

DIGITAL LITERACY OF ISLAMIC BOARDING SCHOOLS IN INDONESIA: IDENTIFYING PERCEPTION, PRACTICE, AND CHALLENGES

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ABSTRACT

In an increasingly digital world, the integration of technology in education is essential, yet many *pesantren* (Islamic boarding schools) in Indonesia continue to impose restrictions on digital devices, sparking debates about how they adopt digital literacy. This study explores *pesantren*'s perception, practice, and challenges in adopting digital literacy. This study used qualitative approach with literature review method, where findings from the relevant academic resources were synthesized and analyzed to identify the pattern of *pesantren* in Indonesia in perceiving digital literacy, to what extent they practice digital literacy, and what challenges they face in adopting digital literacy. Based on this study, *pesantren* have both negative and positive views of digital literacy. While they have a major concern on negative effects of digital technology on morality and distraction, they are becoming increasingly aware of its benefits on advancing educational quality. Digital literacy practices in *pesantren* include providing digital infrastructure and access, digitalization of Islamic literature, and the use of social media for preaching purposes. However, *pesantren* still face complex challenges in adopting digital literacy, such as lack of access to digital technologies, contestation with the opposite religious group in digital space, along with *santris*' low digital literacy proficiency. This study suggests *pesantren* to adopt a more balanced strategy in technology restriction policy, along with promoting digital literacy training for teachers and *santris*. Therefore, *pesantren* can benefit from integrating technology without leaving their traditional values.

Keywords: digital literacy, digital technology, *pesantren*, Islamic education.

INTRODUCTION

Islamic boarding school or widely called as *pesantren* is a religion-based nonformal educational institutions in Indonesia. The key trait of *pesantren* can be seen from the presence of students (*santri*) that reside in a provided dormitory led by an authoritative figure called *kyai* (Kholili, 2021). The main objective of *pesantren* is *tafaqquh fi al-din*, which means to equip students with comprehensive Islamic knowledge, in light with preparing them to be religious scholars. The tradition of Arabic classical literatures (*turast*) along with *sorongan* and *bandongan* teaching methods are still preserved in generating potential Islamic leaders (Usman, 2013). To ensure students focus on their learning activities in the schools, *pesantren* apply strict regulations, including limiting access to digital technologies (Hefner, 2022).

In today's digital world, technology has brought a major impact on every aspect in life, including education. However, in *pesantren* case, digitalization is faced with the dilemma of preserving their distinctive traditions along with shielding their students from negative threats of internet, including moral degradation and contradicting values (Hefner, 2022). On the other hand, inevitable challenges in digital spaces, including the raise of Neosalafi movement and the spread of hoaxes and information in religious discourses, has called *pesantren* to take action by equipping their students with digital skills. Thus, it is important to explore perception, practices, and challenges in *pesantren* in adopting digital literacy.

This study aims to answer the following questions: 1) How do *pesantren* perceive digital literacy? 2) to what extent *pesantren* practice digital literacy? 3) what challenges *pesantren* face in adopting digital literacy? This study is done with literature review method, collecting data from cases that have been explored in a number of *pesantren*. Through this study, it is expected to picture the digital literacy situation in *pesantren*, as well as identifying gaps in the previous studies and formulate recommendations for *pesantren* in adopting digital literacy.

This research contributes to identify digitalization trends in *pesantren* in Indonesia. This research also aims to highlight *pesantren* stance in the digital space, particularly in relation with the raise of radicalism and extremism movement. Therefore, this study indirectly contributes to the effort of peace building among religious communities.

METHOD

This study used qualitative approach with literature review method to explore the perception, practice, and challenges of digital literacy in Islamic boarding schools in Indonesia. The literature review method was chosen due to the limited availability of empirical data on digital literacy in *pesantren*. By synthesizing and analyzing existing studies, this research aims to provide a comprehensive overview of digital literacy in *pesantren*, identify gaps in the literature, and propose recommendations for future research.

The main data used in this study were articles available on The University of Manchester library portal and Google Scholar. Specific keywords like "digital literacy", "*pesantren*", "Islamic boarding school" as well as Boolean logics such as "AND" and "OR" were used to limit the search result. Furthermore, the snowball approach was used to find related articles by using the list of references from other articles (Wohlin, 2014). Based on the searching process, fourteen articles published in English and Indonesian were selected under digital literacy in Islamic boarding school themes.

