

ADVANCEMENTS IN HADITH AUTHENTICATION METHODS: A SYSTEMATIC LITERATURE REVIEW

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Abstract

Since the commencement of hadith as one of the Islamic branches of knowledge, scholars had given a lot of attention on the authentication process of hadith corpus. This is to avoid the exploitation or dissemination of non-authentic hadiths that can divert the society from the true Islamic practices. Despite this, there has been limited research on the systematic review of hadith authentication methods, particularly regarding their development. This study aims to address this gap by conducting a Systematic Literature Review (SLR) on the topic. A total 152 literatures were identified from the initial searching process. The number was eventually reduced to 66 after screening and qualification evaluation process. This study found that the methods divided into two themes: information and communication technology (ICT) and conventional method. Under these themes, there are topics and sub-topics that further detailed the process of hadith authentication. The study identified several limitations such as the imbalance between methods of authentication, incomprehensive manipulation of data

set, and the absence of authentication methods developed for a specific group of people. The study also finds that the synthesis of classical and modern approaches reveals a growing sophistication in the tools and techniques employed to assess the authenticity of hadith corpus.

Keywords: *Hadith, Advancement, Authentication, Method, Systematic.*

1. Introduction

The term authentication refers to validation and verification of the authenticity of something. In Arabic, it is translated as “*ithbāt sihāh*” اثبات صحيحة, “*al-musaddaqah*” المصدقه, *tahaqquq* تحقق, “*tahqīq*” تحقیق, and “*tauthiq*” توثیق. All these terms are clearly signalling towards a vetting process. In the realm of the hadith knowledge, it involves the process of verifying and validating hadith texts to identify transmission inaccuracies and determine their status, whether they are to be accepted (*maqbūl* مقبول) or rejected (*mardūd* مردود). This is aligned with its definition according to scholars who suggested that authentication means the hadith classification into authentic or not authentic.¹ Therefore, it is understood that through the authentication process, we can identify the condition of hadith and eventually be able to evaluate its acceptance or rejection. Failure in doing so will contribute to the usage and dissemination of unauthorised hadiths involving weak and bogus hadiths among the society and later exposing them to heresy and superstitious matters.²

However, with the proliferation and rapid development of various hadith authentication methods today, their effectiveness and suitability in authenticating hadith warrant discussion and critical examination. Are these methods applicable to all target groups, or should individuals focus solely on approaches that align with their specific needs and level of expertise in hadith studies? For instance, in the current ICT era, is the conventional authentication method still relevant, or should we transition to digital methods based on artificial intelligence for hadith authentication? In addition, the issue of comprehensive data coverage must be addressed, as some authentication methods do not encompass the entire hadith dataset but only cover a portion of its corpus. Finally, the issue of recent developments in authentication methods also requires resolution by addressing whether conventional and modern methods can be integrated to produce a more efficient and holistic approach.

Hadith has not been exempted from the rapid advancements of AI technology, as discussions on its authentication through AI have begun to emerge. However, the debate over the suitability and accuracy of AI-based authentication remains a contentious issue that

demands resolution. Therefore, this review seeks to examine the extent to which academics have engaged with this intriguing development.

Therefore, it is crucial to conduct a systematic literature review to examine the development and advancement of hadith authentication methods, particularly within the academic sphere. Through this process, the limitations and gaps in previous studies can be identified, allowing for recommendations for further improvements.

2. Background and Literature Review

There were several SLR conducted towards hadith authentication such as Luthfi et, al.³ which had viewed the method and set of data used in the hadith authentication study. Saloot et. al, on the other hand, analysed classification and data mining related to hadith domain.⁴ The latest study was by Binbeshr et. al,⁵ who reviewed literature related to authentication method and hadith classification. Yet, these studies mostly were heavily inclined on the ICT based authentication rather on the conventional method. There were also overlapping ideas between authentication and classification, besides their studies were limited until year 2019. Thus, there is a need to conduct a more comprehensive and up-to-date review to fill the loops of those studies done.

To gain a comprehensive review on the matter, the SLR technique was chosen. According to Okoli, Schabram⁶ and Booth et.al⁷, SLR is defined as a review technique that emphasises systematic implementation involving clear and precise procedures and methods, and has comprehensive scope in reviewing all related materials, apart from being able to be recreated by other researchers when using the same approaches. It is an efficient and quality process that requires breadth and depth, rigor and consistent, clarity and brevity, and effective synthesis and analysis.⁸ SLR analysis also reduce the possibility of biasness and ensure a comprehensive coverage on the selected research subject.

Basically, there are three considerable principles when conducting systematic review which are clarity, validity, and auditability. The clarity of the structure in the systematic review makes it easier to follow and interpret as well as help reveal what the researcher has and has not done in the systematic review. Validity means it can be protected from any biasness in the selection of the research in the study. The systematic approach stresses that the selected literature should be based on its suitability and accuracy not due to its benefits of the findings or whether it is intrinsically interesting. While auditability means the transparency in which the

reader can see whether the conclusion of the study was obtained from the survey process, or it is just a fabricated findings to support initial conclusions.⁹

Based on its objectives, systematic review is conducted to answer the research questions that had initially been set up.¹⁰ This is different with the traditional review method which is designed specifically for summarization or visualisation of a topic.¹¹ Through systematic literature, the study can be concluded, analysed, and synthesised to identify the limitations and gaps. Besides, it helps in evaluating the validity and quality of the study and eventually exposing its weaknesses, consistency, and contradictions.¹² Theory and hypothesis can be tested for the development of a better new theory. Thus, this technique is selected in this study as opposed to other traditional literature reviews which are too broad and loose in term of it focus besides lacking of clear and strict method in its conduct.¹³ In addition, when compared to other disciplines, SLR technique has not yet been widely used among the Islamic Studies researchers especially in the field of hadith study.

