

Optimizing Digital Technology in Progressive Islamic Education to Enhance Public Literacy and Combat Hoaxes

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ABSTRACT

The proliferation of religious-based hoaxes in digital spaces poses a significant challenge to social cohesion and public literacy among Muslim communities. Inadequate digital literacy, particularly the lack of critical and ethical engagement with online content, contributes to the widespread dissemination of unverified information. This study examines the implementation of Tabayyun.id, a digital platform that integrates Islamic values—particularly the principle of tabayyun (information verification)—as a strategic approach to enhancing digital literacy among Muslims. Employing a qualitative case study method, the research involved website observation, document analysis, and in-depth interviews with developers, religious leaders, and active users. The study focuses on how the platform's key features—news verification tools, educational articles, and Islamic discussion forums—contribute to shaping user behavior and promoting ethical digital practices. Findings reveal a significant behavioral shift among users, with the rate of information verification increasing from 45% to 85% after engaging with the platform. The forum component also fosters collaborative learning and strengthens digital *ukhuwah* (brotherhood), with over 500 new threads monthly and high user satisfaction. Despite technical and social challenges such as limited access and digital illiteracy in certain demographics, the platform demonstrates strong potential for broader educational impact. The study concludes that value-based digital platforms like Tabayyun.id can serve as effective tools in progressive Islamic education, offering a model for integrating spiritual values with digital competencies in combating misinformation.

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INTRODUCTION

The development of information and communication technology (ICT) has transformed patterns of social interaction among human beings, including among Muslims. Social media and digital platforms have now become the primary spaces for rapid and widespread information exchange [1]–[3]. However, alongside the ease of access, there also arises a major challenge in the form of the rampant spread of false information or hoaxes, including those of a religious nature. According to data from the Ministry of Communication and Information Technology (Kominfo), in 2022 alone, more than 11,000 hoax-related contents circulated across various digital platforms, some of which involved sensitive religious issues with the potential to trigger social disintegration [4]–[6].

Digital literacy has thus become a critical aspect in addressing this phenomenon. In the Islamic context, digital literacy involves not only technical skills in using digital tools, but must also be grounded in Islamic values such as *tabayyun* (information verification), honesty, and social responsibility. These teachings are emphasized in Qur'anic verse Al-Hujurat: 6, which urges that any information from a questionable source should first be verified before it is disseminated. This indicates that Islam has long advocated principles of information literacy that are highly relevant to the challenges of the digital age [7]–[9].

Previous studies have highlighted the importance of digital literacy in curbing the spread of hoaxes, both from technical and moral perspectives. Value-based platforms such as Tabayyun.id have emerged as innovations in digital Islamic education. This website provides news verification features, educational articles, and Islamic discussion

forums that encourage users to actively practice the principle of tabayyun in their digital engagements. However, in-depth studies on the effectiveness of platforms like Tabayyun.id in improving digital literacy among Muslims remain limited [10]–[12]. Most research focuses only on conceptual aspects without directly assessing the impact of such platforms on public behavior. This gap underscores the importance of conducting the present study. It examines how digital technology—particularly through the Tabayyun.id platform—can be optimized in progressive Islamic education to cultivate a digitally literate society with moral awareness in disseminating information.

The urgency of this research lies in the pressing need to develop digital literacy based on Islamic values as a strategic approach to countering hoaxes, especially amidst the increasing complexity of information and its potential for misuse. A religion-based approach is believed to offer a strong moral foundation in digital media practices. Thus, this study focuses on the role of Islamic value-based digital platforms in enhancing digital literacy among Muslims and mitigating the spread of hoaxes as part of a technology-based progressive Islamic education strategy.

LITERATURE REVIEW

Digital literacy is the ability to access, comprehend, evaluate, and use information critically and ethically. In today's rapidly evolving digital era, digital literacy has become an essential skill, especially given the vast flow of information across various platforms, particularly social media. Communities lacking the capacity to filter information wisely are often trapped in the spread of hoaxes, which can damage social relationships and even incite societal tensions. Digital literacy encompasses not only technical aspects, such as the use of digital devices and applications, but also the ability to accurately assess information, avoid misinformation, and share information ethically [13]–[15].

