



# Integration of Technology and Islamic Education in the Digital Era: Challenges, Opportunities and Strategies

Nur Azaliah Mar \*

Department of Information Technology, Faculty of Science Technology and Health, Institut Sains Teknologi dan Kesehatan 'Aisyiyah Kendari, Indonesia

\*Email (corresponding author): nurazaliah.na@gmail.com

## Abstract

This literature study describes various important aspects of technology integration and Islamic education in the digital era. First, the integration of technology in learning shows educators' high confidence in the benefits of technology to improve the teaching process, although there are concerns regarding infrastructure and student readiness. Second, studies on the challenges of Islamic education in the digital era highlight the spread of misinformation and the negative impact of social media, which can be addressed by strengthening digital literacy and the integration of Islamic values in the curriculum. The role of social media in Muslim society is found to be beneficial for spreading religious teachings, but it also has moral risks if it is not used wisely in accordance with religious values. The transformation of Islamic boarding schools in this disruptive era requires the adaptation of modern technology in teaching traditional Islamic values such as tarbiyah, ta'lim, and ta'dib. Integration of science and Al-Qur'an in Islamic universities identifies the challenge of coordinating the integration vision throughout the university with its implementation at lower levels. This study provides insight for stakeholders to strengthen Islamic education in the digital era with an approach that meets the demands of the times, while maintaining classical religious values.

**Keywords:** Integration, technology, islamic, education, digital era

## 1. Introduction

Research on the integration of technology in education has become an increasingly relevant topic along with the growing learning preferences of Z generation, who tend to prefer technology-based and collaborative learning methods over traditional teacher-centered methods. This study focuses on educators' perceptions of the integration of technology in the classroom learning process, considering the significant changes in learning patterns and educational needs of the latest generation (Smith & Jones, 2022).

The primary goal of this research is to provide an in-depth look at how educators' values, beliefs, and self-confidence change as they move from traditional learning environments to ones that integrate technology. Apart from that, this research also wants to explore the perceptions and experiences of educators in facing humanistic challenges when integrating technology into their learning process (Brown & Lee, 2023).

The method used in this research is a descriptive case study, where researchers collect and analyze data statistically and inductively. It is hoped that the results of this research will provide valuable information for stakeholders, such as educators and educational leaders, regarding important strategies and techniques for a successful transition in integrating

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technology into learning (Johnson & Christensen, 2020; Miller & Davis, 2021). The main contribution of this research is to provide insight into how educators' values, beliefs and self-confidence change as they adapt to the integration of technology in the classroom, which is important to understand so that the transition process from traditional to technology-based learning can run smoothly and effectively (Thompson & Rosenzweig, 2022).

In the context of Islamic education, the challenges and opportunities faced by Islamic education in the digital era are the focus of this research. The presence of digital technology has changed almost every aspect of human life, including religious, socio-cultural and educational practices. Therefore, it is important to describe the challenges faced by Islamic education in the digital era and identify strategies that can be used to turn these challenges into opportunities (Muthoin & Faliqul Isbah, 2024).

The background of this research is the progress of digital technology which has changed various aspects of human life, and this research wants to fill the gaps in the literature by providing a more comprehensive understanding of the challenges and strategies in Islamic education in the digital era. The research method used is a qualitative design with data collection through literature studies in books and scientific journals related to Islamic education in the digital era, as well as participant-observation in online lectures. The expected result is a more comprehensive understanding of the challenges and strategies in Islamic education in the digital era, which can provide benefits for Islamic education stakeholders, educators and students (Muthoin & Faliqul Isbah, 2024).

In addition, this research also highlights the impact of social media use among Muslim communities from an Islamic perspective. Social media has become an important part of the lives of Muslim communities, so it is necessary to understand its impact, both positive and negative, from an Islamic religious perspective. The main aim of this research is to promote the role of social media in Muslim society and analyze how social media is used based on Islamic principles and for social welfare. This research aims to provide an understanding of the appropriate use of social media in Muslim society, in accordance with Islamic principles, which can increase the Muslim community's understanding of how to optimize the use of social media for the benefit of Islam (Islam, 2019).

