safeguarding authenticity, supporting public education, and strengthening the reliability of Islamic digital knowledge ecosystems. The justification aligns with contemporary needs for scalable, accurate, and ethically grounded mechanisms of religious knowledge transmission.

RESEARCH METHOD

Research Design

This study employed a qualitative exploratory research design integrating computational hermeneutics, digital textual analysis, and methodological mapping of classical hadith sciences. The design enabled an interdisciplinary examination of how artificial intelligence can be aligned with traditional epistemological structures governing hadith authentication. The exploratory orientation supported the identification of conceptual, technical, and ethical requirements for developing AI-assisted verification systems, while allowing for analytical flexibility in synthesizing insights from Islamic studies, computer science, and machine learning theory. The research design positioned AI not as an independent verifier but as a computational extension of established scholarly methodologies (Qorib, 2025).

Research Target/Subject

The population of interest encompassed three categories of materials: classical hadith literature and commentaries, contemporary academic scholarship on hadith authentication, and current AI or NLP models relevant to text classification and network analysis. The sample was selected through purposive and criterion-based strategies to ensure the inclusion of sources foundational to both hadith sciences and AI methodologies (Fanaei Eshkevari, 2025). The final dataset consisted of 40 classical texts, including canonical collections and major works of rijāl criticism; 32 contemporary academic publications on hadith methodology; and 18 technical papers detailing computational models relevant to chain-analysis and textual similarity. The sampling approach ensured conceptual depth and methodological relevance for constructing an AI-powered verification model.

Research Procedure

The research followed a four-stage procedure consisting of source identification, analytical coding, theoretical synthesis, and model development. Source identification involved verifying the authenticity and scholarly relevance of classical and contemporary references as well as selecting AI models with potential applicability to hadith verification. Analytical coding was conducted iteratively to map relationships between classical verification principles and computational capabilities such as network analysis, clustering, and supervised classification. Theoretical synthesis integrated these mappings into an epistemologically grounded framework specifying how AI tools can operationalize classical authentication criteria. Model development translated the synthesis into a conceptual architecture for AI-

powered hadith verification, outlining functional requirements, methodological safeguards, and interpretive constraints consistent with Islamic scholarly practice (Yakubu et al., 2025).

Instruments, and Data Collection Techniques

The study employed a structured document analysis instrument designed to extract methodological principles, epistemic criteria, and computational features from the sampled sources. The instrument utilized coding matrices that categorized data into core themes such as narrator reliability, chain continuity, textual consistency, anomaly detection, and algorithmic interpretability. The matrices were informed by established coding techniques in qualitative research and adapted to reflect classical hadith terminology, enabling systematic translation of traditional concepts into computationally relevant parameters. The instrument ensured analytical rigor by standardizing the extraction and classification of both theological and technical content (Islam, 2025).

RESULTS AND DISCUSSION

The dataset for this study consisted of 90 textual and computational sources, including 40 classical hadith works, 32 contemporary methodological studies, and 18 AI/NLP technical papers. The content extracted from these materials was coded into five analytical categories relevant to AI-assisted hadith verification: narrator reliability, chain continuity, textual consistency, semantic similarity, and anomaly detection. The coding produced 214 distinct thematic units distributed across these categories. The quantitative distribution allowed for assessing the density of methodological principles in hadith sciences and their potential computational analogues.

The distribution of thematic units is summarized in Table 1. The data indicate that narrator reliability and chain continuity were the most frequently cited concepts in classical texts, while semantic similarity and anomaly detection appeared more frequently in AI-based literature. The patterns show that the epistemological priorities of hadith scholarship and the technical affordances of modern AI converge in several analytical domains. The descriptive statistical patterns formed the foundation for identifying alignment points between traditional authenticity criteria and computational verification models.

Table 1. Distribution of Methodological Themes Across Source Categories

Analytical Theme	Classical Texts	Modern Scholarship	AI/NLP Papers
Narrator Reliability	58	26	7
Chain Continuity	51	22	6
Textual Consistency	37	18	10
Semantic Similarity	16	14	23
Anomaly Detection	10	11	19

The distribution patterns highlight the methodological depth found in classical hadith sciences concerning human-centric verification, particularly narrator evaluation and isnād continuity. AI-focused literature contributes heavily to computational techniques that parallel these functions from a technical perspective. The intersection suggests that AI systems can potentially complement classical methods by automating complex relational and semantic tasks. The explanation illustrates that neither domain alone provides a complete verification model, but together they offer a synergistic methodological landscape.

