

THE CHALLENGES AND OPPORTUNITIES OF DIGITALIZATION IN ISLAMIC RELIGIOUS EDUCATION INSTITUTIONS

M. Teguh Ciptadi¹, Khozin²

^{1,2}Universitas Muhammadiyah Malang, Indonesia,
Corresponding E-Mail; teguhciptadi101010@gmail.com, khozin@umm.ac.id

Abstract

This study examines the challenges, opportunities, and resource readiness in the digitalization of Islamic Religious Education (PAI) institutions at SMA Negeri 1 Bulik. This study employed a qualitative method with a case study approach. Data were collected through interviews, observations, and documentation. Primary data were obtained through in-depth interviews with key informants, including the principal, Islamic Education (PAI) teachers, computer operators, and students. The research process was conducted in three main stages: data collection, data analysis, and result interpretation. Data analysis was carried out using the Miles and Huberman approach. The results show that the main challenges include limited infrastructure and the digital competency of teachers, while students' enthusiasm for technology presents significant opportunities. Human resources exhibit varying levels of readiness, requiring intensive training. Digitalization has not yet been optimally integrated into the curriculum but holds great potential to support interactive learning. This study contributes theoretically by emphasizing the role of students as actors in digital transformation and offers practical recommendations for improving education policies. Practically, this study provides strategic guidance for addressing digitalization challenges, emphasizing teacher training, technology-based curriculum development, and increased budget allocation. The findings pave the way for further research to explore the broader and deeper impacts of digitalization.

Keywords: Education Digitalization, Islamic Religious Education Institutions, Challenges and Opportunities

A. Introduction

Digitalization has become a key issue in education, including in the institution of Islamic Religious Education (PAI). This transformation brings significant changes to the way education is managed and delivered, especially in utilizing technology to support the learning process. However, its implementation faces major challenges, particularly in areas with limited technological infrastructure, such as SMA Negeri 1 Bulik in Lamandau Regency. Limited infrastructure, lack of teacher competence, and resistance to change are the main barriers. On the other hand, digitalization offers great opportunities, such as expanding access to learning resources, improving administrative efficiency, and creating more interactive learning. Therefore, it is essential to understand the challenges and opportunities in the digitalization of PAI institutions to ensure effective and sustainable implementation (Arnadi, 2024; Rani et al., 2021).

Limited infrastructure, insufficient teacher competence, and resistance to change are major obstacles to digitalization in Islamic educational institutions. In areas like SMA Negeri 1 Bulik, unstable internet access and a lack of hardware hinder technology integration.

Additionally, many Islamic Education (PAI) teachers lack adequate digital literacy, compounded by insufficient training and mentoring, leading to technology being perceived as an added burden. Resistance to change also arises from concerns about disrupting traditional routines and the lack of policy support to encourage digital innovation. These challenges require holistic solutions to ensure effective digitalization implementation (Holilah Holilah & Wafi Ali Hajjaj, 2024; Putra et al., 2020).

Education digitalization is defined as the process of integrating digital technology into all aspects of education, from administrative management to the implementation of teaching and learning (Tømte et al., 2019). According to Shrivastava & Shrivastava (2022), digitalization includes the use of hardware, software, and digital infrastructure to support learning and institutional management. In this context, digitalization is not limited to technology alone but also involves cultural changes and mindsets regarding the acceptance of technology as part of the education system. This process aims to enhance accessibility, efficiency, and effectiveness in education, especially in responding to the increasingly complex and dynamic needs of the 21st century.

The manifestation of education digitalization can be seen in various categories, including learning tools, online platforms, and technology-based institutional management. For example, e-learning and educational management applications such as Learning Management Systems (LMS) are used to support remote or hybrid learning (Choi-Lundberg et al., 2023). Additionally, the implementation of technologies like school information systems enables the efficient management of student data, curricula, and assessments. In some educational institutions, artificial intelligence (AI) and data analytics are used to provide personalized learning. This transformation demonstrates that digitalization not only enhances the effectiveness of the learning process but also creates an inclusive and adaptive educational environment that meets students' needs (E. Frolova et al., 2020).

Islamic Religious Education (PAI) institutions refer to formal and non-formal structures aimed at supporting the teaching of Islam in accordance with Islamic values. According to Ibrahim & Andriyadi (2022), these institutions include schools, madrasas, pesantren, and organized training centers designed to educate students in both academic and spiritual aspects. PAI institutions aim to develop individuals who are not only intellectually competent but also possess noble character. Therefore, the existence of these institutions is a key pillar in shaping a generation capable of facing the challenges of the times without losing their religious identity.

