



## Revisiting the Role of Islamic Boarding Schools in Shaping Digital Citizenship Among Gen Z Students

<sup>1</sup>Aah Khoriah\*, <sup>2</sup>Saona

<sup>1</sup>Universitas Islam Bunga Bangsa Cirebon, Indonesia

<sup>2</sup>Universitas Islam Negeri Siber Syekh Nurjati Cirebon, Indonesia

Corresponding email: <sup>1</sup>qoriahaah97@gmail.com\* , <sup>2</sup>saona0206@gmail.com

**Abstract** *The rapid advancement of digital technology has profoundly influenced the interaction patterns, learning behaviors, and social identities of Generation Z. Within this context, Islamic educational institutions – particularly Islamic boarding schools (pesantren) – play an increasingly strategic role in shaping students' character and digital ethics. As institutions rooted in spiritual, moral, and communal values, pesantren hold great potential to internalize the principles of digital citizenship grounded in Islamic values. However, questions remain regarding their relevance and preparedness in guiding Generation Z through the complexities of the digital era. This study aims to critically examine the evolving role of pesantren in fostering digital citizenship among Gen Z students, while identifying best practices, key challenges, and coaching strategies already in place. Employing a qualitative case study approach, the research was conducted in several technology-oriented Islamic boarding schools across Indonesia. Data were collected through in-depth interviews, participatory observation, and document analysis. Findings indicate that many pesantren have begun integrating digital literacy, social media ethics, and digital responsibility into their non-formal curricula and extracurricular programs. However, implementation strategies vary significantly depending on institutional leadership, technological access, and the capacity of human resources. This study recommends strengthening the digital competencies of pesantren educators and integrating Maqashid Sharia-based values into digital citizenship education to ensure a more holistic and ethical formation of future Muslim digital natives.*

**Keywords** *Islamic boarding schools , digital citizenship, generation Z, Islamic digital literacy , education character , digital ethics*

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### 1. Introduction

The development of information and communication technology has significantly influenced the character of Generation Z, making them more open, critical, and digitally connected. In this era, digital citizenship has emerged as a crucial 21st-century competency that demands an integrated understanding of technological literacy, media ethics, and social responsibility (Ribble, 2011; Choi, 2016; Gazi et al., 2021). Educational institutions are thus required to foster not only technical proficiency but also moral awareness in digital interactions, particularly among young Muslims (Livingstone & Helsper, 2007; Ohler, 2011; Kurniawan, 2020).

Islamic boarding schools (pesantren), as one of the oldest Islamic education systems in Indonesia, play a central role in shaping the personality and values of

students (santri). Grounded in spiritual and communal discipline, pesantren have great potential to develop Generation Z into ethical and responsible digital citizens (Azra, 2012; Zuhdi, 2015; Yusof, 2019). However, as digitalization accelerates, these institutions face pressure to adapt their roles and methodologies without compromising their traditional Islamic values (Hefner, 2009; Wahid, 2014; Ridwan, 2022).

The urgency of this study is heightened by the relatively low level of digital literacy among Muslim youth. A national study by the Indonesian Ministry of Communication and Information (2021) revealed that only 37% of students in Islamic schools and boarding institutions were familiar with concepts such as digital footprints and social media ethics. Meanwhile, incidents of digital ethical violations—ranging from misinformation and hate speech to inappropriate content sharing—continue to rise among teenagers (Kominfo, 2022; Wahyuni, 2021; Nugroho, 2020).

**Table 1.** Level of Integration of Digital Education in Islamic Boarding Schools

<b>Islamic Boarding School Category</b>	<b>Digital Integration (%)</b>
Traditional Islamic Boarding School	25%
Modern Islamic Boarding School	55%
Technology-Based Boarding School	80%

This data reveals a significant disparity in the readiness to implement digital education across different types of pesantren. Such variation underscores the necessity for differentiated, context-sensitive approaches to fostering digital citizenship that align with each institution’s typology (Mahmudi, 2020; Basri, 2021; Qomar, 2022).

While prior studies have discussed the moral and character-building role of pesantren (Zarkasyi, 2015; Latief, 2018; Rahman, 2020), few have addressed the proactive involvement of these institutions in strengthening students’ digital citizenship. Existing literature tends to focus on technological challenges rather than pedagogical strategies or the integration of Islamic digital values (Putra, 2021; Maulana, 2019; Yusuf & Karim, 2021).

