

The use of digital technology in hadith studies

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ABSTRACT

Hadith studies are a crucial field in Islamic scholarship, requiring meticulous methods for validating and verifying the matan (text) and sanad (chain of transmission). With the advancement of time, digital technology has significantly impacted various fields of knowledge, including hadith studies. The use of digital technology, such as hadith software, digital databases, and text search applications, has facilitated the process of collecting, classifying, and analyzing hadith. This technology enables quick access to primary hadith sources scattered across different locations, and it helps researchers analyze both sanad and matan more efficiently. This study aims to examine how digital technology is used in various aspects of hadith studies, such as data collection, information management, and the verification of sanad and matan authenticity. It also explores the benefits and challenges faced by scholars and researchers in utilizing this technology, including the role of hadith software and digital databases in enhancing academic research. The study concludes that while digital technology offers significant advantages in improving the efficiency and accuracy of hadith studies, challenges related to data accuracy, information management, and accessibility still require further attention.

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Introduction

Hadith studies is one of the important fields of Islamic studies that focuses on collecting, validating, and interpreting the sayings, actions, and agreements of the Prophet Muhammad. In the modern era, this study faces a number of challenges that are the subject of discussion among scholars. One of the main challenges is the question of authenticity and validity of hadith in the context of evolving times. Some researchers argue that traditional methods such as sanad (chain of narrators) and matan (content of the hadith) need to be adapted to modern scientific approaches. They underline the importance of using technology, such as digital analysis and software, to verify the authenticity of the text and understand its historical context. However, there are also researchers who retain the classical method, arguing that this approach has proven capable of preserving the authenticity of hadith for centuries and should not be changed just because of the times (Kamaluddin, 2023; Malik, 2017; Tamia et al., 2024) .

According to Alfin Tofler, the history of human civilization has gone through three major stages of development. First, the agricultural phase (8000 BC-1500 AD), known as the green revolution, where humanity relied heavily on agriculture and greenery as part of daily life. Second, the industrial phase (1500-1970), where the use of machines and technology began to replace

human labor in work. Third is the digital age (1970-present), where technology, communication, and information have crossed regional and cultural boundaries, which in turn affects the way humans think and live (Toffler, 1982) .

In this digital age, people generally have a new lifestyle that is heavily tied to electronic devices. Technology has become a tool that facilitates all human needs, helping them complete various tasks more efficiently. These technological advancements play an important role in bringing human civilization into the digital age, creating a variety of innovations that are constantly evolving. People can now easily access information thanks to the advancement of digital technology, which has further accelerated the spread of knowledge under human control.

In addition to the positive impacts felt in general, technological developments also affect the field of hadith studies. Digital technology has changed the pattern of life and mindset of humans, including in accessing knowledge (Radiansyah, 2018) . Most disciplines have now been digitized. One example of a major project of digitizing knowledge is the work of A. J. Wensinck from the Netherlands, who compiled "al- Mu'jam al-Mufahras li Alfāzī al-Hadīth an- Nabawī", a dictionary of hadith that contains a wide variety of hadith atafs(Nikmah, 2023)

The role of hadith as the second source of Islamic law after the Qur'an is very important for Muslims, considering that the study of hadith has complex content and requires a lot of data and references derived from various major hadith books, which are often not well studied or codified. As in the case of *takhrij hadith*, in order to find traditions with similar themes, it is necessary to conduct in-depth research on the wording, both in terms of meaning and lafaz, which requires opening many books of hadith. Given the vast number of hadith books, this process can be difficult(Rahman, 2017)

In addition, as written by Muhammad Afatih Suryadilaga that the study of hadith studies continues to develop along with the existence of human civilization that has developed from time to time which is currently in the order of the globalization era. Where the spread of information to all cultures and regions is characterized by the existence of machines as a substitute for human labor and information. So that awareness of the new world also penetrates into the study of religion. Al-Dirasah al-Islamiyyah becomes something interesting in the global era where religious studies have developed well according to the nature of science which will always experience development. This also applies to the study of hadith studies(Suryadilaga, 2014)

Despite the many benefits offered, the use of digital technology in hadith studies also presents a number of challenges. Some of these include the validity of digital sources, the risk of spreading inaccurate information, and the potential for distortion in the delivery of hadith content. These issues raise concerns regarding the integrity of data available on digital platforms and the need for more rigorous methods to ensure the accuracy and authentication of sources. Therefore, the study of "The Use of Digital Technologies in Hadith Studies" is of great importance. This study not only explores the opportunities offered by technology, but also examines the challenges and solutions to optimally utilize digital technology in hadith studies, while maintaining the authenticity and validity of hadith science in the modern world.