3. Methodology

The design of this study is qualitative in nature using descriptive method that aimed to identify, critically evaluating and integrating previous studies.¹⁴ According to Kitchenham and Charters an effective systematic review involves three main levels: Planning, Executions, and Report.¹⁵

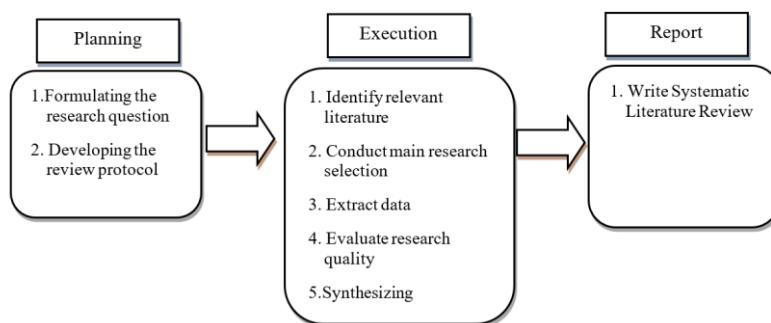


Figure 1. Flowchart of survey stages

3.1. Review Protocol

This review adapted Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) as a guideline in developing review protocol.¹⁶ It explains the steps of the qualification

criteria, information sources, searching strategies, literature selection, literature quality evaluation and data extraction strategy.

3.2. Systematic Research Strategy

There are three main processes in systematic research strategy are identification, screening, and eligibility.¹⁷

3.2.1. Identification

Identification is a process of searching a synonymous word, related term and variation of the main keyword. It is aimed at giving more choices to the data platforms in searching related literature.¹⁸ In this study, the researcher had varied the keywords and developed a search string using main keyword, ‘hadith authentication method’ with the variation of method terms in Malay language such as ‘kaerah’, ‘teknik’, ‘manhaj’ and ‘cara’. While the term authentication has been varied to verification, validity, validation, review, *takhrij*, and criticism. The search using Arabic keywords were done through the terms ‘*manhaj tawthiq hadith*’ منهج توثيق حديث with variation of ‘*uslub, qā'idah*’ اسلوب قاعدة and ‘*taṣḥīḥ*’ تصحیح. The plurals such as ‘*manāhij*’ مناج , *qawā'id* قواعد and ‘*asālib*’ اسالیب were also interspersed in the search. The term ‘hadith’ has been varied with the term ‘*hadis*’ and ‘*sunnah dan sunna*’. To obtain more comprehensive results, we also included related terms such as ‘*sanad*’ سند, ‘*matn*’ متن , and ‘*isnad-cum-matn*’ in our search process. The search using backwards searching and forwards searching has also been conducted in this survey.

The searching process was conducted in two main data platforms: Scopus and Web of Science (WoS). Both platforms were selected because of their advantages such as advance searching functions, being comprehensive in indexing publishers (more than 5000 publishers), strict articles quality control and put focus on multi-disciplinary fields.¹⁹ Google Scholar then was added as third platform because of its capability to act as supplementary database as suggested by Haddaway et. al.²⁰ In addition, according to Shaffril et. al one of the advantages of Google Scholar is its ability to provide mass search outcomes due to the numbers of documents in its database (389 million documents).²¹ The searching process using these three main platforms managed to collect a total of 152 literatures.

3.2.2. Screening

Based on the selection criteria, this study has screened 152 literatures. The acceptance and rejection criteria helped in identifying the literature that answers the research problems. It was almost an

impossible task for the researchers to analyse all those literatures related to hadith authentication method. Thus, several selection and rejection criteria were listed in order to filter and gather a suitable literature only. In ensuring a comprehensive coverage of literature, this study accepted both conventional and ICT authentication methods with four types of literatures were accepted: books, journal articles, proceedings and dissertations. This is to ensure the quality of the analysis. Grey literature such as reports were exempted from this review as they were regarded as having less quality compared to reviewed journal articles and proceedings.²² Additionally, literature that was inaccessible or written in languages other than Malay, English, and Arabic was excluded from this review to prevent any potential misunderstandings. This screening process excluded 28 literatures that did not fit the above criteria. The remaining of 124 literatures underwent the next process which was the eligibility assessment.

3.2.3. Eligibility Assessment

Eligibility assessment is the third process where the researcher assessed each literature manually to ensure they are aligned with the criteria. According to Shaffril this assessment was conducted by looking at the title and reading the abstract of the literature.²³ This process eliminated 58 literatures due to several reasons such as irrelevant to the topic or inaccessible to abstract and their content. In the end, only 66 literatures were selected.