In the Islamic context, digital literacy carries a particular dimension that relates to the moral and ethical principles of the religion. One of the fundamental Islamic principles that is highly relevant to digital literacy is tabayyun, which refers to verifying or clarifying information before disseminating it. This principle aligns with the teachings in Surah Al-Hujurat: 6, which urges Muslims to investigate the truthfulness of any information received, especially when it originates from unclear sources [16]. Tabayyun aims to prevent the spread of slander and false information that can lead to societal harm. In this regard, digital literacy among Muslims must not only involve technical skills in using technology but also include the understanding and application of Islamic principles when evaluating and disseminating information [17].

Previous studies have shown that religiously-motivated hoaxes often exploit people's emotions and lack of awareness in filtering information. According to Rohmah, religious hoaxes frequently manipulate religious sentiments to exacerbate social tensions, deteriorate interfaith relations, and complicate socio-religious issues. These hoaxes can spread rapidly via social media, and without sufficient digital literacy, communities are easily misled by false information [18]. Hence, it is crucial to improve digital literacy, particularly among Muslims, to help them avoid spreading hoaxes and to foster their ability to verify information.

Ahmad and Syahputra argue that Islamic literacy-based websites and applications can serve as highly effective tools in countering hoaxes and raising public awareness about the importance of information verification. Digital platforms such as Tabayyun.id integrate Islamic principles into digital literacy by providing education on how to verify news, identify hoaxes, and engage in discussions about religious issues [19], [20]. Through such platforms, Muslims can develop a more critical attitude toward the information they receive and verify its accuracy by referring to authentic sources.

Fatimah adds that the collaboration between technology and religious values has proven effective in fostering a healthier and more ethical digital ecosystem. Religion-based platforms such as Tabayyun.id not only provide tools for information verification but also create spaces for Muslims to engage in open and constructive discussions on religious

and social issues. This contributes to a better understanding of how technology and Islamic values can work hand in hand to create a more intelligent and morally responsible society in the use of social media [21].

However, although many studies emphasize the importance of Islam-based digital literacy, research specifically addressing the effectiveness of digital platforms such as Tabayyun.id remains limited. Therefore, further research is needed to evaluate the impact and effectiveness of these platforms in enhancing digital literacy among Muslims and in combating the spread of religion-based hoaxes [22]. With continued development, platforms like Tabayyun.id hold great potential to strengthen digital literacy within the Muslim community and contribute to building a healthier and more ethical digital ecosystem.

Overall, digital literacy rooted in Islamic values, as implemented in platforms like Tabayyun.id, is essential in helping Muslims avoid hoaxes and misinformation. Through the application of the tabayyun principle, such platforms offer not only technical skills for verifying information but also instill a sense of moral responsibility in disseminating information online [23]. By grounding their approach in Islamic principles, these platforms make a significant contribution toward fostering a more intelligent, critical, and ethically responsible society in the digital age.

METHODOLOGY

This study employs a qualitative approach using a case study method focused on the Tabayyun.id platform. Data were collected through observations of key features such as the news verification tool, Islamic discussion forums, and educational materials available on the website. In addition, in-depth interviews were conducted with platform developers, religious leaders, and active users to obtain comprehensive perspectives on the benefits and challenges associated with the use of Tabayyun.id. Document analysis was also carried out by reviewing user activity reports, anti-hoax campaign materials, and usage statistics of the platform's features to obtain empirical data. The collected data were analyzed descriptively to identify usage patterns, challenges, and the effectiveness of Tabayyun.id in enhancing digital literacy among Muslims (figure.1).