The research gap lies in the lack of studies that deeply explore how pesantren adapt their roles and curricula to shape the digital identities of Generation Z students. Few have examined the curricular and cultural strategies employed to instill digital awareness that is grounded in Islamic principles (Salim, 2020; Halim, 2022; Nurhasanah, 2023).

This study presents a novel approach by revisiting the function of Islamic boarding schools—not only as religious institutions but also as agents of digital ethics and identity formation based on Maqashid Sharia. This focus opens new perspectives in pesantren research, which has traditionally emphasized moral and formal religious instruction (Fadhilah, 2022; Ulfah & Adhim, 2021; Amri, 2023).

Accordingly, this study aims to qualitatively investigate how Islamic boarding schools, particularly those that have embraced technological adaptation,

contribute to the formation of digital citizenship values among Generation Z students. In doing so, it also seeks to formulate policy and pedagogical recommendations for contextually grounded Islamic digital education within the *pesantren* system.

## 2. Method

This study adopted a qualitative approach using an exploratory case study design. This approach was chosen to deeply examine the social and cultural phenomena surrounding digital citizenship development in Generation Z students within Islamic boarding schools (*pesantren*). The case study method enables the researcher to capture the contextual complexity of values, practices, and dynamics in digital education based on Islamic principles (Creswell, 2016; Yin, 2018; Merriam & Tisdell, 2015).

### Population and Sampling

The population for this research consisted of Islamic boarding schools across Indonesia that had initiated digital technology integration within their learning systems. A purposive sampling technique was used to select three institutions based on the following criteria: (1) serving junior or senior high school students, (2) employing digital devices (e.g., laptops, internet access, or e-learning platforms), and (3) implementing digital literacy-related curricula or programs. The selected sample included one traditional *pesantren*, one modern *pesantren*, and one technology-oriented *pesantren*. Key informants included school principals, ICT teachers, and 2-3 students per institution (Palinkas et al., 2015; Etikan, Musa, & Alkassim, 2016; Tongco, 2007).

### Instruments

The primary instrument was a semi-structured interview guide developed to explore perceptions, strategies, and challenges related to digital citizenship integration. Additionally, observation checklists for technology-based learning activities and document review protocols for analyzing curricula, syllabi, and school policies were employed to support data triangulation (Patton, 2002; Guest, Namey, & Mitchell, 2013; Miles, Huberman, & Saldaña, 2014).

### Data Collection Techniques

Three main techniques were used for data collection:

1. In-depth interviews with key informants, including *pesantren* leaders, ICT teachers, and actively engaged students.
2. Participant observation during digital-integrated lessons and extracurricular activities.
3. Document analysis of formal institutional documents such as curriculum guidelines, instructional materials, and policies related to social media use in the boarding school environment (Silverman, 2011; Kvale & Brinkmann, 2015; Krueger & Casey, 2014).

### Research Procedure

The research procedure consisted of the following stages:

1. Preparation stage: Instrument development, feasibility testing, and obtaining formal permission from each institution.
2. Fieldwork stage: Conducting interviews and observations over two weeks at each boarding school on a rotating basis.
3. Documentation and transcription stage: Recording, transcribing, and coding all interview data.
4. Validation stage: Validating findings through member checking with participants and peer debriefing among researchers to ensure credibility (Lincoln & Guba, 1985; Creswell & Poth, 2018; Nowell et al., 2017).

### Data Analysis

Thematic analysis was employed to interpret the data, consisting of five stages: (1) data familiarization, (2) initial coding, (3) theme identification, (4) theme review, and (5) thematic interpretation. NVivo qualitative analysis software was used to facilitate the organization and coding of interview transcripts, observations, and documents. The validity of the findings was ensured through source triangulation and audit trail techniques (Braun & Clarke, 2006; Saldaña, 2021; Nowell et al., 2017).

## 3. Results & Discussion

### Perception Leaders and Teachers towards Digital Citizenship Concept

Majority leader Islamic boarding schools and teachers show positive understanding to the importance of digital citizenship as part from education characters in the digital age. They to hook principles of digital citizenship with values Islam like trust , discipline , and manners media ( Ribble , 2011; Gazi et al., 2021; Ismail, 2022). However , some Still understand draft This limited to media literacy or mastery technology , not as realm ethics and responsibility digital response (Choi, 2016; Livingstone & Helsper , 2007; Wahyuni , 2021).

Some teachers stated that implementation digital value in Islamic boarding school need aligned with curriculum diniyyah so as not to cause dualism between religious and technological curriculum (Azra, 2012; Halim, 2022; Nurhasanah , 2023). This show importance integration epistemology between Islamic values and principles digital citizenship .