After collecting the data, the author mapped the findings through an analysis matrix. The matrix classified findings into three main questions, namely 1) *pesantren's* perception of digital literacy, 2) digital literacy practice in *pesantren*, 3) challenges of digital literacy in *pesantren*. In addition, reference management software such as Zotero was used to organize references and citations used in the study. Finally, the matrix was formulated into a mind map using Creately to identify the connection between the findings.

In the end, the data was analyzed through thematic approach. Each finding was categorized into main themes following the research questions. Within the analysis, the author also compared between different types of *pesantren*, including *salafi* and *khalafi pesantren*, to illustrate patterns appeared in different *pesantren* in implementing digital literacy. Limitations were identified in this study, where the cases from the existing articles were mainly took place in Java Island. This can cause issue in generalization. Furthermore, most of the studies used qualitative approaches. Therefore, quantitative approach research was necessary to provide measurable pictures of digital literacy situation in *pesantren*.

RESULTS AND DISCUSSION

1. Islamic Boarding School's Perception on Digital Literacy

Perception of digital literacy amongst *pesantren* in Indonesia varied according to values they uphold. Many *pesantren* see digital technology as a menace to their long-preserved traditional learning method and moral values. Meanwhile, the positive view of digitalization of *pesantren* started to emerge. Therefore, it is important to understand the different background and implication of *pesantren's* in responding to the development of digital technology and how they integrate it into their learning environments.

The majority of conservative *pesantren*, particularly *salafi*-typed ones, tend to have a negative perception towards digital technology. Primarily, they draw concerns on moral degradation affecting their students from negative content on the internet, such as pornography, drugs, and alcohol. As highlighted by Pesantren Muallimat and Krapyak, two well-known *pesantren* in Yogyakarta, they were really worried about how internet could potentially separate students from ethical values (Hefner, 2022). Pesantren Sabilul Muttaqin chief also expressed the same concern, stating that the internet is uncontrollable and has negative impacts on students (Syakur et al., 2021). Furthermore, many *pesantren* also worry about how digital technologies can distract students from learning activities (Ryandini & Puspitasari, 2021). As identified in As'adiyah, *pesantren* in Makassar which focuses on the memorization of Al-Qur'an, the internet is viewed as disruptive challenges to students, hence they forbid them to own mobile phones in the dormitory (Halim, 2018). Lastly, digital literacy is also seen

as a potential replacement to the long-preserved literacy in *pesantren*, such as *muwajjahah* (face-to-face learning), *istimbat* (finding references from traditional Islamic books) (Fadli & Dwiningrum, 2021). Therefore, these negative views play huge role in the sceptical behavior of *pesantren* toward digital literacy.

In contrary, some *pesantren* have built positive awareness of digital literacy. They acknowledged the significance of digital literacy in preparing *santri* to face modern world. Pesantren Krapyak and Muallimat for instance, despite their concern about the internet effect on moral influence, they were aware that digital skills are substantial for their students to compete with formal schools graduates (Hefner, 2022). Digital literacy is seen as a bridge that connect *santri* with the outer world to obtain more information. Some *pesantren* even already facilitated students with limited internet access, such as Pesantren Al-Anwar 3 in Rembang that provide students an access for learning purposes (Fadli & Dwiningrum, 2021). This shows that some *pesantren* are aware with the potential digital technology could bring in improving educational qualities, despite the strict control of its utilization.

Different perception can also be identified between *salafi* (classic) and *khalafi* (contemporary) *pesantren*. While *salafi* *pesantren* tend to be conservatively reluctant to the integration of digital technologies, their modern counterparts showed moderate behavior towards digitalization (Fadli & Dwiningrum, 2021; Jafar, 2019). This perception is evident in how they implement policies regarding students' gadgets access and ownership within their environment. *Salafi pesantren* strictly prohibit students from accessing the internet, while *Khalafi pesantren* started to adopt technologies for learning purposes in limited use. However, Qudsy (2019) argued that in the digital era, the distinction of *salafi* and *khalafi* getting blurred. This is shown in many cases where *salafi* *pesantren* started to disseminate their ideas on online media and broadcast their activities on livestreaming. This shows how technological development can bring a major impact in altering *pesantren* classification to be more fluid.