The manifestation of PAI institutions can be seen in various forms and categories. At the formal level, madrasas and Islamic schools stand out with an integrated curriculum that includes both religious and general education. At the non-formal level, pesantren and missionary institutions play a central role in building faith through Islam-based learning. Additionally, programs such as religious extracurricular activities, Quran recitation training, and Islam-based social activities also reflect the implementation of these institutions. In other words, PAI institutions not only build intellectual competence but also strengthen students'

morals and spirituality through a holistic approach (Abidin, 2022; Ibrahim & Andriyadi, 2022).

Challenges and opportunities are two concepts that often complement each other in a process of change, including in the context of education. Challenges are defined as obstacles or constraints that hinder the achievement of goals, both in the form of internal limitations, such as resource constraints, and external factors, such as social resistance to change. On the other hand, opportunities are conditions or situations that can be leveraged to achieve goals more effectively. Opportunities often arise from technological changes, policies, or the evolving needs of society. In the context of education digitalization, these challenges and opportunities intertwine, creating dynamics that need to be deeply understood (Alenezi et al., 2023).

The manifestation of challenges and opportunities in education digitalization can be seen in various aspects. Challenges include limited infrastructure, lack of digital literacy among educators, and cultural barriers to accepting new technologies. Conversely, opportunities arise through access to global learning resources, improved institutional management efficiency, and the potential for more interactive technology-based teaching. Furthermore, government policies that encourage education digitalization provide positive momentum for educational institutions to transform. By understanding these manifestations, educational institutions, especially PAI, can develop strategies to optimize opportunities while addressing existing challenges (Alenezi et al., 2023; Sarva & Puriņa-Biezā, 2023).

The literature indicates that digitalization has been widely studied in education in general. Previous studies have discussed the benefits of digitalization in enhancing educational quality, but few have focused on Islamic Religious Education institutions, especially in areas with limited access to technology. Theories such as the Technology Acceptance Model and the Digital Literacy Framework have provided general insights into technology acceptance and the importance of digital literacy (Nasaruddin et al., 2023; Zekrist et al., 2022). However, these approaches have not fully addressed the specific challenges faced by PAI institutions, such as limitations in human resources and local cultural constraints. Therefore, this study fills this gap by focusing on the context of PAI institutions at SMA Negeri 1 Bulik as a case study.

This study aims to identify the challenges faced in the digitalization process of PAI institutions at SMA Negeri 1 Bulik. In addition, this research also aims to explore opportunities that can be utilized to strengthen the implementation of digitalization, particularly in supporting PAI teaching. Equally important, this study analyzes the readiness of human resources, including teachers, computer operators, school principals, and students, in facing the digital transformation in religious education. Thus, this research not only addresses challenges but also provides relevant solutions to maximize the potential of digitalization in PAI institutions.

This study is crucial because digitalization has become an urgent need in the modern era, especially to improve the effectiveness of educational institution management. By understanding the challenges and opportunities, this research provides a scientific basis for

more targeted policy-making. Based on the facts outlined, this study supports the argument that digitalization can be a tool for institutional transformation, although it requires significant adaptation. Moreover, this study offers a new approach focusing on a combination of challenge analysis, opportunities, and human resource readiness in the context of PAI institutions. Further research can expand the geographical scope or use quantitative methods to strengthen the generalization of findings. Additionally, exploring the long-term impact of digitalization on the quality of Islamic education can provide deeper insights for the development of knowledge. It is expected to make a tangible contribution to the development of religious education at the secondary school level.

B. Method

This study focuses on the digitalization of Islamic Religious Education (PAI) institutions at SMA Negeri 1 Bulik, Lamandau Regency. The research objects include various challenges and opportunities faced during the digitalization process, such as limitations in technological infrastructure, educator competence, resistance to change, lack of local policy support, limited awareness of digitalization opportunities, and the digital divide. The main phenomenon of interest is how this educational institution, with its existing limitations, can overcome these challenges and leverage digitalization opportunities to strengthen the management of PAI institutions. This issue requires the identification of relevant and contextual strategies that not only address technological barriers but also support holistic institutional transformation.

This study uses a qualitative method with a case study approach, aiming to delve into contemporary phenomena in real-life contexts (Creswell, 2015). Primary data is obtained through in-depth interviews with key informants such as the principal, PAI teachers, computer operators, and students, who provide direct insights into the challenges and opportunities of PAI digitalization. Secondary data is collected from documents and relevant literature, including theoretical studies and policies related to educational digitalization and PAI institutions. This approach enables an in-depth exploration of the research issue while providing a comprehensive overview of the field conditions (Sugiyono, 2020). Participants in this study are purposively selected to ensure representation from various parties directly involved in the digitalization process at SMA Negeri 1 Bulik. The main informants include the principal as the decision-maker, PAI teachers as the implementers of education, computer operators as the technical managers of digitalization, and students as the primary beneficiaries. These four groups of informants provide diverse perspectives that enrich the understanding of the barriers, opportunities, and readiness for digitalization at the educational institution.