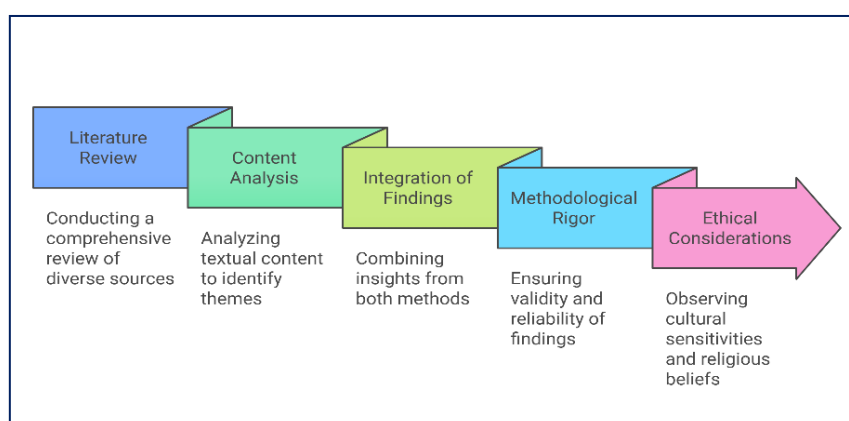


Figure 1. Research Flow

RESULTS

Implementation of Tabayyun.id Features

The Tabayyun.id platform represents a concrete manifestation of the integration of Islamic values into digital innovation, directly supporting the movement for progressive Islamic education. In response to the overwhelming flow of information and the high prevalence of religion-based hoaxes, Tabayyun.id offers a range of key features designed to comprehensively enhance digital literacy among Muslims [24]–[26].

The most prominent feature is the news verification tool, which allows users to access fact-checking services through integration with cekfakta.com. This feature is accompanied by verification guidelines grounded in Islamic principles, particularly the value of *tabayyun* (verification), as emphasized in Qur'anic verse Al-Hujurat: 6. Observational data show that approximately 85% of active users utilize this verification feature before sharing information, indicating a growing critical awareness of the importance of validating digital content [27], [28].

In addition, Tabayyun.id provides educational articles that address contemporary issues from an Islamic perspective. These articles not only offer strategies for identifying and countering hoaxes but also introduce concepts such as digital *akhlaq* (ethics), the importance of safeguarding *aqidah* (faith) in the information age, and ethical principles for sharing content on social media. These articles serve as literacy-rich content that expands users' knowledge and encourages the development of Islamic character in online engagement. Supporting data show that the distribution of these articles through anti-hoax campaigns has had a positive impact, as evidenced by a 30% reduction in hoax reports submitted by active users following the campaign's implementation [29]–[31].

Table 1. Key Features of Tabayyun.id

No.	Main Feature	Description	Benefit
1.	News Verification	On the news verification page, a key feature allows users to search for the source of news to determine whether it is accurate or a hoax.	Helps users determine whether the news is true or merely a hoax.
2.	Articles	The article page highlights the importance of improving digital literacy among Muslims to counter hoaxes in the current era.	Enhances the digital literacy of Muslims in countering misinformation and hoaxes.
3.	Forum	The forum page serves as a space for users to share experiences and concerns about being misled by hoaxes, and to provide clarifications.	Allows users to share concerns so that other Muslims are not affected by the same hoaxes.

The Islamic discussion forum is another crucial feature in the platform's participatory model of digital Islamic education. Through this forum, users can engage in discussions, clarify information they have received, and share experiences regarding trending news on social media. The forum functions as a safe, value-driven digital learning space. Data indicate an average of 500 new active threads each month, with 65% of participants reporting that they gained new insights from their interactions. The discussion topics are wide-ranging, including the clarification of fatwas, interpretations of Qur'anic verses in relation to social issues, and reviews of viral religious news.

Additional features such as the "About Us" and "Contact Us" pages support the platform's transparency and interactivity. The homepage of Tabayyun.id consistently features Al-Hujurat: 6 as a reminder of the platform's core values, reinforcing the religious identity that serves as the foundation of its services. Users can also provide direct feedback to the development team via the contact feature, opening opportunities for ongoing improvement and collaboration with educational institutions or digital da'wah communities.