3.3. Quality Assessment

In SLR, the evaluation of quality articles is crucial element. It can be conducted through two methods: qualitative or quantitative.²⁴ In this review, the qualitative assessment method using best evidence synthesis was selected. By using this method, the researchers evaluated the quality of each literature that would be analysed. Quality assessment is based on the set of selection criteria in the screening process. Any literatures that fit the selection criteria will be selected while the others will be discarded. Petticrew and Roberts suggested evaluators to divide the literature quality into three levels, high, average, and low. Only those at the high and average levels are qualified to be analysed while those in low level need to be discarded. The selection of methodology in research was also used as the key measurement for the literature quality level in this study. This method of quality assessment could lead to high level of biasness, yet the difficulties of finding experts to assess the literature had made it the best option. This process was classified 50 literatures at high level, 16 in average, and none for the low level. Figure 2 below shows the process of the literature selection in this study.

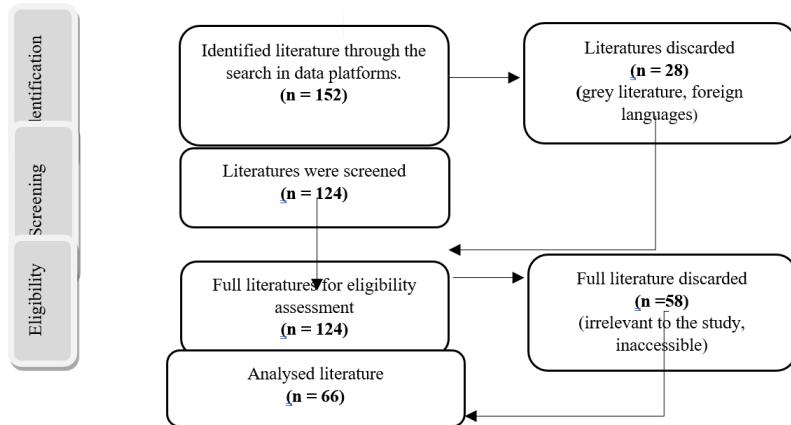


Figure 2. Research literature selection flowchart

3.4. Data Analysis

This review was conducted in the form of descriptive analysis using text narrative synthesis approach. Descriptive form is the common survey conducted and easily identified. It analysed the literature based on specific topic, concept and research questions.²⁵ While text narrative synthesis approach requires each literature to be arranged in homogenic sub-group based on the collected data for their similarities and differences analysis.²⁶ Context's characteristics, quality and research findings also need to be reported according to a standardised format.²⁷

4. Findings

This study analysed 66 literatures related to hadith authentication method. Table 1 explains the topic, sub-topics and contexts of these literatures. Based on thematic analysis, two main authentication methods were identified; ICT and conventional method. Figure 3 above shows its divisions.

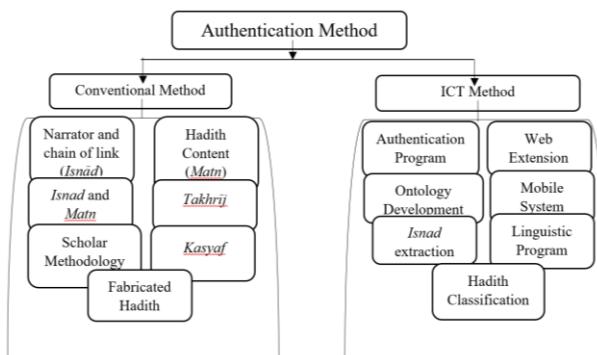


Figure 3. The Taxonomy of Authentication Method

4.1. Information and Communication Technology (ICT)

There were 15 literatures discussed under this theme. 11 of them were focused on the authentication itself while other 4 on the classification process.

Research by Al-Faraby, S et.al , Abdelaal, H.M and Abdelaal, H.M, Youness H.A classified hadith using data mining and machine learning techniques. Al-Faraby used sets of data from the Malay Language translated hadith while the other 2 research had unclear context on the used set of data. Ghanem, M et.al classified hadith through Learning Vector Quantisation (LVQ) method by using a collection of 160 hadiths as their set of data.

Using hybrid deep learning models that combine BERT (Bidirectional Encoder Representations from Transformers) with either BiLSTM (Bidirectional Long Short-Term Memory) or BiGRU (Bidirectional Gated Recurrent Unit), Mulyana and Lhaksmana try to classify hadiths based on their authenticity (sahih, hasan, daif). Researchers applied BERT-BiLSTM and BERT-BiGRU models, with text preprocessing and dataset balancing. The results show that BERT-BiLSTM performed better, achieving high accuracy (96.3%).

There are several researches that have authenticated hadith based on hadith narrators and their *isnād* such as Ghazizadeh, M et.al confirmed the level of hadith validity based on the characteristics of the narrator through fuzzy expert system. Studies by Azmi, A.M, Badia, N.B and Baraka, R.S et.al developed application and domain to build the hadith's *sanad* ontology. A study by Siddiqui, M.A et.al introduced a system that extracted *isnād* automatically from a hadith through Named Entity Recognition and Classification and presented this *sanad* in the form of network. A study by Najeeb, M.M had innovated *isnād* processing system that autonomously issue judgement on the hadith. Analysing the similarities and alignment of the concepts between *isnād* assessment with the authentication of internet banking, study by Ibrahim, N.K et.al found that there were several compatibilities and relations between both. Thus, they suggested an authentication framework of *sanad* to be expanded further by researchers. From this six research, only study by Azmi and Badia had used a specific data set which was 90 hadith from *Sahīh al-Bukhārī* and *Muslim*. Recently, study by Luthfi and Yusoh in 2024 introduced the Hadith Sanad Authentication Fuzzy Expert System (HAFES) to help verify hadith authenticity by analyzing the *sanad* (chain of narrators). Unlike existing systems, HAFES provides categorized authentication results using a fuzzy logic approach. The system achieved high accuracy in evaluating narrator reliability (92.72%) and missing narrators (98.16%), while the overall *sanad* status classification reached 72.2% accuracy.

