

Islamic Religious Education Teachers' Efforts to Adapt to Digital Challenges

Sholahudin Muhammad Iqbal*¹, Mohamad Ali²

¹ Universitas Muhammadiyah Surakarta; g000220105@student.ums.ac.id

² Universitas Muhammadiyah Surakarta; g000220105@student.ums.ac.id

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ABSTRACT

Urrtent digital era has had a significant impact on tha education sector, where Islamic Religions Education (PAI) teachers are required not only to master religious material but also to be able to adapt technology in the learning process. The purpose of this study is to examine in depth the efforts of PAI teachers in adapting to digitalization, including adjusting learing methods, utilizing technology, and pedagogical approaches to meet the demands of the times. The research method used is qualitative approach. Primary data sources were obtained through in- depth interviews with PAI theachers at SMK BATIK 1 Surakarta, while secondary data were obtained through literature studies form relevant books and scientific journals. Data analysis techniques were carried out through an interactive model that includes data reduction, data presentation, and drawing conclusions. The results and discussion indicate that the main challenges in PAI learning in the digital era include the gap in technology access, low digital literacy of educators, and the tendency of students to be more interested in entertainment content than educational materials. As a solution and adaptation effort, PAI teachers at SMK BATIK 1 Surakarta implemented a cerative strategy by providing game-based quizzes to increase student motivation and active involvement. Furthermore, platforms such as blogs, digital journals, and video and infographic-based assignments are being utilized to instill Islamic values contextually. The success of this adaptation depends heavily on the synergy between teacher creativity at school and parental supervision at home, creating a digital education ecosystem that is both character-based and religious

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Corresponding Author:

Sholahudin Muhammad Iqbal

Universitas Muhammadiyah Surakarta; g000220105@student.ums.ac.id

INTRODUCTION

The development of digital technology has brought significant changes in the world of education, including in the learning process of Islamic Religious Education (PAI). Teachers are required to be able to adapt to various digital challenges, such as the use of technology-based learning media, unlimited access to information, and the dynamics of student behavior in the digital space in the context of this theory, the theory of Technological Pedagogical Content Knowledge (TPACK). However, the adaptation is not only oriented to the technical aspect, but must also be in line with the values of Islamic Education. Immam Al Ghazali's thoughts on teachers as *Murabbi*

emphasizing that educators have the responsibility to guide morals and shape the character of students (Nurussalam, 2022). Therefore, the use of technology in PAI learning must be positioned as a means to strengthen the process of moral and spiritual development, so that teachers' efforts in facing digital challenges remain based on the main goal of Islamic Education, namely the formation of knowledgeable and noble people. (Hasanah & MISBAH, 2025)

Empirically, various studies show that Islamic religious education (PAI) teachers face real challenges in utilizing digital technology effectively in their learning. For example, a study by Sukmawati, Alvitin, and Mubarok found that ICT integration in PAI learning still faces obstacles ranging from teacher competence to the availability of facilities and culture of technology use in schools, so that teachers' readiness to face the digital era is not optimal (Sukmawati, Alviatin, & Mubarok, 2025). Other research also revealed that the challenge is not only in technical ability, but also in the low digital literacy of teachers and changes in student behavior due to the influence of digital media, so that the role of teachers becomes increasingly complex in shaping students' religious character while utilizing the media wisely (Hasanah & MISBAH, 2025). This condition shows that although technology has great potential to enrich PAI learning, various empirical challenges in the field are still significant obstacles in teachers' adaptation efforts to digital challenges (Sukmawati et al., 2025).

Normatively, to overcome the low readiness of PAI teachers in facing digital challenges, it is necessary to strengthen professional competencies through attention to digital literacy and ICT integration based on Islamic values, so that teachers are not only proficient in technical but also able to utilize technology effectively in PAI learning. As suggested in Sukmawati's research, "Islamic religious education teachers need to improve their understanding and skills in utilizing ICT in learning to answer the challenges of the digital era" which includes mastery of technology, digital learning planning, and pedagogical strategies that are in accordance with the religious context (PAI) and supported by adequate school facilities and policies (Sukmawati et al., 2025). In addition, the integration of the TPACK framework in teacher research can be the foundation of normative strategies to ensure a balance between content knowledge, pedagogy, and technology, so that PAI digital learning remains oriented towards character development and Islamic values (Maskanah, 2025).