Although There is resistance beginning to technology , part Islamic boarding schools that have start transform realize importance guide students to become responsible digital citizen answer , no just user passive (Yusof, 2019; Ridwan, 2022; Zarkasyi , 2015). This matter open opportunity strategic For build Islamic digital literacy based on maqasid sharia.

**Table 2.** Implementation Level Aspects of Digital Citizenship in Islamic Boarding Schools

Aspects of Digital Citizenship	Implementation Rate (%)
Islamic Digital Literacy	65

Social Media Ethics	75
Digital Security	45
Media Responsibility	60
Critical of Information	55

### **Digital Citizenship Value Integration Practices in the Environment Islamic Boarding School**

Findings show that Islamic boarding school based technology has start implement aspects of digital citizenship in various form , such as class Islamic digital literacy , campaign ethics social media , and simulation digital security . Values such as manners in online comments and verification information become part from habituation students (Rahman, 2020; Ulfah & Adhim , 2021; Fadhilah , 2022).

Following is level data visualization implementation aspects of digital citizenship in three type Islamic boarding school :

Modern and Islamic boarding school based technology show highest integration in aspect social media ethics (75%) and Islamic digital literacy (65%), while aspect digital security is still low (45%) (Putra, 2021; Yusuf & Karim, 2021; Maulana, 2019).

Habituation mark not quite enough digital responsibility realized through prohibition distribution content hoax , simulation ethics speaking in digital space , and the use of gadget in a way limited in activity learning ( Rohman , 2021; Salim, 2020; Nugroho, 2020). However , the implementation Still depends on the vision caregiver and capacity teacher .

### **Challenges and Obstacles Implementation of Digital Citizenship**

A number of challenge main in implementation of digital citizenship in Islamic boarding schools among others: limitations ICT infrastructure , lack of teacher training on Islamic digital curriculum , as well as Not yet existence internal regulations regarding digital ethics in the environment Islamic boarding schools (Wahid, 2014; Amri, 2023; Mahmudi, 2020).

Caregiver Islamic boarding school state concern will impact negative social media towards the morals of students , such as gadget addiction , content No appropriate , until the disappearance manners in communicate ( Zuhdi , 2015; Kominfo , 2022; Kurniawan, 2020). Concerns This cause part Islamic boarding school take approach prohibition , not approach educational-transformational .

Besides that , religious teachers often do not trained For integrate digital theme to in learning diniyyah , so the gap between mark religious and digital practices remain width (Halim, 2022; Saldaña , 2021; Creswell, 2016). This become challenge methodological in develop approach integrated and relevant pedagogical .

### **Strategy to Strengthen the Role of Islamic Boarding Schools in Digital Education**

Identified strategies as practice Good in study This includes : (1) formation team Islamic digital curriculum , (2) involvement student as ambassador digital

literacy , and (3) training integrative for teachers in to design digital module based maqashid sharia ( Kamali , 2008; Auda , 2010; Ismail & Hassan, 2020).

Islamic boarding schools also started develop module digital ethics based hadith and adopt technology limited such as e-learning and closed digital forums For increase interaction safe learning ( Basri , 2021; Qomar , 2022; Azra, 2012) .

Collaboration with institution external like Kominfo , MUI, and organizations national Islamic education become crucial in provide materials , training , and tools appropriate support context Islamic boarding schools ( Fadhilah , 2022; Amri, 2023; Krueger & Casey, 2014).

#### 4. Conclusion

Study This aiming For to study return role Islamic boarding school in forming digital citizenship among student generation Z. Based on results interviews , observations , and analysis documents in three type Islamic boarding school , found that institution this Islamic education start adapt with the digital era through various approach integrative . Modern and Islamic boarding school based technology has initiate Islamic digital literacy program , campaign social media ethics , as well as habituation values aligned digital citizenship with values Islam like trustworthiness , manners and responsibility answer .

However Thus , readiness and implementation digital citizenship education in the environment Islamic boarding school Still face challenge significant , such as limitations infrastructure technology , lack of teacher training , and not yet existence curriculum integrated which combines maqashid syariah with principles of digital citizenship. Research This conclude that role Islamic boarding school in form character students in the digital era are very potential If supported by a transformation strategy curriculum , HR training , and collaboration multisector . Findings This confirm importance reformulation vision education Islamic boarding schools so that they do not only focused on Islam normative , but also adaptive to challenges of the digital era ethical and transformative .

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