Besides the authentication through narrators and *sanad*, there were several literatures under ICT theme which discussed the authentication method through specific system development such as a study by Kamsin, A et.al. Their study apparently was not only limited to hadith texts, but it involved the authentication of The Holy Qur'ān texts as well. A study by Eljazzar, M.M et.al and Kabir, M.N et.al on the other hand focused on the development of the website for authentication. Kabir's study exploited *Sahīh al-Bukhāri* and *Sahīh Muslim* as data set. By looking at the vast usage of mobile telephone, Fadele, A.A et.al developed mobile authentication system for android and iOS. However, it was only capable to authenticate hadith in Malay language.

By applying the authorship verification method, Elewa, A authenticated hadith through its linguistic approach. He was not alone in this matter when E Mohamed and R Sarwar applied the same method yet through machine learning automation approach.

4.2. *Conventional Method*

Under the conventional method, there were 38 literatures which was divided into 5 different topics.

4.2.1. *Assessment of the narrators and isnād*

Due to the evaluation of hadith which is strongly influenced by the state of the narrator and *isnād*, it is found that most authentication methods are under this topic. A large number of literatures were under this topic which discussed the methodology hadith scholars undertaken in evaluating hadith narrators. Study by Talib, H analysed the method of Yahya bin Sa'id al-Qaththan. Similarly, Ridhwan, I.S and 'Audah, A.I on the method of Abdul Rahman bin Ibrahim al-Dimasyqi. Kutluay, I focusing on the method of Ahmad bin Hanbal and then Turhan, H.I on the method of Shu'bah bin al-Hajjaj. The study by Jamilin, A.K.B and Yusoff, M.F did not only review the method Abu Hatim in evaluating hadith narrator, but also compared it with the method of the other hadiths critics.

A study by Abdullah, however viewed the authentication process of the hadith narrators in different perspectives. He analysed the critical thinking elements in differentiating between facts, rhetorical bias, differentials, evaluations, and logical conclusion. According to him, these elements are crucial to determine the reliability of the narrators. Since the narrator's evaluation most of the time were based on relative criticism, Turhan discussed the need of an explicit principle to measure the process of narrator evaluation. Among of the proposed principles is the *tarjīh* ترجیح narrator which is not accepted unless the reason is stated. Finally, study by Kaya, M

discussed the reasons why the *isnād* اسناد evaluation is preferred compared to other methods in the hadith authentication.

4.2.2 Assessment of the Hadith's *Matn*

According to Khan²⁸ and Ayub²⁹ the hadith authentication through the study of *matn* has not been given equal priority by the conservative scholars as the *isnād*'s study. Furthermore, Brown stated that there is a consensus among the Western scholars that this method is limitedly applied by the hadith critics.³⁰

In the article entitled The Authentication of Hadith: Redefining the Criteria, Khan listed 5 criteria that became the principle in assessing *matn* hadith which are Holy Qur'ān, authentic hadith, sound rationality, precise history facts, and moderation. Discussion on this topic was continued by Brown when he discussed several examples extensively of *matn* authentication by the scholars in the 3rd and 4th century of Hijr. He concluded that hadith scholars in the early era of Islam did not neglect *matn* authentication but hid them under the criticism of *isnād*. In another research by him, he discussed on the polemic towards the *matn* authentication among Islamic scholars and their school of thoughts. Abdurrahman argued that the hadith scholars had not yet clearly outlined the method of *matn* assessment. On that account, he introduced the procedure of assessing *matn* validity from two aspects, *syaz* (conflict with more valid *matn*) and *'illah* ﴿hidden flaws that weakening hadith). Both aspects however have their own specific rules that bound their application such as the existence of data comparison and concrete indication. The study by Ayub debated on the roles of *matn* assessment in hadith authentication.

4.2.3 Assessment on both *sanad* and *matn*

Hadith authentication through the combined analysis of *sanad* and *matn* has increasingly garnered attention among contemporary scholars, particularly with the introduction of the concept of *isnād-cum-matn* analysis by Harald Motzki and G. Schoeler. Motzki's theory of *isnād-cum-matn* refers to a method of hadith authentication that integrates the analysis of both the *isnād* (and the *matn* of the hadith.³¹

There are countless works discussed under this newly offered category. A study by Nagel, T examined the role of *isnād-cum-matn* analysis to uncover the accuracy of the biography and life history of the Hazrat Muhammad Rasulullah Khatam un Nabiyyun sallallahu 'alaihi wa 'ala Alihi wa Ashabihi wa Sallam. He, however, considered this method to be a futile effort in achieving the goal. Focusing on the matter of inheritance, Pavlovitch, P and Powers, D.S