This research was carried out at SMK BATIK 1 Surakarta, a vocational high school located in the city of Surakarta and has the characteristics of students with diverse backgrounds and vocational education orientations. As a vocational school, SMK BATIK 1 Surakarta not only emphasizes the mastery of skill competencies, but also the formation of religious character and values through Islamic Religious Education (PAI) subjects. (Muttaqien, Maryati, & Permana, 2023) In the context of the development of digital technology, this school lacks the use of various technology-based learning media, both in the form of online platforms, the use of interactive presentation devices, and digital communication between teachers and students. However, the dynamics of the use of technology among students which are quite intense also present their own challenges for PAI teachers, especially in guiding media ethics and maintaining the internalization of Islamic values. Therefore, SMK BATIK 1 Surakarta is a relevant school to examine how PAI teachers' efforts adapt to digital challenges in the context of vocational education. (Ali & others, 2023)

The development of digital technology in the world of education has prompted the birth of a number of theoretical studies that highlight the role of Islamic Religious Education (PAI) teachers in dealing with these changes. Several studies on the integration of *Technological Pedagogical Content Knowledge* (TPACK) in PAI learning have emphasized that learning effectiveness in the digital era is highly dependent on teachers' ability to combine content, pedagogy, and technology aspects as well as proportionality. Other studies also show that PAI teachers take strategic responsibility in shaping the religious character of students in the midst of the rapid flow of digital information, although they are still faced with obstacles such as limited digital literacy, lack of training, and moral challenges

due to the influence of social media. In addition, research related to teachers' adaptive strategies in technology-based learning emphasizes the importance of maintaining a balance between digital innovation and the internalization of Islamic values.(Rahman, 2022) However, most of the studies are still general and have not specifically examined the concrete efforts of PAI teachers in adapting to digital challenges in the context of vocational schools, especially at SMK Batik 1 Surakarta, thus, this research has an urgency to be carried out.(Hidayat & others, 2021)

The rapidly growing digital era today has a significant impact on various sectors of life, including the education sector(Muttaqien et al., 2023). Since the advent of the internet and personal computers in the 1980s, technological developments have accelerated tremendously in recent decades(Fricticarani, Hayati, R, Hoirunisa, & Rosdalina, 2023). Where digital media is increasingly used in all aspects of life, including in the learning process(Azis, 2019). In Greek, strategy comes from the word *strategos* which means a general or high officer.(Taliwuna, Tinggi, Yerusalem, & Manado, 2024) The term digital comes from the Greek word, namely the word *Digits*, which means fingers(Tari & Hutapea, 2020).

Indonesian schools need to use technology in teaching and learning activities because the current traditional system is considered too boring according to student development(Yudhistira, Rifaldi, & Satriya, 2020). Digitalization forces educators to use technology in the learning process, including Islamic religious education. The use of technologies such as projectors, educational applications, and e-learning platforms has become part of the educational strategy implemented by PAI teachers(Safitri et al., 2024). In other words, Digitalization is a means to realize the democratization of education, meaning the ability to transform various aspects and methods of education into a digital format(Delia Maharani & Latifah Meynawati, 2023).

The digital age, which was born from information technology and provides unlimited information, has fundamentally changed the way people live their lives in various aspects, including education(Sutarman, Wardipa, & Mahri, 2019). Children's dependence on technology without parental supervision causes them to be reluctant to engage in activities and interact less with the social environment. Therefore, it is important for formal education to include character education(Dunn & Schultz, 2020). Teachers in the digital era now play the role of facilitators who support students to utilize various learning resources and technology as learning tools(Saerang, Lembong, Sumual, & Tuerah, 2023).

Therefore, teachers in the digital era must always update their technological capabilities so as not to lose to their students(Andi Sadriani, M. Ridwan Said Ahmad, & Ibrahim Arifin, 2023). The quality of a teacher is not solely judged by his academic ability, but also by his ability to adapt sustainably to the changing times, including technological advances(Lestarina, 2024). Islamic Religious Education (PAI) is a learning process that aims to instill Islamic values, morality, and ethics in students (Salisah, Darmiyanti, & Arifudin, 2024).