To get an in-depth understanding, this research uses a descriptive qualitative method, which is a method used to describe or analyze research data. Data collection techniques involve collecting various references, books, articles, documents, notes, and other qualitative data(Zed, 2008) . This qualitative research focuses on information such as opinions, ideas, concepts, beliefs, and text data relevant to the research topic. The purpose of this study is to analyze the challenges

and opportunities associated with digitization in hadith studies and present a comprehensive picture of the dynamics taking place in this digital era.

The Development of Hadith Studies in Modern Technology

The history of the development of hadith studies has progressed significantly from time to time, starting from the oral form of transmission which later turned into writing. After the hadith was recorded, its development accelerated with the emergence of various books of hadith and terms in the science of hadith. Over time and entering the digital era, hadith began to be adapted into a digital format to facilitate access and study (Maulana, 2016). If in the past scholars had to search for hadith manually, now thanks to internet technology, hadith can be found quickly by simply entering the keywords of the hadith you want to search for. Scientists' awareness of the importance of the development of hadith in the digital era has made the study of hadith no longer limited to ancient or traditional methods, but more practical and accessible (Muzakky & Mundzir, 2022).

The era of digitization of knowledge began at the end of the 20th century, precisely in 1997 when the internet began to spread throughout the world. Islam as a religion that supports the advancement of civilization also accepts technology as an effective means of conveying knowledge. The Prophet Muhammad SAW also used visual media such as diagrams to explain knowledge to his companions so that his teaching was more memorable and imprinted on the hearts of his people. The digitization of science has had a positive impact on the development of hadith studies, both in terms of explanation (syarah) and in improving the quality of the validity of hadith (Nikmah, 2023).

A hadith that is written or presented using digital technology is known as a digital hadith. The culture of hadith literacy that started with the medium of memory (memorization), moved to the written medium, and finally to the printed medium is carried by digital hadith. Digital technology is a type of electrical technology that can generate, store, and process different types of data classified as positive or negative. The emergence of various applications that contain hadith that are very easily accessible to various groups does not mean that they can be fully trusted directly. Dzakiy in his research revealed that the historical record of hadith forgery that has occurred since the death of the Prophet with various factors behind it. Starting from political factors, hatred of Islam, disputes in terms of theology, fanatics, to the love of goodness to the way of fooling religion.

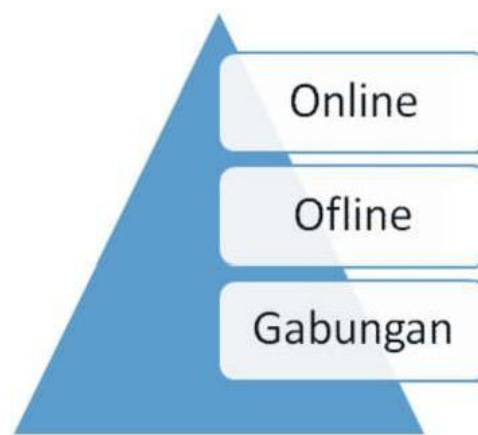
The transformation of science into the digital age makes all knowledge easily accessible, the digital generation responds to it very well. One of them is by making the study of hadith more accessible in a relatively short time without being limited by space and time (Zulkipli et al., 2017). The form of hadith digitization in the current era varies, some are in the form of web, Java-based applications, PC-based applications and Android-based applications. In addition, hadith studies can also be enjoyed by the public through television channels.

In accordance with the era of citation in academia, the digitization of hadith today is not only limited to the numbering of hadith and brief information on the quality of narrators, but has been diversified according to the editor, publisher and year of publication. An overview of the development of digital hadith today can be seen at www.hadisdigital.online a site that collects more than 250 links, covering various types of digital formats: ebook format (pdf, epub, docx, bok, chm); database format (csv, sql); website format; desktop and android application format (Rosyad & Alif, 2023).