questioned the authority of the narration “a bequest may not exceed one-third of the estate” to the Hazrat Muhammad Rasulullah Khatam un Nabiyyun sallallahu ‘alaihi wa ‘ala Alihi wa Ashabihi wa Sallam. In year 2021, Qureshi, B.A examines Motzki’s use of this method in relation to the traditions of the Hazrat Muhammad Rasulullah Khatam un Nabiyyun sallallahu ‘alaihi wa ‘ala Alihi wa Ashabihi wa Sallam concerning *Zakāt al-Fitr*, while also highlighting some of the limitations in Motzki’s application of the method. Following Qureshi works, Budiman, A et. al explored Motzki’s theory of *isnād-cum-matn* analysis by examining the hadith related to usury (*riba*). The author’s theoretical analysis of the hadith on usury reveals that the Hazrat Muhammad Rasulullah Khatam un Nabiyyun sallallahu ‘alaihi wa ‘ala Alihi wa Ashabihi wa Sallam serves as a central link, while three companions; Abdullah Ibn Mas’ud, Abu Hurairah, and Bara’ Ibn Hazib, act as partial links in the chain. Similarly, Fadhil, H.M and Imtyas, R explored the narration about loving Arabs amid some Muslim Arab cults. Recently, based on the premise that the *isnād-cum-matn* method has limitations, Muhammad, T and Nasir, S. discussed how to enhance it by using additional analytical methods, such as a prosopographic analysis of the *isnād* to trace the origins of the hadīth and a thematic examination of the motifs in the *matn*, rather than relying on the previously explored historiographic approaches.

In more general discussions, Kurniawan, M. I. R., Mutammimah, B., et.al, Kizil, F and Syed, M talked about *isnād-cum-matn* analysis in the light of its main concept, challenges, limitations, potentials and benefits. Challenging single strands theory by Juynboll’s, Ayşe in his study under the title ‘Using *Isnād-Cum-Matn* Analysis to Verify The Authenticity of The Transmission Process of Single Strands: A Case Study of G. H. A. Juynboll.’ explores how integrating *isnād-cum-matn* analysis (ICMA) with the traditional method of *mu’ārada* and *rijāl* evaluation can enhance the authenticity verification of hadith transmissions. By applying ICMA to single *isnāds*, particularly for a hadith related to the permissibility of killing women and children in battles, the study challenges Juynboll’s view that single *isnāds* are unreliable. It reveals additional *isnāds* and textual variants not included by Juynboll and shows that these variants, when analyzed with *rijāl* data, support the authenticity of the hadith’s transmission process. The study argues that Juynboll’s dismissal of single *isnāds* as fabrications is inaccurate for this hadith and shouldn’t be applied broadly.

Lastly, Ismail, T.M.S.T et.al discussed the foundation and scope of the *sanad* and *matn* evaluation. They analysed the relationship between the two elements and came to a conclusion that there were 4 situations that would affect the authenticity of hadith; both *sanad* and *matn* authentic, both *sanad* and *matn* inauthentic, authentic *sanad* but inauthentic *matn* and authentic *matn* but

inauthentic *sanad*. In this matter, only the first situation, where both the *sanad* and *matn* are authentic, is considered valid and acceptable.

4.2.4 *Takhrij* Method

By looking at the main topic of this study, it is undeniable that *takhrij* تحریج is one of the main methods in authenticating hadith. Therefore, this review managed to examine several studies that had directly discussed the *takhrij* method. Among was the study by Bahrudin and Sagala, A which examined general concept of *takhrij* including its methods, steps, levels and practical examples. While study by Dakir, J et.al debated on the importance and position of the *takhrij* method in the elicitation process of laws and *fatwā*.

4.2.5 Scholar Authentication Method

This review found 14 literatures discussing scholars' methodology in hadith authentication.

'Atiyah, M.M (t.th) discussed the authentication method of Ibn Daqiq al-'Eid in his book *al-Imam fi Ma'rifat Ahādīth al-Ahkām*. Mahmud, A.M researched on the al-Tabari's method in *Tahzīb al-Athār*. Kafi, A.B analysed the al-Bukhari's *taṣīḥ* method in his magnum opus *al-Jāmi' al-Ṣaḥīḥ*. While Islam, M.A compared the authentication method of Abu Hanifah which represented *ahl rā'yu* with *ahl hadīth*. Zulhilmi, M.N studied Ibn Solah's method and harmonised it with contemporary scholar's authentication theories.

Tracing the works of al-Shāfi'i and Muslim, Abu-Alabbas, B analysed and compared the standard evaluation of hadith that were established by both. The study concluded that both al-Shāfi'i and Muslim had a similar standard evaluation albeit different framework and agenda. Chodir, F on the other hand, specifically studied al-Shāfi'i's authentication method from his masterpiece *al-Risālah*.

In his study, al-Misri, A.S tried to compare between al-Albani method of authentication with the prerequisite set up by al-Bukhari and Muslim in their *Saḥīḥ*. The study concluded that there are several inclusive and exclusive principles between them regarding hadith authentication. In two of his articles, Yusoff, M.F discussed on the methodology of hadith criticism of Ibn Hibban in his treatise *Saḥīḥ Ibn Hibbān* and his approach towards authenticating *sīrah* of the Prophet (*Sal Allāh-u-`alaihe wa sallam*). Although both studies involved the same scholar, it looked at different contexts of authentications. Besides that, Rahim, V.K.H, Zulfikar, E and Calgan, M.A explored al-Ghumari, al-Hakim and Ibn Kathir's authentication method in their works in *al-Mudawī li 'Ilal al-Jāmi' al-Saḡīr wa Sharḥ al-Munawī*, *Mustadrak 'ala al-Saḥīḥayn* and *Tafsīr al-Qur'ān al-'Azīm* respectively. The final review in this sub-topic is the study

by al-Tahrir, R (2021) who examined authentication methods of *ahl uṣūl* and comparing them with the methods of *ahl ḥadīth*. He concluded that *ahl uṣūl* had an independent theories and methods in dealing with *khabar aḥad* which was based on textual certainty and establishment of practice of the text. On the contrary, *ahl ḥadīth* applied the theory of *al-i'tibār*, *al-ta'līl*, *al-shahid* and *al-mutabi'* to authenticate any *sanad* or *matn*.