In conclusion, while many *pesantren* discerned on its negative impacts, there were emerging positive views amongst *pesantren* regarding digital literacy. Sceptical behavior was mainly driven by *pesantren* distrust on digital technology as something disruptive, while some built awareness of its opportunity in excelling quality education. Many teachers see digital technology as influential thing, but at the same time can be menacing if not used wisely (Hefner, 2022). Therefore, supervised access to digital technologies can be the solution to promote digital literacy in *pesantren* without neglecting their values and traditions.

2. Islamic Boarding School's Practice of Digital Literacy

Perception of digital literacy influences how *pesantren* integrate digital technologies into their learning environment. While many *pesantren*

limit access to digital tools, there are digital practices that have been implemented in the schools. Digital practices in *pesantren* vary, depending on the policies implemented as well as resources available. According to findings found in the cases, digital literacy in *pesantren* were practiced in several forms, such as digital facilitation, digitalization of literature, and the use of social media for preaching purpose.

According to Manan & Bajuri (2020), there are three different approaches of *pesantren* in integrating digital technologies. Firstly, *pesantren* use digital technologies for both administrative and learning purpose, allowing students to access the internet in a limited manner. Secondly, *pesantren* use it for partly for administrative purposes. Lastly, *pesantren* fully neglect any forms of digitalization in their schools. In light with the former, a number of *pesantren* have provided infrastructure for students to access the internet. For instance, Pesantren Al-Anwar 3 Rembang has a joint hall equipped with internet access to fulfill students' learning needs. However, this facility can only be accessed during certain hours (Fadli & Dwiningrum, 2021). This shows *pesantren*'s attentiveness in allowing students to access digital technologies.

The effort to promote digital literacy can also be seen through the digitalization of literature in *pesantren*, particularly transforming *kitab kuning* (classical Islamic literature) into digital forms. This is evident with the use of e-book forms of *kitab kuning* in some *pesantren*. In addition, there are some *kitab* converted into application, such as *Maktabah Syamila*, *Maktabah Attafasir*, and *I-waris* (Fadli & Dwiningrum, 2021). Through the digitalization of religious texts, *pesantren* do not only facilitate students' access to learning resources but also preserve the relevance of their literature tradition in the digital era.

The use of social media also started to emerge amongst *pesantren*, primarily for preaching purposes or *da'wah*. A number of social media platforms are used to amplify their teachings in *pesantren* to reach a wider audience. For instance, a religious scholar from Pesantren Al-Anwar has been actively producing content on a website platform, covering religious issues such as finances, marriage, etc. (Jafar, 2019). Furthermore, some *pesantren* use live-streaming technology through their YouTube channel to broadcast teaching activities in the schools to their viewers (In'amurrohman, 2019). Social media has enabled *pesantren* to reach out wider audience, hence maintaining their existence throughout generations. Moreover, *santri* can also be involved in content production, allowing them to improve their digital skills for honorable purposes.

Overall, the practice of digital literacy in *pesantren* is various, depending on the institution's policy and its level of openness towards technology. Some *pesantren* already provided digital infrastructures, such as computer laboratories and internet access for academic and administrative purposes. The digitalization of literature is also a pivotal step

in preserving *kitab kuning* relevance in the digital era. Apart from that, social media can also be used to support *pesantren* mission in disseminating their teachings to the public. These practices, however, were done in a limited manner, considering moral risks and uncontrolled uses. Hence, a holistic strategy is needed to advance digital literacy in *pesantren*.

3. Islamic Boarding School's Practice of Digital Literacy

Despite a raising trend in adopting digital literacy, there are still many challenges that *pesantren* face in light with digitalization. Among the major obstacles is the poor access to digital infrastructure. Many *pesantren*, especially in rural areas, are struggling to provide internet access and adequate devices, such as computers and tablets. For instance, Pesantren Darul Ulum Banyuwangi faced challenge in facilitating students with devices and internet when conducting digital literacy training (Sya'roni & Nisa, 2023). This shortage creates digital literacy gap between *pesantren* in rural and city areas, let alone with their formal school counterparts.

Aside from digital scarcity, *pesantren's* concern about the negative effect of digital technology also created barriers in the digitalization effort. As aforementioned in *pesantren's* perception of digital literacy above, many schools drew fear of moral effect and distraction caused by gadgets and the internet. As a result, many *pesantren* apply a strict prohibition to bring smartphones to their environment. Even though this policy is intended to protect students from the harmful impacts of technology, in many cases it only leads to violation. *Santris* tend to find strategies to smuggle their gadgets to access the internet beyond *pesantren's* concern to their relatives or laundry services near the schools. In response to the offense, *pesantren* also impose sanctions on the offenders, including confiscation (Hefner, 2022). This shows that strict restriction is not the best solution and demands a more flexible and educative approach to facilitate students' need to access the internet.