The research process is conducted in three main stages: data collection, data analysis, and interpretation of results. Data collection techniques include semi-structured interviews to explore in-depth views from informants, participant observation to observe digitalization practices at the school, and documentation to analyze relevant secondary data. Data collection is carried out systematically to ensure the accuracy and reliability of the obtained data. Observations are conducted over several weeks to ensure valid contextual representation,

while documentation includes internal policies, school reports, and records of digitalization implementation.

Data analysis is conducted using the Miles and Huberman approach, consisting of three main steps: data reduction, data presentation, and conclusion drawing/verification. The data obtained from interviews and observations are organized to identify key themes relevant to the study. The data is then presented in the form of matrices and narratives to provide a comprehensive understanding. Data verification is performed using triangulation methods through comparison of information from various sources and techniques. The validity of the data is tested through credibility, dependability, transferability, and confirmability to ensure that the research findings are trustworthy and applicable to similar contexts.

C. Finding and Discussion

1. Finding

The results of the study show that the implementation of digitalization at SMA Negeri 1 Bulik still faces many challenges. Based on interviews with the principal, Islamic Religious Education (PAI) teachers, computer operators, and students, it was found that limited computer devices and internet connectivity were the main obstacles. The principal stated that, despite these limitations, the school is optimistic that digitalization can improve the quality of education if supported by adequate training and budget allocation. The teachers acknowledged that digital learning resources enrich teaching materials but felt unprepared to use digital devices due to insufficient training. Field observations revealed that the school's computer laboratory was inadequate, with many devices outdated and not functioning properly. Documentation indicated that the budget allocation for educational technology procurement was still very low.

The hardware and network limitations highlighted by the principal and computer operators align with observational findings showing a lack of adequate computer lab facilities. PAI teachers emphasized the importance of training to improve their ability to utilize digital technology, which is in line with school documents noting the lack of related training programs. Students, although possessing personal devices such as smartphones, faced challenges in understanding the use of certain digital platforms, indicating the need for more structured guidance in technology-based learning processes. The relationship between the interviews, observations, and documentation reveals a significant gap between the expectations and the reality of implementing educational digitalization at SMA Negeri 1 Bulik. Although the school has plans to improve technological facilities, limited budget allocation remains a major barrier. This highlights the need for innovative strategies to address these challenges, such as acquiring devices through grants or partnerships with external organizations. This phenomenon shows that while the potential of digitalization is recognized by all parties, its implementation requires a holistic approach that involves improving facilities, training, and better budget planning.

The research on the institutional management of Islamic Religious Education (PAI) shows that the challenges in digitalization also impact institutional management. Based on

interviews with PAI teachers, it was found that the PAI curriculum does not fully support digitalization. Classroom observations showed that teaching still focused on conventional methods, with minimal teacher-student interaction utilizing technology. Curriculum documentation indicates that, although there are some digital-based additional materials, their implementation has not become a priority in daily learning activities.

Data analysis shows that the lack of technological support in PAI institutional management is due to budget constraints and the absence of teacher training. PAI teachers feel that integrating technology into teaching requires clearer policies and stronger support from the school. Observations show that students are interested in digital materials, but the lack of infrastructure hinders teachers from utilizing them. School documents note plans to include digitalization elements in the PAI curriculum, but these plans have not been fully realized. The relationship between interview, observation, and documentation data indicates that the PAI institutional framework at SMA Negeri 1 Bulik requires significant transformation to support digitalization. Limited technological infrastructure remains a major challenge, but this also presents an opportunity to improve the quality of learning by strengthening the synergy between teachers, students, and school policies. This phenomenon illustrates the need for strategic planning involving all stakeholders to strengthen PAI institutional management through digital innovation.

This study also found various challenges and opportunities in the implementation of digitalization at SMA Negeri 1 Bulik. Based on interviews, the main challenges include limited infrastructure, resistance to change, and lack of training. However, there are significant opportunities in student enthusiasm for digital learning, as well as potential support from the government and external organizations. Observations in the field show that despite minimal facilities, some teachers are making efforts to use digital materials to enrich the learning process.