Other than those 5 topics mentioned above, there were several studies which did not fit in any of those topics such as study by Usman, U, Kamali, M.H and Muhkhlisin which discussed on the authentication method in general. Study by Baru, R et.al established a guideline in authenticating false hadiths according to the standard outlined by Ibn Qayyim in his work *Naqd al-Manqūl*, while Zulkifli, M and Khudori, M analyzed *kasyaf* method which was practiced by some of the Sufi in validating the hadith. They concluded, that since the nature of *kasyaf* method was too relative and subjective, it does not carry a solid foundation to be considered as one of hadith authentication methods.

Bil .	Theme	Topic	Sub-topic	Context	Research
1.	Information and Communication Technology (ICT)	Authentication Program	Fuzzy system	Narrator Characteristic, KAFI volume 1, Hadith Sanad Authentication Fuzzy Expert System (HAFES)	Ghazizadeh , M et.al (2008) Luthfi. E.T. & Yusoh, Z.I.M (2024)
2.					Kamsin, A. et.al (2015)
3.			Associative Classification Technique		Najeeb, M.M (2014)
			Hybrid Deep Learning Models	BERT (Bidirectional Encoder Representations from Transformer s), BiLSTM (Bidirectional Long Short-Term Memory), BiGRU	Mulyana, M. H & Lhaksmana, K. M (2024)

				(Bidirectional Gated Recurrent Unit).	
4.	Hadith Ontology Development	Domain Hadith Isnad Ontology	Isnad/narrator	Baraka, R.S et.al (2014)	
5.		E-Narrator Application	Chain of narrators, 90 hadiths from Sahih al-Bukhari and Muslim	Azmi, A.M, (2010)	
6.					Badia, N.B (2010)
7.	<i>Isnad</i> Extraction from Hadith	Named Entity Recognition and Classification	Isnad/narrator	Siddiqui, M.A et.al (2014)	
8.	Authentication of Linguistic Aspect	Method Authorship Verification			Elewa, A (2019)
9.		Machine learning automation			E Mohamed, R Sarwar (2021)
10.	Web extension program		<i>Sahih</i> al-Bukhari and Muslim database	Kabir, M.N et.al (2018)	
.					Eljazzar, M.M et.al (2017)
11.	Mobile Authentication System		Android and iOs	Fadele, A.A et.al (2020)	
12.	<i>Isnād</i>		Similarity with banking authentication concept	Ibrahim, N.K et.al (2019)	
13.	Classification	Data mining and machine learning		Abdelaal, H.M et.al (2019)	
14.		LVQ (Learning Vector Quantization)	Collection of 160 hadith	Ghanem, M et.al (2016)	
15.		Machine learning	Translation of Malay language Hadith	Al Faraby, S et.al (2018)	

16 .			Machine learning, based on reliability and memory strength of hadith narrator		Abdelaal, H.H, Youness, H.A (2019)
17 .	Conventional/ Traditional	Assessment towards narrator/ <i>Isnad</i>	Methodology	Abu Hatim	Jamilin, A.K.B, Yusoff, M.F.B.M (2020)
18 .				Abdul Rahman bin Ibrahim al-Dimasyqi	Ismail Sa'id Ridhwan, Ahmad Idris 'Audah (2007)
19 .				Ahmad bin Hanbal	Kutluay, I (2011)
20 .				Yahya bin Said al-Qatthan	Talib Hammad (2005)
21 .				Shu'bah bin al-Hajjaj	Turhan, H.I (2017)
22 .		Application of Critical Thinking	<i>Jarh wa Ta'dil</i>		Abdullah, I (2012)
23 .		Principle and regulations of narrator assessment			Turhan, H.I (2018)
24 .		<i>Sanad</i> prioritise from <i>matn</i>			Kaya, M (2019)
25 .	<i>Matn</i> Assessment	Syaz and <i>Illah</i>			Abdurrahman (2013)
26 .					Ayub Ayub (2018)
27 .					Brown, J.A.C (2012)
28 .					Brown, J.A.C (2008)
29 .					Khan, I.A (2007)
30 .	<i>Sanad</i> and <i>Matn</i> Assessment	Isnad-cum- <i>matn</i>			Nagel, T (2012)

			analysis (ICMA)		Pavlovitch, P and Powers, D.S (2014)
					Qureshi, B.A (2021),
					Budiman, A et. al (2022)
					Fadhil, H.M and Imtyas, R (2023)
					Muhammad ,
					T and Nasir, S. (2024)
					Kurniawan, M. I. R. (2021)
					Mutammim ah, B., et.al, (2023)
					Kizil, F (2024)
					Syed, M (2024)