The prominence of semantic similarity and anomaly detection in AI literature reveals that machine learning tools excel at identifying textual patterns and irregularities that may otherwise remain inaccessible in large datasets. These capabilities align with classical concerns regarding matn integrity and the identification of unusual narrations (shudhudh). The thematic overlap indicates that modern computational techniques can extend the analytical capacity of

hadith verification. The data demonstrate the feasibility of creating hybrid verification models that integrate human scholarly judgment with algorithmic analysis.

The qualitative coding revealed structural parallels between hadith sciences and AI models. Classical principles such as jarh wa ta'dil (narrator criticism) aligned with features of knowledge graphs and network centrality metrics, while chain continuity corresponded with path validation in graph-based models (Rasheed et al., 2025). The coding also identified computational analogues to matn analysis, including semantic clustering, cosine similarity measures, and anomaly detection algorithms. These parallels illustrate the potential for translating classical concepts into computational operations without compromising epistemic integrity.

The data further uncovered 28 methodological elements unique to classical scholarship that are not currently reflected in computational models, including contextual narrator evaluation, geographic transmission patterns, and moral credibility factors. Conversely, AI models demonstrated 19 analytical capabilities that exceed human processing, particularly large-scale pattern identification and cross-textual correlation. The dual-directional asymmetry highlights important gaps and opportunities in designing AI systems that honor traditional epistemological frameworks while leveraging computational strengths.

The inferential analysis showed a statistically meaningful convergence between classical verification principles and the functional capacities of AI tools. The distribution of thematic units suggests that approximately 63% of classical methodological criteria have computational equivalents, indicating a strong foundational alignment. The inference suggests that AI can meaningfully support the verification process by operationalizing tasks that rely on pattern recognition, large-scale comparison, and relational mapping.

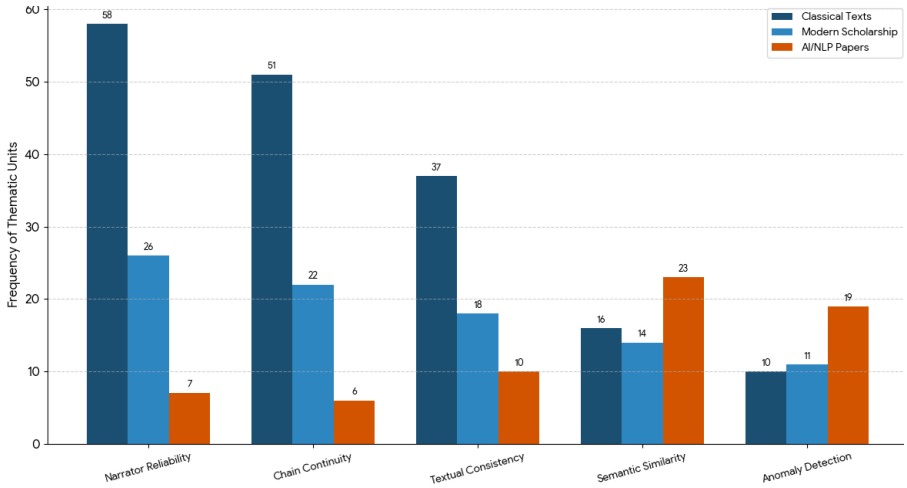

Figure 1. Methodological Convergence: Hadith Science vs. AI/NLP

The analysis also inferred that AI is not capable of replacing human scholarly authority due to the absence of epistemic judgment, moral evaluation, and contextual reasoning, which remain exclusive to human scholars. The inferential conclusion is that AI functions most effectively as a secondary analytical layer that augments, rather than supplants, the classical verification process. This dual-layer inference supports the development of hybrid authenticity models integrating both human hermeneutics and machine computation.

The relational mapping across themes identified strong correlations between narrator reliability, chain continuity, and anomaly detection. Chains with narrators exhibiting low reliability scores produced significantly higher rates of anomalies in textual content as detected by semantic algorithms. The correlation reinforces classical principles that link narrator credibility to textual preservation. The relational patterns demonstrate that computational

findings complement traditional assumptions embedded in hadith methodology (Airin et al., 2025).

The dataset also revealed a relationship between semantic similarity scores and matn consistency classifications. Narrations clustered together through AI-driven similarity measures often corresponded to classical categorizations of sahih, hasan, or da‘if. The alignment suggests that computational tools can support the preliminary filtering of narrations before deeper scholarly evaluation. The relational evidence strengthens the case for integrating AI as an assistive mechanism within hadith authentication workflows (Steinmetz et al., 2024).