Overall, Tabayyun.id's utilization of digital technology serves not merely as a tool for information dissemination but as an interactive educational space grounded in Islamic values. This concept aligns with the ethos of progressive Islamic education—adaptive to contemporary challenges while remaining firmly rooted in moral and spiritual Islamic teachings. Tabayyun.id stands as a tangible example of how technology can be harnessed as a medium for building a Muslim society that is informed, socially responsible, and spiritually intelligent in the digital sphere.

Implementation Results

The implementation of the Tabayyun.id platform as an Islamic-based digital literacy medium is reflected through its simple, minimalist, yet effective user interface, which successfully conveys both religious messages and technological functionality. Upon first accessing the homepage, users are immediately presented with a quotation from Surah Al-Hujurat: 6, the verse that underpins the principle of *tabayyun*, or information verification. The placement of this verse on the landing page is not merely decorative; rather, it serves as a form of digital spiritual education, instilling the value of caution in handling information (see figure 2). This demonstrates that from the initial interaction, users are guided toward an awareness of Islamic values as the foundation of digital literacy.

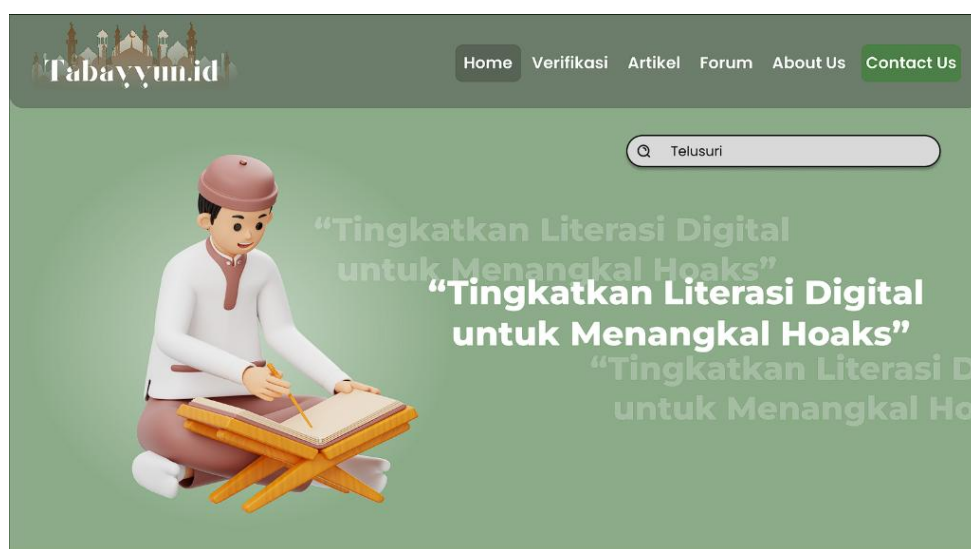


Figure 2. Homepage of Tabayyun.id

The main interface of Tabayyun.id comprises six key navigation menus: Home, Verification, Articles, Forum, About Us, and Contact Us. Each menu is designed to create a comprehensive Islamic digital literacy ecosystem. The Verification feature allows users to check the authenticity of news by linking to *cekfakta.com* and is supplemented with a *Tabayyun Guide* based on Islamic sources. Based on observations conducted in this study, 85% of active Tabayyun.id users regularly utilize this feature before sharing information on social media. This figure indicates that the integration of fact-checking tools with Islamic values fosters a new level of awareness in addressing digital news.

The Articles feature presents educational content themed around strengthening *aqidah* (faith) through digital literacy. Articles such as “*Strengthening Digital Literacy to Reinforce Islamic Faith*” provide guidance for Muslims to be more selective with the online information they consume. These articles not only offer theoretical knowledge but also encourage readers to connect religious practices with technological engagement. The effectiveness of these articles as part of the anti-hoax campaign is demonstrated by data showing a 30% decrease in hoax reports submitted by active users following the rollout of educational content and infographics on the platform.