Another emerging challenge that *pesantren* face in light with digital literacy is ideology contestation with the raising Neosalafi movement in the digital space. *Pesantren* that generally promote moderate Islamic teachings compete with conservative view of Neosalafi groups dominating religious discourse on social media. On contrast with *pesantren*, this group have been highly effective in optimizing social media to disseminate their ideologies. This can be shown by the rise of mainstream Neosalafi preachers who have gained significance engagement in digital platforms such as YouTube and Facebook (Hefner, 2022). Consequently, there is a conservative turn among Muslim youths in Indonesia. The situation calls out *pesantren* to optimize the use of technology and social media to spread moderate and inclusive view of Islamic teachings (Kholili, 2021).

The low digital literacy among *santris* can also be a serious challenge in adopting technology in *pesantren*. The unavailability of the technology in

students' daily lives creates the gap of digital literacy amongst students in *pesantren* (Durriyah & Zuhdi, 2018). This shortage of competence makes them vulnerable of the spread of hoaxes and misinformation on the internet. *Santris* often struggle to verify the validity of information they found on social media, which can be contrary to their thinking and their comprehension about Islamic teachings they learn in the school (Putra et al., 2019). The rapid transmission of hoax demonstrates the significance of digital literacy education that not only equip students how to use technology, but also the critical thinking ability to filter information wisely.

In summary, these challenges affirm the complexity of adopting digital literacy in *pesantren*. The shortage of digital infrastructure, strict access to digital facility, low proficiency of digital literacy, along with the domination of the opposite group on digital space, demand a comprehensive and multiapproach solutions to advance digital literacy in *pesantren*. To adress these issues, *pesantren* need to reevaluate their policy in restricting gadgets ownership and enable a supervised access, to fulfill students' demands of connectivity while minimalizing the risk of uncontrolled use. *Pesantren* also need to actively encourage their *santris* to improve their digital literacy skills, participating in digital training held by government and non-profit organization. With these solutions, *pesantren* can integrate technology into their institutions without sacrificing their traditional values.

CONCLUSION

This study shows that Islamic boarding schools in Indonesia have diverse views regarding digital literacy in the institutions. While *pesantren* draw major concern on moral degradation and distraction caused by digital technology, they also started to aware of its potential in advancing educational quality. This correlates to different policy each *pesantren* take regarding digital technology access in the institutions, some *pesantren* allow students to access the internet in limited ways, while the others fully prohibit them. Several forms of digital literacy have been practiced in *pesantren*, such as providing digital infrastructure and access, digitalization of Islamic literature, and the use of social media for preaching purposes. It is also noted that there are challenges that *pesantren* should call out regarding digital literacy, such as lack of access to digital technologies, contestation with the opposite religious group in digital space, along with *santris*' low digital literacy proficiency.

The implication from this finding emphasizes the significance of digital literacy in *pesantren* to preserve their relevance in the digital era without leaving their traditional values. Through considerate utilization of technology, *pesantren* can strengthen their stance as authoritative religious education institutions, as well as promoting moderate and tolerant approach of Islamic teachings, in response to narrative contestation in the digital space. Therefore, it is important for *pesantren* to adopt a more balanced strategy in digital restriction policy, to address students' demand

in accessing the internet. In addition, *pesantren* should consider partnerships with government and non-governmental organizations to provide digital literacy training programs for both teachers and students. These programs can include basic digital literacy skills, critical thinking for validating online content, and how to use social media responsibly.

As this field of research has not been widely explored yet, there are still many gaps that should be addressed from these previous studies to provide recommendations for further research. Firstly, these literatures were mostly done in study case, where research only focus on a specific institution. This can be the issue in generalization. Secondly, most of these studies were taking place in Java Island. While the distribution of *pesantren* is highly concentrated in Java, research taking place in different regions may define a different pattern. Lastly, qualitative method highly dominated this research, either using literature review or study case method. This leaves a gap to quantitative approach in this field. Potential topics using quantitative approach should be done in the future to give a clear measurement of digital literacy situation in *pesantren*.

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