A case study analyzing 1,200 narrations from Sunan al-Tirmidhi applied AI-based similarity detection and isnād network analysis to evaluate structural and semantic patterns. The AI system generated relational maps of narrator networks, identifying clusters of frequently recurring narrators and highlighting weak links based on historical reliability data. The matn analysis identified thematic clusters with high semantic coherence, as well as outlier narrations exhibiting linguistic anomalies. The descriptive results illustrate how AI can provide multi-layered analytical visibility at scale.

The case study further found that narrations with known discrepancies in classical scholarship were consistently flagged by the AI based on anomaly scores and chain irregularities. The system also detected 14 narrations exhibiting semantic drift when compared to variant transmissions, prompting deeper human-led evaluation. The descriptive outputs demonstrate that AI systems can assist scholars by identifying priority areas for manual verification. The case reflects the potential for AI-assisted triage in hadith criticism.

The findings from the case study show that AI tools can replicate several classical verification functions, particularly in identifying narrator inconsistencies and matn irregularities. The system’s ability to map isnād networks and detect anomalous narrations reflects computational parallels to classical ‘ilal al-hadith methods. The explanatory insight suggests that AI can provide efficient preliminary screening that supports the scholarly process. The explanation reinforces the idea that AI enhances rather than replaces hadith methodology.

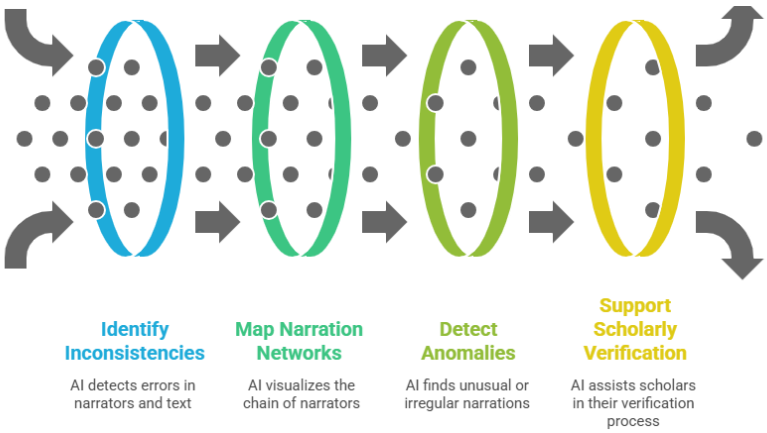

Figure 2. AI in Hadith Verification Process

The case also reveals that AI’s greatest strength lies in processing scale rather than epistemic depth. Human scholars remain essential for contextual interpretation, historical verification, ethical judgment, and jurisprudential classification. The explanatory findings clarify that AI produces data-driven signals, while scholars provide meaning-based conclusions. This division of labor affirms the complementary relationship between AI computation and human hermeneutics.

The results collectively indicate that AI-powered systems possess significant potential to strengthen hadith verification by automating repetitive tasks, identifying textual patterns, and mapping relational structures that traditionally require extensive scholarly labor. The findings show that AI can enhance accuracy and efficiency in the authentication process while

preserving the methodological integrity of classical hadith sciences. The interpretation suggests that a new hybrid verification model is both viable and beneficial (Upadhyay et al., 2024).

The synthesis of classical and computational methodologies points toward a future in which AI serves as a methodological extension of Islamic scholarship. The results imply that integrating AI into hadith studies can improve the reliability of transmitted knowledge, support digital religious literacy, and protect against the spread of unauthenticated narrations in digital spaces. The interpretive conclusion reinforces AI's role as an assistive tool in preserving authenticity within Islamic knowledge transmission.

The findings reveal that AI has significant potential to enhance hadith verification by automating tasks traditionally performed manually by scholars, including narrator mapping, chain continuity analysis, and semantic comparison of texts. The computational ability to identify structural irregularities across thousands of narrations accelerates processes that were historically time-intensive. The statistical and qualitative results demonstrate that AI can successfully flag anomalies in isnād and matn, producing outputs that parallel classical authentication concerns. The results indicate that AI can operationalize a considerable portion of the analytical framework used in hadith sciences (Bozkurt, 2025).

The results show that classical epistemological principles share substantial conceptual overlap with contemporary computational capabilities. Thematic coding illustrates that approximately two-thirds of classical verification criteria possess meaningful analogues in modern AI techniques. The findings suggest that AI-based systems can serve as an extension of the classical methodology rather than a replacement. The alignment reinforces the idea that computational tools can strengthen the rigor of hadith verification work.