Therefore, this study aims to examine in depth the efforts implemented by Islamic Religious Education (PAI) teachers in adapting to digitalization at SMK Batik 1 Surakarta. This research also aims to collect, analyze, and understand how PAI teachers adjust learning methods, the use of technology, and pedagogical approaches in responding to the demands of the digital era. This discussion is important considering that the rapid development of information technology has brought significant changes in the world of education.(Fricticarani et al., 2023) PAI teachers are not only required to master religious materials, but must also be able to adapt their learning methods to be relevant to the needs and characteristics of today's students.(Muflikhatun, Pahrudin, Jatmiko, Koderi, & Azad, 2025) Therefore, a comprehensive understanding of these adaptive strategies can contribute to improving the quality of religious education that is not only informative, but also transformative and contextual in the digital age.(Miskiah, Suryono, & Sudrajat, 2019)

Based on the findings of this study, it can be concluded that the success of Islamic Religious Education (PAI) teachers in adapting to digital challenges is largely determined by pedagogical

creativity, the ability to utilize technology contextually, and support from both the school and family environments; the main findings indicate that innovative strategies such as game-based quizzes, interactive digital media, and the integration of Islamic values through digital platforms can enhance students' motivation and engagement, although challenges such as unequal access to technology and low levels of digital literacy still persist; therefore, future research is recommended to expand its scope by involving multiple stakeholders, including students, parents, and school authorities, and to employ mixed-method approaches to quantitatively measure the impact of digital strategies on learning outcomes and character development, as well as to explore effective and sustainable technology-based teacher training models, with the urgency of addressing ongoing digital disparities and the novelty of integrating pedagogical innovation with value-based digital learning within Islamic education contexts.

METHODS

This study uses a qualitative approach. The qualitative approach was chosen to gain a deep understanding of the efforts of Islamic Religious Education (PAI) teachers in adapting to digital challenges in the world of education. (Maskanah, 2025) The data sources are divided into two, namely primary data obtained through in-depth interviews with Islamic religious education teachers who are directly involved in the learning process in the digital era. (Soejono, Iswadi, & Yusari, 2024) This interview aims to explore the experiences, views, and strategies applied by Islamic religious education teachers in utilizing technology and facing various digital challenges in learning. (Adryansyah, Quiroz, Zuhdi, & Sutabri, 2023) And secondary data is obtained through literature studies, namely by examining various relevant written sources, such as books, scientific journal articles, and academic publications that discuss digital learning strategies, the role of Islamic religious education teachers and the challenges of the digital era. Such as the article *The Role and Challenges of Islamic Religious Education Teachers (PAI) in the Era of Globalization* (Bahurruzzi Ahmad Saiful, Ubadah Ubadah, & Hasnah, 2022).

The data collection process in this study was carried out through an in-depth interview technique. The collected information is then processed using an interactive analysis model, which includes the stages of reduction, presentation, and conclusion drawn. In the reduction phase, the data sourced from observations, interviews, and documentation were sorted and focused to be relevant to the research theme, namely the adaptation of Islamic Religious Education (PAI) teachers to challenges in the digital era. (Kharismatunisa, 2023) After going through the reduction stage, the data is presented through narrative descriptions and thematic categorization to make it easier to identify patterns and significance of research findings. The process of drawing conclusions is carried out in a circular and continuous manner by maintaining the consistency of the available information to ensure the validity of a comprehensive final result. (Ritonga, 2025)

RESULTS AND DISCUSSION

1. *The Role of PAI Teachers in Facing Digital Challenges*

Based on the results of an interview with Mrs. Gina as an Islamic religious education teacher at SMK BATIK 1, on December 15, 2025, in learning practice at school, PAI teachers not only play a role as teachers of religious materials, but also as guides to students' attitudes and morals, especially in facing behavioral challenges and digital culture that develop among students. Teachers are not only tasked with teaching, but also bear moral, spiritual, and social responsibilities in shaping the character of students, so that not everyone is able to carry out their role as teachers optimally.

The complex role of PAI teachers requires the ability to adapt to technological developments and changes in the character of students in the digital era. Mrs. Gina said that the use of gadgets and social media by students has a double impact, on the one hand facilitating access to religious information, but on the other hand it has the potential to affect students' attitudes, discipline, and

ethics if it is not accompanied by proper assistance. Therefore, PAI teachers are required not only to understand the teaching material, but also to be able to direct students in utilizing technology wisely and in accordance with Islamic values.