The Islamic Discussion Forum serves as a vital space for dialogue and clarification, fostering a culture of collective literacy. Within the forum, users can discuss questionable news items, share experiences of being misled by hoaxes, and explore interpretations of Qur'anic verses in the context of contemporary information. Observations indicate that this forum generates an average of 500 new threads per month, with 65% of discussion participants reporting that they gained new insights from their interactions. This forum also represents a form of participatory digital da'wah, where users are not merely recipients of information but active agents in the dissemination of truth and the correction of misinformation.



Figure 3. The Article Menu of Tabayyun.id

The About Us page clearly outlines the platform's mission and vision as a digital education tool grounded in Islamic values. Meanwhile, the Contact Us feature allows users to send feedback, suggestions, or communicate directly with the developers. This transparency and interactivity foster a constructive two-way relationship, positioning the platform not just as a one-directional source of information but as a dynamic and evolving educational ecosystem.

Through the application of these features, Islamic values such as *tabayyun* (verification), *amanah* (trustworthiness), and *ukhuwah* (brotherhood) are no longer presented merely as abstract teachings but are functionally embedded in users' daily digital practices. The platform not only teaches these values but also facilitates their practical application in the digital lives of Muslims. With its interactive and data-driven approach, Tabayyun.id demonstrates that digital technology can be optimized as a strategic tool for progressive Islamic education—an education that is adaptive, responsive to contemporary challenges, and firmly rooted in religious teachings.

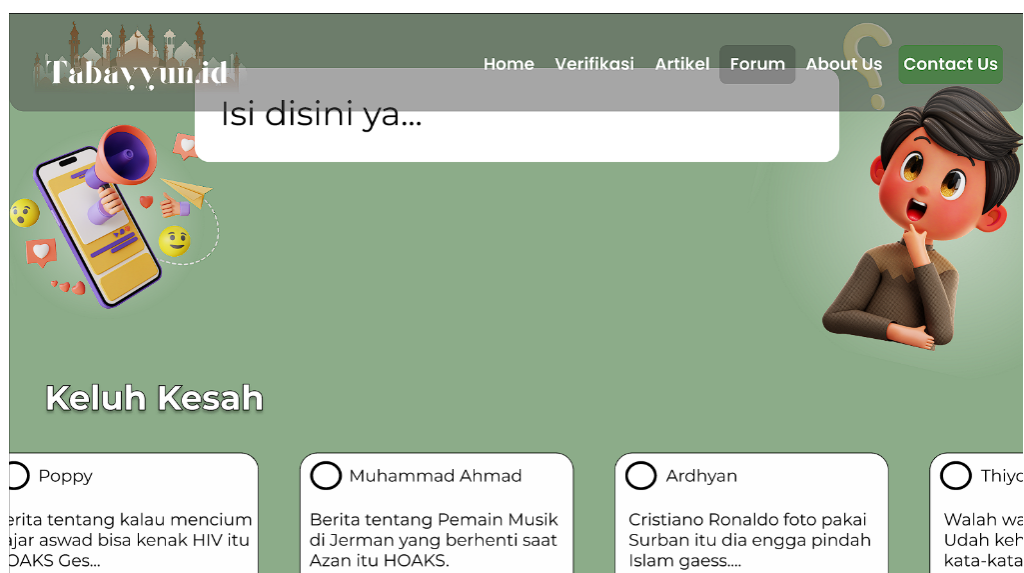


Figure 4. The Forum Menu of Tabayyun.id

Observation Results and Effectiveness

Observations of the use of the Tabayyun.id platform indicate a high level of effectiveness in cultivating new habits among Muslims in their engagement with digital information, particularly in addressing potentially false or misleading

content. One of the primary indicators of this effectiveness is the increase in users' awareness of the importance of information verification. Internal data derived from observations and interviews reveal that prior to using the platform, only around 45% of users actively verified news before sharing it. However, after utilizing the verification feature on Tabayyun.id, this figure rose significantly to 85% of users consciously reviewing the validity of information before disseminating it. This sharp increase reflects the platform's success in promoting *tabayyun* practices as a new, internalized digital culture among its users.