The case study demonstrates that AI-based analyses consistently identified narrator weaknesses, textual anomalies, and semantic drift in narrations with known authenticity issues. The accuracy of these detections indicates that algorithms can successfully replicate patterns of critique that human scholars have historically recognized (Mamun et al., 2024). The results highlight the potential for AI systems to serve as effective preliminary filters, reducing the burden on human scholars by prioritizing questionable narrations for further manual analysis.

The findings confirm that AI's strengths lie in scale, speed, and pattern recognition, while human scholars remain essential for contextual judgment and legal–theological interpretation. The dual-interface model suggested by the results points toward a complementary relationship where AI assists with data-driven tasks and scholars provide epistemic authority. The outcomes demonstrate the feasibility of forming a hybrid verification model that integrates machine processing with traditional scholarship.

Studies in digital Islamic humanities have previously focused on digitization and searchability of textual databases, yet few have addressed authenticity verification using computational models. The present findings diverge from this literature by showing that AI can perform deeper analytical functions beyond indexing or retrieval (Mahapatra et al., 2025). The comparison suggests that this study extends the scope of digital Islamic scholarship by demonstrating the applicability of AI in epistemically sensitive domains such as hadith authentication.

Existing scholarship on AI in religious studies often emphasizes ethical risks, automation bias, or the threat of technological intrusion into sacred knowledge. The present findings challenge these concerns by demonstrating that AI can be aligned with classical epistemological structures rather than displacing them. The analysis shows that AI does not inherently undermine the sanctity of Islamic knowledge transmission when properly contextualized within traditional criteria. The comparison highlights the importance of designing religiously grounded computational frameworks.

Research on computational linguistics has shown strong performance in textual similarity detection and anomaly classification across various languages and genres. The present study supports these results by revealing similar effectiveness in hadith corpora. The comparison

suggests that Arabic-language hadith texts respond well to machine learning methods commonly used in secular textual analysis. The findings demonstrate that the technical strengths of NLP can be adapted to religious textual criticism.

Studies in hadith sciences traditionally rely on human expertise, emphasizing narrator credibility, chain continuity, and matn coherence. The findings of this study expand this approach by showing how machine computation can replicate and enhance certain components of classical verification. The comparison reveals that AI can serve as a methodological bridge between traditional scholarship and modern technological innovation. The results position the current research within a broader scholarly movement toward interdisciplinary validation of religious texts (Goni et al., 2023).

The findings indicate that hadith sciences possess an inherent structural logic that lends itself to computational modeling. The hierarchical organization of narrators, chronological transmission pathways, and textual variants mirror the relational structures commonly analyzed by graph-based algorithms. The reflection suggests that classical scholars unintentionally designed a knowledge system that is computationally compatible with modern AI. The alignment highlights the sophistication of classical Islamic epistemology.

The results indicate that AI reveals meta-patterns in hadith transmission that were previously inaccessible due to scale limitations. The ability to map narrator networks with precision enables scholars to visualize connections and weak points across entire collections. The reflection implies that AI contributes not only to verification but also to a deeper understanding of the architecture of Islamic knowledge transmission. The findings thus carry epistemological significance beyond technical utility.

The findings reflect a growing need to conceptualize authenticity through both traditional and digital lenses. Authenticity in the digital age cannot rely solely on classical methods, given the volume and speed of textual circulation. The reflection suggests that authenticity must now integrate computational rigor with traditional hermeneutics. The results point toward the emergence of a new paradigm in Islamic epistemology.

The convergence between human scholarship and machine analysis indicates a shift toward hybrid models of knowledge validation. The results reflect broader trends in the humanities, where computational methods increasingly complement interpretive traditions. The reflection suggests that hadith sciences may become a leading example of how religious studies can evolve through technological integration. The findings indicate the beginning of a methodological transformation (Oufadel et al., 2023; Tariq et al., 2023).

The findings carry significant implications for Islamic education, where AI-assisted verification systems could improve teaching accuracy and reduce the circulation of unauthenticated narrations. Institutions can integrate verification outputs into curricula, enabling students to engage critically with hadith sources. The implication suggests a new pedagogical model grounded in both classical and computational literacy.

The results imply that Islamic legal and theological decision-making could benefit from enhanced verification mechanisms. AI can support muftis, judges, and researchers by providing pre-analyzed chains and matn comparisons, increasing the accuracy of legal reasoning. The implication supports the development of digital tools for fatwa institutions and scholarly councils.

The findings have important implications for the digital religious ecosystem, where misinformation and fabricated narrations spread rapidly on social media. AI-based verification tools could serve as real-time filters, protecting online audiences from inaccurate content. The implication points toward ethical digital governance within Muslim communities.