Hadith Dissemination in the Digital Age

The digitization of hadith has progressed very rapidly. Previously printed books of hadith have been digitized through scanning to produce ebooks that are identical to the printed version and can be accessed through the Gadget(Ummah, 2019) . In the classical era, one needed a sizable collection of printed hadith books to study hadith, which made it difficult to carry around multiple volumes. In addition, there were very few books of hadith codified by classical scholars that were accessible to the public. With the advent of internet-based applications and social media, the dissemination of hadith has become more efficient, making it easier for people who want to explore the teachings of Islam to access information. Hadith scholars are trying to incorporate the study of hadith into the digital era so that the study of hadith can evolve along with globalization with the increasing presence of the internet, it seems that hadith has become more interesting. Considering the insignificant development of hadith in the previous era, scholars began to push for progress in the study of hadith with a more attractive presentation. This is similar to how the internet can speed up and simplify work processes, thus allowing information searches to be done quickly and practically(Hasanah & Hifni, 2024) . Thus, there is a paradigm shift in terms of data management. This change should also be accompanied by a change in the library paradigm. As a repository of knowledge that physically stores a variety of titles and readings, libraries must be transformed in the same direction, namely towards digitization. The works produced by the academic world must also be digitized to make it easier for everyone to access them. Thus, it becomes a necessity to change the paradigm to get more visits. The best way is for the library to have varied and adequate services in the availability of internet access. This is part of the service for visitors in it. Fast and adequate access will make visitors happy in searching for data online or offline through existing programs. Thus, this increase in performance makes one library user more and more. Service convenience is also the most important part(Suryadilaga, 2020)

Figure 3.1: Presentation Model



The models of digital hadith programs also vary. This can be seen in three models namely the online model which can be found through sites that provide this service Sunnah.com and lidwa pusaka.com, the second model is an offline model where this model does not use internet quota as in the hadith software mentioned in the previous chapter. and a combined model of both offline and online. The weakness of the online model is when the power goes out or the internet network is limited. However, if offline is used, it makes it more fun and easy because it does not depend on the internet but is static or slow in terms of upgrading the digital data. And here are some hadith applications and websites that are relevant in the digital age:

Digital Islamic Library

Figure 3.2: Dashboard view of the digital islamic library website



The Digital Islamic Library (PID) is one example of accessing hadith and its scriptures in the digital age. PID is a software that combines both online and offline bases. Thus, studies conducted by contemporary hadith scholars make the study easier and more comfortable as desired through the accessed model. KH Lutfi Fathullah develops hadith science by utilizing digital technology as a means of making it easier for others to study hadith by creating computer and smartphone applications. And one of his works is the digital Islamic library(Wahyuningsih, 2019)

Digital libraries are information services where all information resources are available/processed in computers and the functions of acquisition/retrieval, storage, retrieval, access and display use digital technology(Hartinah, 2009) . Knowledge and books are two different things but difficult to separate. The book is a medium for recording knowledge that has been achieved and discovered by humans to be stored or disseminated. The books and books are then put together and placed in a certain order that is neat and easy to find, so the place becomes a library. Hundreds, even thousands to millions of books can be collected there. As a student, especially a teacher, let alone a scholar, a library is a wealth that must be owned. It feels strange if someone who is "said" to be a scholar but only has dozens of books. It also feels strange if a campus, also a pesantren, is poor with The library only collects dozens of books, or only a few hundred books. This oddity is a common sight in our beloved homeland. The majority of Islamic campuses and Islamic boarding schools are still poor with book collections, the library is almost not worthy to be called a library because of the lack of book collections. What can be said, that is the reality. The advancement of technology, especially computer technology, brings great blessings to cover the portrait of the above shortcomings. Several programs for presenting books have emerged, both for specific groups of books such as Hadith, Tafsir and Fiqh, as well as for large groups such as Maktabah al- Syamilah, alMaktabah al-Kubra and al- Maktabah al-Zahabiyyah which summarize various Islamic disciplines. In addition, there are also PDF-based programs that appear on the internet. Several sites on the internet provide PDFs of thousands of books. Among these sites are waqfeya.com, miskat.net and al- Mustofa.com. All of the above programs have their advantages and disadvantages. Maktabah al-Syamilah, for example, has the disadvantage that the text is often incomplete. In fact, academically, this program cannot be a valid reference . However, this program has its advantages, including that searching for data with this program is very easy.

Unlike the data provided by waqfeya.com. The books are in accordance with their printed form because they are based on scand/PDF.

However, the books are not yet a unified program and must be accessed through the internet. Because of these constraints, when the network is not available, or the download speed is slow, the available data is often imperfect. Departing from the advantages and disadvantages of each program, the Center for Hadith Studies tries to summarize some of the advantages of the existing programs as well as provide a new breakthrough by offering a program that seems to be able to answer the needs of the ummah, especially academics, to get standard references and as much as possible. From there, the Center for Hadith Studies created the Digital Islamic Library Application, consisting of a set of 6000 volumes of classical and contemporary books.