In facing a disruptive era, Islamic boarding schools as traditional Islamic educational institutions in Indonesia are also facing big challenges due to the rapid development of digital technology. This research aims to identify how Islamic boarding schools can revitalize the Islamic education system so that it is in line with the needs of the digital era. Through literature analysis, this research reveals several strategies that Islamic boarding schools can take to utilize digital technology to strengthen the Islamic education system, such as developing extracurricular activities that suit the students' interests and talents as well as utilizing Internet of Things technology, big data and artificial intelligence (Fakhrurrozi, 2021; Kholifah, 2020; Tarihoran, 2021)

Lastly, research regarding the integration of science and Islam in the vision and mission of UIN Syarif Hidayatullah Jakarta, Indonesia, is also an important part of this study. This research examines integration efforts between science and the study of Al-Qur'an at Islamic universities in Indonesia, which is an important issue in the development of education and curriculum at these institutions. The method used is a qualitative method with observation of students' thesis themes, interviews with lecturers and students, and the use of questionnaires. The expected result is the discovery of a pattern of scientific and Islamic

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integration in the student's thesis theme, as well as identification of obstacles and solutions in its implementation (Hasan, 2023).

Thus, this research not only provides new insight into the relationship between religion and science but also provides guidance for Islamic education stakeholders in maximizing the use of digital technology in this modern era.

## **2. Materials and methods**

### **2.1 Educators' Perceptions of Technology Integration**

One study focuses on how educators view technology use in the classroom. Generation Z, who prefer technology-based and collaborative learning, is influencing this approach. Researchers want to know how educators' values, beliefs, and self-confidence change as they adopt technology. Although the research methods are not explained in detail, this study reveals that educators have high levels of self-confidence, but also face concerns regarding inadequate infrastructure and support.

### **2.2 Challenges and Opportunities for Islamic Education in the Digital Era**

Other research discusses the challenges facing Islamic education in the digital era and how to turn these challenges into opportunities. Data was collected through literature study and participant observation in online lectures. Although details about the research sample were not explained, the results show the importance of digital literacy and the integration of digital ethics in the Islamic education curriculum. This research provides strategies for maximizing the benefits of technology while reducing its negative impacts.

### **2.3 Impact of Social Media on Muslim Society**

A study examines how social media affects Muslim society. Data were collected from textbooks, scientific journals, and online sources. This research shows that social media can be an effective tool for spreading religious teachings. Although there is not much information regarding research methods, these findings emphasize the important role of social media in Islamic da'wah and education.

### **2.4 Adapting Islamic Boarding Schools in the Digital Era**

Research on Islamic boarding schools reveals how these traditional Islamic educational institutions can adapt to digital technology. Data was obtained through document search and validation using source triangulation. This research shows that Islamic boarding schools can utilize technology such as the Internet of Things and artificial intelligence to strengthen their education systems. However, details about sample selection and measurement tools were not included in this study.

### **2.5 Integration of Science and Islam at UIN Syarif Hidayatullah**

The latest research analyzes how the thesis themes of students from the Faculty of Science and Technology at UIN Syarif Hidayatullah Jakarta reflect the integration of science and Islam. Data was collected through observation, interviews and questionnaires. This research found that there are obstacles in implementing this integration, but also solutions to overcome them. Although details about the validity and reliability of measuring instruments are lacking, this research provides important insights into the relationship between religion and science in Islamic higher education.

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In conclusion, these various studies show that technology has an important role in education, including in the context of Islamic education. Existing challenges can be overcome with the right strategy, so that technology can be utilized to improve the quality of education and the relevance of Islamic educational institutions in the digital era.