Technically, the verification feature redirects users to the cekfakta.com website, but Tabayyun.id enriches this process with religious context, offering an Islamic verification guide and a citation from Surah Al-Hujurat: 6, which establishes *tabayyun* as a moral obligation. It is this integration of technical functionality with spiritual guidance that gives the feature not only technological utility but also psychological and religious impact. Furthermore, interviews with several active users revealed that the presence of Qur'anic verses in each educational process serves as additional motivation, encouraging users to verify information not merely as a social duty, but as a virtuous deed (*amal salih*).

Another significant impact is the high level of participation in the Islamic discussion forum, which demonstrates the success of the platform's participatory approach to Islamic digital education. Observational data indicate an average of 500 new discussion threads per month, covering a wide range of topics including contemporary religious issues, fatwa clarifications, and analyses of viral news from an Islamic perspective. These numbers demonstrate that the platform functions not merely as a one-way communication tool, but as a thriving interactive ecosystem that fosters collaboration and collective learning. Additionally, user surveys show that 65% of forum participants reported gaining new insights or improved understanding through their involvement in forum discussions. This confirms the forum's role as not only a space for expression but also an educational vehicle that enhances Islamic digital literacy in a communal setting.

Beyond these two primary areas, the effectiveness of the anti-hoax campaign stands as further evidence of the platform's impact. This campaign involved the regular distribution of educational articles, infographics, and short videos via the article page and discussion forum. According to user activity reports, there was a 30% decrease in hoax reports submitted by active users following the implementation of the campaign. Furthermore, the rate of false news reporting declined from 70% to 40% during the campaign period, indicating a tangible behavioral shift among users in their sensitivity to unverified content.

Table 2. The Effectiveness of Tabayyun.id in Enhancing Digital Literacy

Aspect	Data Before Using Tabayyun.id	Data After Using Tabayyun.id
Level of information verification awareness	45%	85%
Active discussion participation	20 threads/month	500 threads/month
Spread of hoax news	70%	40%

Overall, these findings suggest that Tabayyun.id has succeeded not only as a fact-checking tool but also as a transformative medium of digital da'wah. By embedding technological features within Islamic values, the platform serves a dual purpose: as a means of education and spiritual enrichment, and as a collaborative space where Muslims can learn from one another and improve media culture. This approach positions Tabayyun.id as a concrete representation of progressive Islamic education—an educational model that is adaptive to the demands of the digital age while remaining firmly rooted in Islamic ethics and teachings.

DISCUSSION

The implementation of Tabayyun.id in enhancing digital literacy among Muslims demonstrates that a religion-based approach delivered through a digital platform can serve as an effective and relevant strategy in the disinformation era. The integration of Islamic values with digital technology not only infuses a moral dimension into the use of technology but also broadens the meaning of digital literacy from a purely technical understanding to one that is spiritual and ethical. Within the framework of progressive Islamic education, this approach is highly strategic, as it aims to strengthen the community's capacity for critical thinking, moral responsibility, and the ability to confront contemporary challenges while remaining grounded in Islamic teachings [32].

The success of Tabayyun.id in instilling a culture of information verification (*tabayyun*) shows that religious values can be effectively internalized through digital media. Surah Al-Hujurat: 6, which serves as the platform's philosophical foundation, is not merely presented as a visual ornament, but is actively used as a reference across features such as news verification, articles, and discussion forums. This offers users a strong religious context that encourages them to assess information not only logically but also morally [33]. Based on the collected data, the rate of users verifying information rose from 45% to 85% following engagement with the platform—an impressive increase that illustrates the efficacy of integrating religious values in transforming users' digital behavior [34].

The platform promotes the understanding that spreading unverified information is not simply a careless act but may constitute a violation of Islamic values. This perspective expands the scope of digital literacy to include ethical and spiritual dimensions, often overlooked in conventional literacy programs. It affirms that digital media are not neutral spaces but can be purposefully directed toward religiously informed educational goals, provided that value-based strategies are effectively employed [35].