This digital Islamic library has many advantages. Like other digital libraries, it allows users to open books in a format that resembles their original form. The books available in it appear very similar to the printed version, making it easier for reviewers to conduct research more accurately. The titles available in this application cover various fields of Islamic disciplines (Indonesia, n.d.)

It consists of a set of 6000 volumes of classical and contemporary books. This program collects more than 3000 titles of books from various fields of Islamic disciplines, of which there are more than 6000 volumes. The books summarize several disciplines, namely: Total Book Titles: 2770 (without repetition of printings) Total Volumes: 6100 Volume Pages: 2875447 Pages. The data source for this program is absolutely from www.waqfeya.com. This is because this site is a waqaf site, which means that the books displayed have become the property of the ummah because they have been waqafed. so, there are no more things related to copyright. Because of waqf goods, the author also makes this program open, in the sense that the author does not lock it and does not register copyright rights, the author will only register the copyright, with the intention of closing the possibility of people misusing this program (Hidayat et al., 2019)

Dorarr.net

Figure 3.3: Dorrar.net website dashboard view



Dorar.net is one of the Arabic websites that provides hadith study facilities. The word "dorar" itself stands for al-Durar al-Saniyah, an institution dedicated to the preservation of the hadith of the prophet through modern electronic databases. It should be noted for that this site is not devoted to only containing hadith, but also provides space for other Islamic studies. The facilities provided by this site include enrichment features that can be used to study matters related to the hadith of the prophet, such as tracking narrators from among the codifiers of hadith, the quality of hadith, and information on the existence of hadith in a hadith book (with volumes and

pages). In addition, the site also provides a feature that allows users to modify the criteria of the desired hadith, for example sahih hadith only, weak hadith only and so on. The site operates online, so utilization of the site requires a stable internet connection.

Not only in the form of websites, other forms of hadith digitization can be found in many forms and models, including in the form of digital versions of literature. Among the forms and models of digital versions of literature are PDF or document formats so that their use is practical or there is no need for an installation process first after the download process. Users simply open the digital document on available software such as cellular phones, laptops, or other devices that support accessing digital documents. In this context, there is a shift in the form of hadith literature which originally came in physical form (hardware) then turned into a digital version (software) through the scanning process. The scanned version of hadith literature is usually referred to as an e-book (electronic book), whose digital form is exactly the same as the original book. Other hadith literature can also be seen in the form of writings on the results of academic hadith studies in various perspectives that have been submitted and published by various academic journal sites.

Sunnah.com

Figure 3.4: Dashboard view of Sunnah.com website



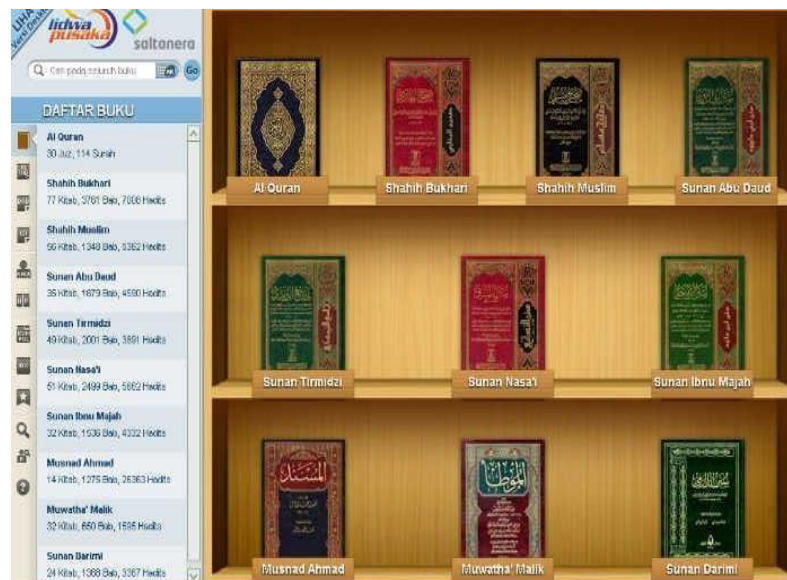
The Sunnah.com website is a Prophetic hadith search site to facilitate researchers in finding information for their studies, providing an understanding of hadith and a personal source of repository. Obviously as mentioned, this website only provides services in the field of hadith and does not provide studies in the field of fiqh as well as fatwas of scholars.