In the midst of the rapid development of the times, the role of educators has fundamentally transformed. Now, teachers are no longer just the main source of information, but rather act as facilitators who direct students in an interactive learning ecosystem. The main focus of teachers today is to guide students to be able to learn independently, collaborate, and actively engage in the educational process that is centered on their needs.

2. *Learning Methods in the Digital Era*

Educators at SMK BATIK 1 now focus their teaching strategy on technology integration. By optimizing devices such as laptops, videos, and LCD projectors, they seek to boost motivation and quality of education for students. Based on the results of interviews with local PAI teachers, the use of technology is not just a support, but has become a core element in the teaching and learning process. The use of laptops is also part of learning at SMK BATIK 1 teachers use it to make teaching devices, showing examples in learning. The students also responded positively to the technology combined with the teaching, they easily captured the learning material that was delivered by the teacher.

PAI (Islamic Religious Education) teachers are not only tasked with teaching religious lessons, but also helping to shape students' attitudes and morals. In today's digital age, this role is increasingly important because students can access information from anywhere without limits. Therefore, teachers need to be active companions in a more flexible and interesting learning process. PAI teachers also need to combine Islamic teachings with digital media, so that learning is not only sensible (cognitive), but can also touch students' feelings (affective) and real actions (psychomotor) in a way that suits their current world. Teachers play an important role in guiding, teaching, and evaluating students at all levels, from early childhood education to secondary education. Given the role of teachers as the main role models in schools, Islamic Religious Education educators need to optimize all efforts in shaping the character of students. The use of information and communication technology allows digital learning to overcome the physical constraints commonly encountered in traditional education. This technology offers a variety of platforms and facilities that can be accessed online, such as *Learning Management System* (LMS), video conferencing, e-books, and discussion forums.

3. *Utilization of technology in PAI Learning*

The use of technology in learning Islamic Religious Education (PAI) at SMK Batik 1 is a form of teacher adaptation to the demands of the digital era. Based on the results of the interview with Mrs. Gina, the use of devices such as LCD projectors, laptops, and video media has been applied in the learning process to help convey material so that it is more interesting and easy for students to understand. Technology not only serves as a visual aid, but also as a means to increase student engagement in the learning process. With the existence of digital media, religious materials that are abstract can be presented in a more concrete and contextual way. (Nijo, Erwin, Al Awwaby, & Wirawan, 2024)

In addition, the use of technology also has a positive impact on students' learning responses and motivation. Students tend to be more enthusiastic and active when learning is combined with digital media compared to conventional methods. (Risma, Sutiono, & Rodhiyana, 2024) Teachers also use technology to develop learning tools and provide examples that are relevant to students' daily lives. This shows that the integration of technology in PAI learning not only increases the effectiveness of material delivery, but also helps to create a more interactive, innovative, and appropriate learning atmosphere in accordance with the characteristics of the digital generation. (Intania, Ruwandi, & Saerozi, 2025). While the integration of technology in education offers a wide range of benefits, there are significant barriers to consider. The main obstacle is the

digital access gap in various regions, where not all students have adequate supporting devices at home. In addition, technical obstacles such as low internet network stability and device malfunctions are often factors that hinder the effectiveness of the teaching and learning process. (Mintasih, Sukiman, & Purnama, 2024)

The main challenge in learning Islamic Religious Education (PAI) in the digital era is rooted in the gap in access to and technological competence. While digitalization offers flexibility, its effectiveness is highly dependent on the availability of hardware and a stable internet connection. This condition is complicated by low digital literacy among educators and students; Many teachers do not have adequate skills to integrate technology into the teaching and learning process optimally. In addition, the lack of specific training on the development of digital materials that remains in harmony with Islamic values makes many technological innovations in the classroom only formality without touching on deep spiritual substance. (Nusantara & Sukandar, 2024)

At the field level, these technical constraints have a direct impact on the quality of educational interaction, as observed at SMK Batik 1 Surakarta. In students who are undergoing the Field Work Practice (PKL) program, online learning tends to be less than optimal due to limited space for movement and virtual teacher control. This obstacle requires an increase in digital skills for teachers and the provision of more supportive infrastructure so that religious materials can still be delivered comprehensively even if they are not done face-to-face. (Maulani & Inayati, 2026)