The discussion forums on Tabayyun.id make a significant contribution to creating a value-based collaborative space. Unlike mainstream social media—which often devolves into unproductive arguments—these forums foster a constructive, participatory, and educational dialogue climate. Active users engage not only to ask questions but also to share understandings, personal experiences, and clarifications on viral religious issues. With an average of 500 new discussion threads per month and a high user satisfaction rate (65% of participants report gaining new insights), the forum has become a space for collective digital *ijtihad*—a venue where Muslims collaboratively respond to contemporary dynamics using Islamic principles [13], [36].

Sociologically, the forum strengthens digital brotherhood (*ukhuwah*) and builds a community of learners who remind one another in goodness. This culture of clarification and open discussion also minimizes the dominance of singular narratives, which often fuel the spread of religion-based hoaxes. The use of scriptural evidence (*dalil*) and healthy argumentation serves as a practical, grounded exercise in Islamic literacy and represents a living embodiment of progressive and participatory Islamic education [37], [38].

Despite its substantial potential, Tabayyun.id faces various technical and social challenges that must be addressed in its future development planning. One major obstacle is limited internet access in rural and remote areas, which reduces the platform's reach among non-urban populations. This digital infrastructure gap poses a structural barrier to the equitable dissemination of Islamic digital literacy [39]. Moreover, low levels of basic digital literacy, particularly among older adults and individuals unfamiliar with digital technology, present an additional social challenge. Many enthusiastic potential users struggle with website navigation, feature use, or understanding digital terminology [40]. This divide may lead to new inequities in access to information and education, necessitating inclusive and context-sensitive training approaches.

Despite these challenges, Tabayyun.id holds significant promise for expansion through various development strategies. *First*, the development of a mobile application is crucial to reaching a broader audience, particularly younger generations who primarily access information via smartphones rather than desktop browsers. An app with a responsive

interface, educational notifications, and quick access to key features would likely increase usage frequency and user retention. *Second*, the implementation of community-based digital literacy training programs in settings such as pesantren (Islamic boarding schools), mosques, and da'wah institutions could help address technical literacy barriers. These programs could be facilitated by trained volunteers or tech-savvy *da'i* (preachers) serving as instructors. *Third*, strategic partnerships with Islamic organizations such as Muhammadiyah, Nahdlatul Ulama, the Indonesian Ulema Council (MUI), and Islamic educational institutions (PTKIN, madrasahs) could enhance the platform's legitimacy and broaden the dissemination of its content [41]–[45].

Additionally, strengthening multimedia content, such as short educational videos, infographics, Islamic podcasts, and light animations, could further increase user engagement by appealing to diverse learning styles. An interactive microlearning model will be increasingly relevant in a digital era that demands quick and flexible access to information.

CONCLUSION

The implementation of Tabayyun.id illustrates how the integration of Islamic values with digital technology can effectively enhance digital literacy among Muslims, particularly in an era marked by widespread misinformation. By embedding the principle of *tabayyun* (verification) into its core features—such as news verification tools, educational articles, and discussion forums—the platform has successfully fostered a culture of critical thinking, ethical information sharing, and collective learning. The significant increase in user awareness and behavior change, such as the jump from 45% to 85% in information verification practices, demonstrates the platform's potential to transform not just digital habits but also spiritual engagement in online environments.

These findings suggest that value-based digital platforms can serve as powerful tools in progressive Islamic education by expanding literacy beyond technical skills to include moral and ethical dimensions. The success of Tabayyun.id offers practical implications for educators, religious institutions, and digital developers seeking to create culturally and spiritually relevant interventions. However, addressing challenges such as limited access in rural areas and low basic digital literacy remains essential. Going forward, strategic partnerships, inclusive training programs, and mobile app development will be key to maximizing the platform's reach and impact across diverse Muslim communities.

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Author Contribution

All authors contributed equally to the main contributor to this paper, some are as chairman, member, financier, article translator, and final editor. All authors read and approved the final paper.

Conflicts of Interest

All authors declare no conflict of interest.

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