This website can be accessed using the address URL as follows: <https://sunnah.com/>. This website has a supervisor consisting of several members who manage it. The establishment of this website officially started on November 14, 2011, beginning with the collection of Riyad as-Salihin which was uploaded in full on November 28, 2011, followed by the addition of various other collections of books divided into original sources, books containing traditions narrated by the author with his own sanad, and non-original sources; books containing traditions without sanad which are quoted from the original books. Among the books from original sources available on this website: Sahih al-Bukhari, Sahih Muslim, Sunan an-Nasa'i, Sunan Abi Dawud, Jami' at-Tirmidzi, Sunan Ibn Majah, Muwatta Malik, Musnad Ahmad and Sunan ad-Dari Anda. Books from non-original sources: Collection of Hadith 40, 5 Hadith 40 an-Nawawi, Riyad as-Salihin, Mishkat al-Masabih, al-Adab al-Mufrad, Ash-Shama'il al-Muhammadiyah, Bulugh al-Maram and Hisn al-Muslim.

In addition, the website has been built with the settings of various selected languages such as English, Arabic, Urdu and also Bangla(Shah, 2010)

Lidwa Pusaka

Figure 3.5: Dashboard view of Lidwa Pusaka website



Lidwa Pusaka, which stands for Lembaga Ilmu dan Dakwah dan Publikasi Sarana Keagamaan, is an organization that focuses on the development and publication of Islamic science and da'wah. The organization was founded by graduates from the Middle East, LIPIA Jakarta, and several other universities. Therefore, Lidwa Pusaka began its activities by translating and digitizing Islamic books(Dalimunthe, 2019; Fikriyyah, 2016) . Although this application is an old platform, there are still many who use it to search for the hadith they need.

Initially, Lidwa products were only available in the form of CDs for sale. However, with the increasing awareness and enthusiasm of Muslims in Indonesia in studying religious knowledge, it can be seen from the increasing interest in Islamic programs in various media such as TV, radio, internet, and others. On the internet there are more and more websites that provide information about Islam, both from competent sources and not. People are also starting to expect information to be accessible from various places, such as offices, homes, cafes, airports and mosques.

Seeing this development, Lidwa Pusaka as the content owner of the Encyclopedia of Hadith Kitab 9 Imam decided to put the application online, which was previously only available on CD. Currently, Lidwa Pusaka offers three types of access: CD version, free online version, and paid online version. The beta version of the Encyclopaedia Hadith Kitab 9 Imam can already be accessed at <http://lidwa.com/app>, with the same features as the latest CD version. The following are some of the features of the online version of the Encyclopedia of Hadith Kitab 9 Imam(Ummah, 2019)

1. Featuring more than 62,000 hadith complete with translations in Indonesian.
2. Provides a selection of 9 major hadith books: Sahih Bukhari, Sahih Muslim, Sunan Abu Daud, Sunan Tirmidhi, Sunan Nasa'i, Sunan Ibn Majah, Musnad Ahmad, Muwatha' Malik, and Sunan Darimi.
3. Displays a sanad diagram depicting the flow of narration of a hadith.
4. Provides data on all the narrators of hadith, along with the comments of several scholars on the narrators.

5. For each hadith, if any, related hadiths will be displayed that will serve as a comparison or corroboration of the hadith.

My Hadith App for the Hadith of 14 Imams

Figure 3.6: Hadisku App View



The 'HadisKu' app is one of the many Android-based hadith apps available on the Google Play Store. It was developed by PT Flagodna Developer and is presented in the Indonesian language. The HadisKu app can be downloaded for free on the Google Play Store, along with other apps from Flagodna Developer. The app was first released on October 3, 2022 and last updated on July 9, 2023. HadisKu contains hadith collections from 14 Imams, namely containing the hadiths of Sahih Bukhari, Sahih Muslim, Sunan Tirmidzi, Sunan an-Nasa'i, Sunan Abu Dawud, Sunan Ibn Majjah, Sunan ad-Darimi, Musnad Ahmad, Muwatha Malik, Sunan Daruquthni, Sahih Ibn Khuzaimah, Sahih Ibn Hibban, al-Mustadrak, and Musnad Shafi'i. Each hadith is equipped with a search feature to make it easier for users to find a particular theme. This application also provides features such as hadith collection menu, hadith status, hadith sanad sequence, explanation of narrators, knowledge of hadith, biography of hadith imams, daily selected hadith, and daily reading about Islam. In addition to making it easier for users to search and study hadith, this application has also become a reference for other developers in creating similar applications (Syahid & Sakinah, 2023)