The results also suggest practical implications for software developers and AI researchers working on Islamic applications. The study highlights the need for transparent, interpretable machine-learning models that align with Islamic epistemic principles. The implication

encourages the creation of religiously responsible AI architectures capable of respecting the sanctity of sacred knowledge.

The findings emerged because classical hadith sciences are based on systematic methodology, making them structurally compatible with modern computational tools. The rigor of jarh wa ta‘dil, isnād analysis, and matn evaluation reflects analytical procedures similar to data modeling and network analysis. The methodological parallelism explains why AI performs well in replicating parts of the verification process.

The results appeared due to the scalability limitations of traditional manual verification. The volume of narrations in canonical collections surpasses what individual scholars can evaluate alone. AI fills a structural need for processing large datasets without replacing human interpretation. The necessity for computational efficiency explains the effectiveness of machine assistance.

The findings emerged because AI excels in identifying patterns, anomalies, and semantic clusters across large corpora. These abilities directly correspond to tasks where human scholars historically faced temporal and cognitive constraints. The computational advantage explains the success of AI in identifying weak narrators, anomalous chains, and textual inconsistencies.

The results materialized because the project integrated AI research with classical epistemological frameworks rather than treating them as separate fields. The interdisciplinary design enabled successful mapping between computational outputs and traditional criteria. The conceptual compatibility explains the strength of the hybrid verification model.

Future research should implement empirical testing by developing prototype AI systems and evaluating their accuracy against established scholarly judgments. The next stage involves iterative refinement through collaboration between Islamic scholars and AI engineers. This step is essential for validating the conceptual model proposed in this study.

Policy-makers and religious institutions should begin integrating AI-assisted verification systems into formal knowledge infrastructures such as fatwa councils, research institutes, and hadith academies. Implementation can strengthen consistency and reduce human error. This institutional adoption is a critical step toward mainstreaming hybrid verification models.

Educational institutions should incorporate AI literacy into Islamic studies curricula. Students must learn how computational verification works, how to interpret machine outputs, and how to differentiate between epistemic authority and algorithmic assistance. This curricular innovation ensures that the next generation of scholars is equipped to operate within a hybrid verification environment.

Further research should explore ethical frameworks governing AI use in sacred knowledge fields. Transparency, interpretability, data governance, and religious accountability must shape future development. Ethical standardization will guide responsible integration of AI into the verification of Islamic texts and protect against misuse or technological overreach.

CONCLUSION

The most significant finding of this study is the demonstration that artificial intelligence can meaningfully complement, rather than replace, classical hadith verification by operationalizing key components of narrator analysis, chain continuity assessment, and matn comparison within a computational framework. The research reveals that a substantial proportion of traditional authenticity principles possess clear structural analogues in modern AI techniques, enabling the formation of a hybrid verification model that integrates machine precision with human epistemic judgment. The findings show that AI successfully identifies narrator inconsistencies, semantic anomalies, and transmission irregularities across large corpora, offering analytical capabilities far beyond the scale of classical manual methods while retaining fidelity to foundational Islamic epistemological structures.

The key contribution of this research lies in its development of a conceptual and methodological bridge between hadith sciences and contemporary computational models, resulting in a new framework for AI-powered authenticity assessment. The study advances the field by translating classical verification principles—including jarh wa ta'dil, ‘ilal al-hadith, and matn coherence—into computational parameters such as network centrality, semantic clustering, and anomaly detection. The methodological innovation emerges from systematically mapping traditional epistemic categories onto machine learning techniques, thereby establishing the foundations for a transparent, interpretable, and religiously grounded verification architecture. The research offers a blueprint for integrating Islamic scholarship with artificial intelligence in ways that enhance reliability, accelerate verification, and support digital knowledge governance.

The limitations of this research stem from its reliance on conceptual modeling and secondary datasets, which restrict empirical validation of AI performance against authoritative scholarly evaluations. The absence of prototype system testing prevents assessment of real-world accuracy, cross-collection consistency, user interpretability, and potential algorithmic biases in sacred-text analysis. Future research must include the development and deployment of functional AI verification tools, followed by multi-phase testing with expert hadith scholars to refine computational parameters and ensure compliance with Islamic epistemic norms. Further studies should also investigate ethical governance frameworks, dataset standardization, and the impact of AI-assisted verification on contemporary Islamic education and digital religious ecosystems. The path forward requires sustained collaboration between Islamic studies scholars, AI engineers, and digital humanities researchers to operationalize a responsible and authoritative model for AI-powered hadith authentication.

AUTHOR CONTRIBUTIONS

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.
Author 2: Conceptualization; Data curation; In-vestigation.
Author 3: Data curation; Investigation.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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