					Ozgur, A.M (2024)
					Ismail, T.M.S.T et.al (2014)
31 .	<i>Takhrij</i> Method				A Sagala (2021)
32 .			Laws and <i>fatwā</i>		Dakir, J et.al (2012)
33 .				Hadith <i>Aḥad</i>	Bahrudin Bahrudin (2009)
34 .	Scholar Method	Ibn Hibban	<i>Sahīh Ibn Hibbān</i>		Yusoff, M.F (2020)
		Ibn Solah	Authenticati on of <i>mutaqaddimī n</i>		Zulhilmi, M.N (2016)
		al-Shafei	Scripture of <i>al-Risālah</i>		Chodir, F (2020)
35 .		Ibn Kathir	<i>Tafsīr al- Qur'ān al- Azim</i>		Calgan, M.A (2020)
36 .		al-Shafei and Muslim	Both narrator's works		Abu- Alabbas, B (2017)
37 .		Ibn Hibban	<i>Sīrah Nabawiyah</i>		Yusoff, M.F (2019)
39 .		Ahmad al- Ghumari	<i>Al-Mudawī li 'Ilal al- Jāmi' al- Saqhir wa shyārḥ al- Munawī</i>		VKH Rahim (2019)
38 .		al-Hakim	<i>Mustadrak 'ala al- Sahīhayn</i>		Zulfikar, E (2020)
40 .			<i>Usul Experts (Usuliyin)</i>		Rais al- Tahrir (2021)
41 .		Ibn Daqiq al-'Eid	<i>Al-Imām fī Ma'rīfat Ahādīth al- Aḥkām</i>		Maymuni Mughamma d 'Atiyah (t.th)
42 .		al-Albani	<i>Syārat al- Sahīhayn</i>		Anas Sulaiman al-Misri (2018)
43 .		al-Tabari	<i>Tahzīb al- Athar</i>		Abdul Majid

					Mahmud (2005)
44 .		al-Bukhari	<i>Al-Jāmi‘ al-Sahīh</i>	Abu Bakar Kafi (2007)	
45 .		Abu Hanifah	Comparison with hadith expert method	Islam, Mohamad Amin (2008)	
46 .	Guideline	False Hadith	Ibn Qayyim dalam Naqd al-Manqul	Baru, R et.al (2017)	
47 .	<i>Kasyf</i> Method	<i>Sūfi</i> Expert		M Kudhori (2018)	
				Zulkifli, M (2014)	
48 .	General			Kamali, M.H (2014)	
49 .				Mukhlisin (2019)	
				Usman, U (2009)	

Table 1. Theme, topic and sub-topic of hadith authentication method

5. Discussion

This SLR explores 66 researches related to hadith authentication method. In terms of literature types, 54 of them were journal articles, 4 master dissertations, 6 conference proceedings and 2 were books. Figure 3 explains the taxonomy of these methods. In general, there are two themes related to authentication methods: conventional and ICT. Both are represented by several topics and sub-topics as per above. With respect to the publication year, fig. 4 shows a steady number of publications of hadith authentication methods from year 2005 to 2024. However, from year 2014 to 2024 this topic received more attention from scholars with significant increase in publication.

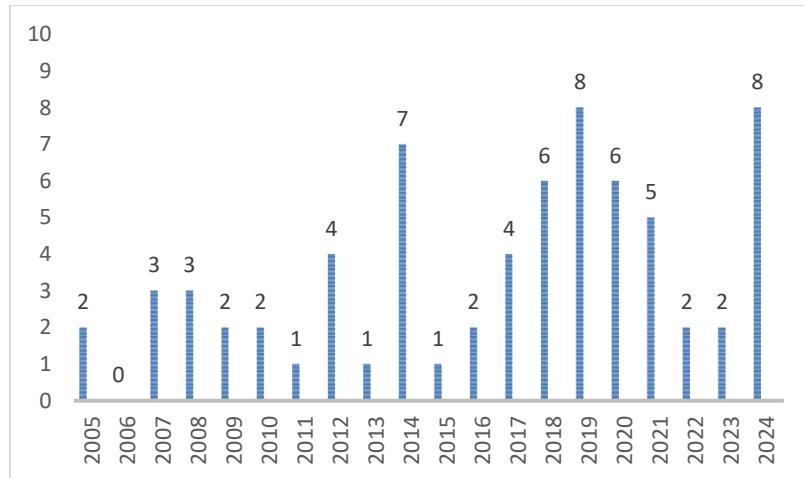


Figure 4. Distribution of publishing years

This review identifies articles related to hadith authentication scattered in 48 different journals as can be seen in table 2.

No	Journal
1	IEEE Access
2	<i>Al-Masaq</i>
3	Journal of Physics
4	International Journal of Computer Application
5	Advances in Computer and Information Sciences and Engineering
6	International Journal on Islamic Applications in Computer Science and Technology
7	Malaysian Journal of Islamic Studies
8	International Journal of Islamic Application Computer Science Technology
9	International Journal of Computer Linguistic Research
10	<i>Jurnal Pusaka</i>
11	Arabian Journal for Science and Engineering
12	Computers and Society
13	Digital Scholarship in the Humanities
14	International Journal of Engineering and Technology (UAE)
15	Australian Journal of Basic and Applied Sciences
16	Romanian Journal of Information Science and Technology
17	Cumhuriyet Dental Journal
18	<i>Al-Bayan</i>
19	Islamic Law and Society
20	Asian Social Science
21	Intellectual Discourse