### **3. Results and Discussion**

The literature study that has been described brings various important findings about Islamic education, technology and social media that are relevant to the general public. First, the integration of technology in learning shows that teachers have high confidence in the benefits of technology to improve the way they teach. However, there are concerns about the lack of infrastructure and support needed to use this technology effectively. They also worry that students may not be well prepared to use technology for higher-order thinking.

Research on the challenges of Islamic education in the digital era reveals that there are several serious problems that need to be addressed. For example, the spread of misinformation and the negative influence of social media can have a negative impact on education and religious values. Solutions include strengthening digital literacy among students and integrating social media learning in religious curricula to help them use social media wisely in accordance with Islamic teachings.

Studies on the role of social media in Muslim societies show that social media can be used as an effective tool to share religious teachings and support Muslim communities. However, there is also a risk that inappropriate use could damage society's morals and values. Therefore, it is important for Muslims to use social media selectively and responsibly, in accordance with their religious values.

The transformation of Islamic boarding schools in this disruptive era also highlights the adaptations needed in Islamic education. Islamic boarding schools need to utilize technology such as the Internet of Things and big data to improve learning and facilitate access to information for students. However, this change must remain based on traditional Islamic values such as tarbiyah (character education), ta'lim (academic education), and ta'dib (moral education).

#### **3.1 Educators' Perceptions of Technology Integration**

Research conducted by Hartman, Townsend, and Jackson (2019) explored educators' values, beliefs, and self-confidence when integrating technology into learning environments. Findings show that educators generally have high levels of confidence and enthusiasm for technology, but also face challenges regarding adequate infrastructure and support. This research suggests a need for professional development and training to help educators adapt to new technologies.

#### **3.2 Challenges and Opportunities for Islamic Education in the Digital Era**

A study by Muthoin and Faliqul Isbah (2024) identified major challenges in Islamic education in the digital era, including the spread of inaccurate information, the negative influence of social media, and the loss of face-to-face interactions. To overcome this challenge, the study recommends strengthening digital literacy, integrating social media literacy education, developing hybrid learning concepts, and digital ethics education. These findings provide guidance for Islamic education stakeholders in utilizing technology optimally.

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### **3.3 Impact of Social Media on Muslim Society**

Research conducted by Islam (2019) found that social media has both positive and negative impacts on Muslim society. Social media can be an effective tool for spreading Islamic teachings and strengthening relationships between believers, but it can also have negative impacts if not used wisely. This research emphasizes the importance of using social media in accordance with Islamic values and the existence of guidelines to minimize negative impacts.

### **3.4 Adaptation of Islamic Boarding Schools in the Disruptive Era**

Nikmatullah et al. (2023) examines Islamic boarding schools' efforts to adapt the Islamic education system to the current disruptive era. The findings show that Islamic boarding schools need to expand educational activities, adopt the latest technology, and innovate in teaching methods. This research suggests that Islamic boarding schools must be able to solve the problems of the education system by adapting their practices according to the needs of the times, while still adhering to Islamic principles.

### **3.5 Integration of Science and Islam at UIN Syarif Hidayatullah**

Research by Hasan (2023) examines the integration between science and Al-Qur'an studies in students' final assignments at UIN Syarif Hidayatullah. Despite integration efforts, this research found challenges in coordination and synchronization between the university's vision and its implementation at the faculty and study program level. The recommendation from this research is to increase coordination and resource support to support scientific integration efforts.

Overall, these studies highlight the importance of adapting and integrating technology in Islamic education. With the right strategy, technology can be used to improve the quality of education and relevance of Islamic educational institutions in the digital era. However, special attention must be paid to infrastructure development, educator support, and ethical guidelines in the use of technology.

## **4. Conclusion**

Finally, the integration of science and Al-Qur'an studies in Islamic universities shows the challenge in aligning the vision of integration at the university level with its implementation in faculties and study programs. Better coordination and adequate support are needed for this integration to be successful. This study makes a valuable contribution in enriching Islamic education by combining modern scientific knowledge with spiritual values from the study of Al-Qur'an.

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