Benefits and Potential of Hadith Digitization

The digitization of hadith has significant benefits and has the potential to bring about positive changes in the understanding, accessibility, and dissemination of the Prophet Muhammad's sunnah heritage. With the advent of the internet and digital libraries, researchers and students of Hadith can easily search, read, and analyze Hadith collections from various primary and secondary sources. This helps in expanding the scope of study and enriching the understanding of hadith studies (Rosyad & Alif, 2023)

The digitization of hadith serves as a means of attracting the attention of the public, especially of the millennial youth, and does not exclude the study of hadith from the many other academic fields that are flourishing. The fact that hadith is applied to areas of life and social issues beyond the Qur'an will thus demonstrate the significance of hadith as a source of Islamic teachings, second only to the Qur'an. Digitization also supports indexing and searching hadith, making it easier to find specific information. The other benefits of hadith digitization are: First, Preservation and Protection: Digitization plays a role in preserving hadith texts, reducing the risk of loss or damage to physical manuscripts, and supporting efforts to preserve intellectual and cultural heritage.

Second, Efficient Search and Reference: Digitization makes it easier to quickly search, reference, and trace hadith. Digital platforms allow searching by keyword, topic, or narrator, making it easier for researchers and scholars in Islamic studies.

Third, Ease of Access to Education: Digitalization provides wider access to religious education for both Muslims and non-Muslims. Islamic materials can be accessed online for further learning purposes.

Fourth, Ease in Worship: Digitalization supports the performance of daily worship such as reading hadith or tafsir digitally, providing flexibility and convenience for individuals who have busy lives.

Challenges of Hadith Digitization in the Modern Era

Hadith integrity refers to the authenticity and authenticity of the hadith, i.e. the extent to which the truth and authenticity of the hadith can be trusted. In the era of digital information, traditions can be easily disseminated through various online platforms such as social media, websites, or mobile applications. However, this also opens the door for the spread of false or unreliable traditions. Therefore, it is important to verify and validate the source of the hadith before accepting it. Hadith originality refers to the credibility and validity of the hadith source itself in the transmission of the hadith sanad (Tangngareng, 2020). One of the main challenges is the concern of losing the originality of the Hadith. In an era where information can be quickly disseminated and replicated, there is a need to ensure the authenticity and veracity of each Hadith. The presence of various unverified versions can be detrimental to an accurate and deep understanding of Islamic teachings. of the teachings of Islam. Other challenges in the dissemination of Hadith in the modern era involve several aspects, among others:

First, the Validity of the Source: In the world of digital information, there is a risk of spreading unreliable or even falsified hadith. This is due to the ease with which anyone can share texts on social media. Therefore, it is imperative for individuals to refer to recognized and verified sources of hadith such as books of hadith that have been recognized by trusted Islamic scholars and institutions.

Second, the Scholars' Debate on Technology: There is a difference of view between scholars who still maintain the traditional approach without technology in studying hadith and contemporary scholars who have utilized technology for hadith studies. Not all technologies used to facilitate the study of hadith are to the liking of every individual. In this regard, it is important to maintain the integrity and authenticity of hadith in the digital age.

Third, the risk of misinterpretation: Hadith often require context and in-depth understanding. Challenges arise when people interpret hadith without considering the relevant historical and cultural context, which can lead to misinterpretation (Hasanah & Hifni, 2024)

Conclusion

The conclusion of the Use of Digital Technology in Hadith Studies includes that the application of digital technology in hadith studies has had a significant impact on the way hadith information is collected, analyzed, and managed, whereby the use of various software and applications allows researchers to easily access hadith sources that were previously difficult to reach, thereby increasing efficiency and accuracy in research in this context, digital technology not only helps in speeding up the process of searching and managing information, but also plays an

important role in the preservation of hadith texts that have historical and religious value, by reducing the risk of loss or damage that may occur to physical manuscripts. While this technology provides many benefits, associated challenges also arise, especially in terms of source validity and the risk of spreading inaccurate information, which further facilitates the spread of false or unverified hadith. This calls for the need to implement strict and systematic verification procedures to ensure the authenticity and authenticity of the traditions conveyed on digital platforms so as not to undermine the integrity and credibility of hadith studies.

With Thus, to maximize the potential of digital technology in hadith studies, there is a need for collaboration between researchers, scholars, and technology developers to create a platform that is not only efficient and accessible, but also trustworthy and maintains the integrity of the information presented. This will ensure that traditional values in hadith studies are preserved, while remaining relevant in an increasingly digitized age.

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