22	Energy Education Science and Technology
23	<i>BILIMNAME</i>
24	Global Journal al-Thaqafah
25	Ilahiyat Studies-A Journal on Islamic and Religious Studies
26	Journal Of Academic Research in Religious Sciences
27	International Journal of Information Technology
28	International Journal of Computer Trends and Technology
29	Digital Scholarship in the Humanities
30	American Journal of Islamic Social Sciences
31	International Journal of Advanced Studies in Computers, Science and Engineering
32	<i>Ishlah: Jurnal Ilmu Ushuluddin, Adab Dan Dakwah</i>
33	<i>Jurnal Ilmu Dakwah</i>
34	<i>Hadis. Jurnal Alasma: Media Informasi Dan Komunikasi Ilmiah</i>
35	<i>Al-Ulum: Jurnal Pendidikan Islam</i>
36	Indonesian Interdisciplinary Journal of Islamic Studies
37	IUG Journal of Islamic Studies
38	Jordanian Scientific Journal
39	Egyptian Journals
40	IJISH (International Journal of Islamic Studies and Humanities)
41	Hamdard Islamicus
42	Islamic History and Civilization
43	Arabica
44	Takwil: Journal of Quran and Hadith Studies
45	<i>Al-Bukhari : Jurnal Ilmu Hadis</i>
46	<i>Ushuluna: Jurnal Ilmu Ushuluddin</i>
47	Religia
48	International Journal of Innovative Computing, Information and Control

Table 2. List of journals

This systematic review concludes that the scholars' methods of authentication and *isnād-cum-matn* analysis dominate the studies, with 12 works specifically discussing these topics. This finding highlights the significant contributions of hadith scholars in authenticating the hadith corpus and underscores the importance of both *sanad* and *matn* analysis in validating hadith. In a way it gives signal to all hadith critic and researcher to attribute their works based on the foundation and principle laid down by the scholars. The second most dominant method is the authentication through *isnād* evaluation with 8 literatures.

Even though the number of literatures collected in this study were quite high, relatively when compared to the other field of

knowledge, the study on hadith authentication method is still limited in terms of quantity and quality as was found out by Hakak, S et. al and Binbeshr, F et. al.³² The alienated of term ‘authentication’ in the context of hadith assessment and verification might play a significant role in affecting the number of returned literatures during the searching process. It is worth noting that, in this study, authentication encompasses both ICT-based and classical methods, though their applications differ. Within the ICT framework, authentication refers to the process of verifying the validity of a hadith using information technology. In contrast, within the classical paradigm, it pertains to the traditional examination of *sanad* and *matn* to ascertain the authenticity of a hadith.

This study also finds that conventional method has excelled the ICT method. This imbalance however contradicted with the current reality which leaned heavily on the digitalisation and computerisation. Other than that, in term of frequency, this review has also discovered that the study on hadith authentication through *isnād* examination has outshined *matn* analysis.

In the hadith authentication process, trusted and complete data set has become a crucial requirement.³³ Though there were several data sets used, they were not comprehensive enough when compared to the enormous hadith corpus. For example, *al-Kutub al-Sittah* as a data set in some of the studies is limited to *Ṣaḥīḥ al-Bukhārī* and *Ṣaḥīḥ Muslim* only, neglecting the other four remaining books.

This review discovered the absence of study focusing on developing the authentication method for specific group of people such as students, book authors, editors of publishing companies and others. Both Zulkifli’s and Kudhori’s studies though were viewed as focusing more on the sufi’s hadith authentication method through *kasyaf* concept, are more towards the assessment and critics on the method not to develop an actual authentication module.

Lastly, the study found that the authentication of hadith using Artificial Intelligence (AI) applications has yet to receive significant attention among academics, despite the global trend of Artificial Intelligence (AI) integration across various fields. Most of the existing literature on hadith and Artificial Intelligence (AI) has thus far focused only on three main issues—comprehension, prospects, and ethics—without addressing authentication methods.

6. Conclusion

The Systematic Literature Review (SLR) conducted on 66 studies related to hadith authentication method discovered that 49

research were related to conventional method and the remaining 17 were on information and communication technology (ICT) method. In the conventional method, the evaluation of *isnād* and hadith narrator is still the preferred method by most researchers. However, authentication method through *matn* assessment has begun to gain serious attention among researchers. Relatively, digital method of authenticating hadith is still new, quite complex, and is facing several challenges to develop. So far, most are focusing on the development of authentication program based on hadith *isnād* using machine learning approach. The hybrid approach with conventional methods is most likely the way forward in order to establish a comprehensive and efficient digital authentication method. Since there is no specific hadith authentication method for focus group being promoted, researchers are urged to develop a suitable and comprehensive hadith authentication module or guideline for critical groups such as Islamic speakers, preachers, book authors and editors, and students at all levels of studies. The broadness and complexity of hadith erudition emphasised the need towards them. This study concludes that contemporary researchers need to enliven the research activities related to hadith authentication method. The thrust of studies needs to be varied and at the same time ensuring the highest level of research quality. In summary, this systematic review highlights significant advancements in the field of hadith authentication, reflecting a dynamic interplay between traditional methodologies and contemporary technological innovations. The integration of classic and modern methods shows an increasing sophistication in the tools and techniques used to evaluate the authenticity of hadith corpus. Advances in digital technology, such as database management systems and machine learning algorithms, have enhanced the ability to analyse large volumes of hadith texts with greater precision and efficiency. In the context of the advancement of authentication methods, which is the focus of this review, this study is rather surprised by the absence of literature on hadith authentication through Artificial Intelligence (AI) applications. We believe that research in this area is crucial to assess its suitability, justification, and accuracy in authenticating hadith.

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