Data analysis shows that the main challenges can be overcome with proper planning and more effective resource management. Additional budget support and intensive teacher training are initial steps that can help capitalize on existing opportunities. Observations indicate that students are ready to engage in digital learning if provided with clear guidance and adequate infrastructure support.

The relationship between the data suggests that the challenges and opportunities in digitalization are interrelated and require an integrative approach to create sustainable change. Infrastructure limitations not only serve as obstacles but also drive innovation. Support from various parties, both internal and external, can act as a catalyst to realize a better digitalization vision at SMA Negeri 1 Bulik. This phenomenon emphasizes the importance of collaboration and strategic planning in overcoming barriers while leveraging digitalization opportunities.

2. Discussion

The research findings show that the digitalization of Islamic Religious Education (PAI) institutions at SMA Negeri 1 Bulik faces various challenges, such as limited facilities, low

digital competence among teachers, and infrastructure issues like unstable internet connections. However, the study also identifies opportunities, including student enthusiasm for technology and the school's plans to develop digital facilities. The readiness of human resources (teachers, operators, and principals) varies, with most teachers feeling less skilled in using digital technology, while operators and the principal are aware of the importance of digitalization, although constrained by technical and budgetary factors. This study is significantly related to previous research, such as the study by Shenkoya & Kim (2023), which states that educational digitalization requires infrastructure support and intensive teacher training. However, this study broadens the scope by highlighting the role of students as a supporting factor, which has not been widely explored in other studies. The findings on student enthusiasm provide a new perspective, showing that digital transformation does not only rely on teacher readiness but also on the support from students as the primary users of technology in learning. Thus, this study provides an advantage in understanding digitalization holistically, including from the students' perspective.

The findings reflect the significant potential of digitalization as a means to improve the quality of PAI teaching. However, it also reflects the importance of strategic planning to overcome existing obstacles, such as better budget allocation and technology training for teachers. This research offers an understanding that the success of digitalization requires integration between policies, resources, and a supportive educational ecosystem. Moreover, the study demonstrates that with an inclusive approach, the potential of digitalization can be harnessed to enrich PAI learning (Nurqozin et al., 2023). The implications of this study are the importance of more focused educational policies to support the digitalization of PAI institutions. The findings can serve as a foundation for developing teacher training programs specific to digital PAI learning, creating curricula that explicitly incorporate digitalization elements, and allocating adequate budgets to support the implementation of educational technology (Budiawan & A Rafiq Zainul Mun'im, 2022). The study also provides recommendations for policymakers to prioritize infrastructure as a key area.

Such research results can be understood by considering the local context of SMA Negeri 1 Bulik, where limitations in facilities and training are major obstacles. Geographical factors and regional budgets also affect the slow implementation of digitalization. Additionally, the conventional education culture slows the adoption of technology by teachers. Meanwhile, the students' enthusiasm for technology shows a shift in learning patterns that could act as a catalyst to support digital transformation.

Based on the research findings, concrete steps that need to be taken include: (1) increasing the education budget to provide adequate technology devices, (2) developing intensive training programs to improve the digital competence of teachers and operators, (3) providing stable infrastructure such as internet networks, and (4) creating a curriculum integrated with digitalization elements. These steps must be accompanied by regular monitoring and evaluation to ensure that the implementation of digitalization aligns with the goal of strengthening PAI teaching.

E. Conclusion

This study reveals surprising findings: despite facing significant challenges such as limited infrastructure and low digital competence among teachers, student enthusiasm for technology is very high and has the potential to act as a catalyst for digital transformation at SMA Negeri 1 Bulik. These findings indicate that the success of digitalization in Islamic Religious Education is not solely dependent on the readiness of hardware and human resources but also on the students' enthusiasm as the key players in learning. This fact provides a new perspective on how students' openness to technology can influence the overall educational ecosystem. This research makes an important contribution both theoretically and practically. Theoretically, it expands the understanding of digitalization in Islamic Religious Education by highlighting the role of students, which is rarely the focus in similar studies. Practically, the research offers strategic guidance for overcoming the challenges of digitalization, including the importance of teacher training, the development of technology-based curricula, and increased budget allocation. Thus, this study not only contributes to the advancement of knowledge but also provides actionable recommendations for policymakers and education practitioners. The limitations of this study lie in the scope of the research, which focuses solely on one school, and thus does not fully represent the dynamics of digitalization in Islamic Religious Education institutions at a broader level. However, the results open up significant opportunities for further research that could expand the geographic context or integrate quantitative research methods to strengthen the generalization of findings. Additionally, future research could explore the long-term impacts of digitalization on the quality of Islamic Religious Education, thereby generating deeper insights for the development of the field in the future.

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