In addition to the technical aspects, PAI teachers also face psychological and cultural challenges from the student side. Today's students tend to be more accustomed to using technology for entertainment than for learning purposes, so religious educational content has to compete fiercely with entertainment content that is much more visually and emotionally appealing. Without creative strategies, moral and spiritual messages will be difficult to penetrate into students. This is exacerbated by the passive attitude of some parents who lack supervision of their children's digital activities, so that the risk of being exposed to information that is contrary to religious values becomes even greater in cyberspace. (Mukarromah, Agus, & Manshur, 2025)

4. Efforts to meet the challenges of the digital era

The solution applied at SMK BATIK 1 in PAI learning to face digital challenges is by giving assignments in the form of quiz wrapped like games, so that students are more interested in working on the problem, and the quiz can be done at any time. Parental involvement also affects the development and success of students, because the shaman, attention, and supervision provided can encourage students to be more active and responsible in the learning process.

This game-based quiz giving strategy not only serves as a variety of evaluation methods, but also as a means to increase students' motivation to learn and active participation in PAI learning. Based on the results of the interviews, this approach is considered to be able to reduce student boredom and encourage a more interactive and fun learning atmosphere. In addition, parental involvement plays a supporting factor that strengthens the effectiveness of this strategy, especially in supervising the use of digital devices at home so that it remains directed to educational activities. The synergy between teachers' creativity in utilizing digital media and parental support shows that the success of PAI learning in the digital era is not only determined by the technology used, but also by the collaboration of various parties in shaping students' learning attitudes and responsibilities.

By creating an inclusive and dynamic learning environment, PAI teachers can foster students' curiosity, enthusiasm for learning, and discipline in utilizing technology positively. Practices such as daily reflection through learning blogs or digital journals, as well as video- and infographic-based assignments, can be effective mediums for instilling Islamic values contextually. This strategy not only strengthens material mastery, but also forms a balanced character between knowledge, ethics, and spirituality. Thus, the right strategy will make digitalization a means to strengthen transformative religious education and shape students' Islamic character.

The success of all digital learning ultimately depends on a solid synergy between the school and the family. Parental involvement is a key factor in providing support, attention, and supervision of the use of digital devices at home to remain focused on educational activities. The harmonious collaboration between teachers' creativity in processing digital content and parental control in the domestic environment creates a complete educational ecosystem. Thus, digitalization is no longer seen as an obstacle, but rather a powerful means to strengthen religious education that is relevant to the demands of the times.

CONCLUSION

Digitalization in education requires Islamic Religious Education (PAI) teachers to change their roles from simply teaching to becoming facilitators and moral guides. They must be able to use technology while still emphasizing Islamic values and ethics. This means ICT skills are very important. However, there are still challenges such as limited access to devices and the internet, low digital literacy, and lack of training that combines technology with Islamic teachings. In addition, students are often more interested in entertainment content, and weak parental supervision can also hinder character building in the digital world. To overcome these challenges, PAI teachers can use creative methods such as game-based quizzes, blogs, videos, and infographics to make learning more engaging. The success of these strategies depends on collaboration between teachers and parents so that technology is used properly for education. In conclusion, the success of PAI teachers in the digital era depends on creativity, the ability to use technology effectively, and support from schools and families. Future research should involve more parties and measure the impact of digital learning more clearly.

LIMITATIONS

This study has several limitations that need to be acknowledged. First, the research employs a qualitative approach focused on a single case study at SMK Batik 1 Surakarta, which may limit the generalizability of the findings to other educational contexts or institutions with different characteristics. Second, the primary data were collected through in-depth interviews with a limited number of Islamic Religious Education (PAI) teachers, without incorporating perspectives from students, parents, or school administrators, which could provide a more comprehensive understanding of digital adaptation in learning. Third, although this study discusses the use of technology in PAI learning, it does not quantitatively measure the effectiveness of these strategies on student learning outcomes or character development. Finally, constraints related to time and access may have limited the exploration of broader digital practices and innovations in other vocational schools. Therefore, future research is recommended to involve multiple stakeholders, apply mixed-method approaches, and expand the research scope to produce more comprehensive and generalizable findings.

AUTHOR CONTRIBUTION

SMI conceptualized the study, conducted the field research, collected and analyzed the data, and wrote the original draft of the manuscript. MA contributed to the research design, provided methodological guidance, and assisted in data interpretation. MA also supervised the overall research process, critically reviewed the manuscript, and provided substantial revisions to improve the clarity and academic quality of the final version. All authors read and approved the final manuscript.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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