



## Digital Age Education Management Strategies in Facing Global Changes in Islamic Education

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### Abstract:

This study aims to explore the impact of the use of digital technology on improving the quality of learning in Islamic-based junior high schools, as well as analyze the role of teacher competency development in facing global changes. This research is based on the rapid development of digital technology that has changed the way of learning and communication in the world of education, especially in the Islamic education environment. The method used in this study is a qualitative approach with data collection techniques through interviews, observations, and documentation in the field. The findings were analyzed based on the Miles and Huberman model. The results show that the application of digital platforms such as e-learning and social media has increased learning flexibility, expanded educational reach, and strengthened data-based evaluation systems. In addition, teacher training to improve digital literacy has proven to be important in ensuring effective technology adaptation. The findings are expected to contribute by providing new insights into the importance of digitalization in Islamic education management, as well as underlining the role of teacher training in supporting learning effectiveness in the digital era.

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## INTRODUCTION

Education has undergone significant changes where information and communication technology has become an essential element in the learning process and education management in the current era of globalization and digitalization (Andriushchenko et al., 2021; Núñez-Canal et al., 2022; Sheikh Khairudin & Mohammad, 2021). Rapid developments in digital technology have not only changed the way information is delivered but also the way education is managed. The conventional education system, which has been based on a face-to-face approach and manual administration, is slowly shifting to a technology-based system that is more efficient and effective and flexible (McDiarmid & Zhao, 2023; Ni, 2022). The phenomenon shows that many educational institutions around the world, including Islamic educational institutions in Indonesia, are faced with an urgent need to adapt to technological developments (Akrim, 2022; Al Haddar et al., 2023; As'ad, 2021; Marjuni, 2022). The use of digital platforms such as e-learning, learning management systems (LMS), and various interactive applications has become an important need in the teaching and learning process and education management (Shurygin et al., 2021). The education management system in this digital era is required to not only provide access to teaching materials but

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also optimize evaluation, student data management, and collaboration between education stakeholders.

Global changes in technological, social, economic, and political aspects have a direct impact on all sectors, including Islamic education (Akrim, 2022; Ekasari et al., 2021). Islamic education is not only faced with internal challenges such as strengthening spiritual and moral values but also external pressures that come from these global changes (Rahmawati, Rosita, & Asbari, 2022; Ridlo & Yanti, 2023). One of the most significant changes is the increasing use of technology in everyday life that affects how knowledge is delivered, studied, and managed in Islamic educational institutions. Global change is inevitable but can be managed strategically. Good educational management can bridge the need for technological innovation while maintaining the identity and values of Islamic education (Al Haddar et al., 2023; Suyatno et al., 2022; Minarti et al., 2022). This is a major challenge in designing an Islamic education management strategy in the digital era.

Various studies related to education management in the digital era and global change have been widely conducted. One relevant study is a study on digitalization in Islamic education conducted by Ekasari et al. (2021), which emphasizes the importance of digital transformation in the learning process in Islamic educational institutions. However, Hoerudin et al. (2023) also highlighted the obstacles to infrastructure and digital literacy among educators that need to be considered. Another study by Al Haddar et al., (2023) focused on the implementation of e-learning as the main solution to maintain the sustainability of the teaching and learning process in the digital era. However, Suyatno et al. (2022) found that the implementation of e-learning in Islamic education still faces challenges in terms of curriculum adaptation, technological limitations, and resistance from some parties who are less familiar with digital systems. Meanwhile, research by Kultsum et al. (2022) and paper Amin et al. (2021) explored the influence of globalization on Islamic education management. The results of the study suggest a balanced curriculum integration between technology and Islamic values to maintain the relevance of Islamic education amidst global change.

Although various studies have explored the influence of digitalization and globalization on Islamic education, there is a gap as a research gap that has not been fully answered. Most previous studies focus on the use of technology in the learning process or on the direct impact of globalization on the curriculum. However, a more in-depth study of the holistic management strategy of Islamic education in the digital era is still limited. In particular, the management aspect of Islamic educational institutions involving various elements such as human resource management, technological infrastructure, and adjustment of managerial policies in facing global dynamics has not been comprehensively explored. Thus, this paper was created as a study on the preparation of a comprehensive Islamic education management strategy in the digital era that not only pays attention to technical aspects such as the introduction of technology in learning but also includes managerial, policy, and social dimensions.

The purpose of this study is to explore and formulate managerial solutions that can be adopted from SMP Islam Al Izhar Cendekia Makassar in improving operational efficiency, learning quality, and competitiveness in the global arena. The study seeks to identify technology-based management strategies that are able to optimize the educational process in the school while maintaining Islamic identity and values. In addition, this study also seeks to offer relevant policy recommendations for school

leaders in implementing digital technology effectively, so that it can have a positive impact on the quality of education, human resource management, and adaptation to global change. The results of this study are expected to be a reference for other Islamic educational institutions in responding to the challenges of the digital era and globalization.

## RESEARCH METHOD

This study uses a qualitative approach with a descriptive type. The qualitative approach was chosen because it aims to explore and understand the phenomena that occur in depth related to educational management strategies in schools in facing global change and the digital era (Williams, 2021). This approach is relevant to explore various managerial aspects from human resource management to the use of technology in the learning process and school administration. The selection of SMP Islam Al Izhah Cendekia Makassar as a research subject is based on several strategic considerations. The school is one of the Islamic educational institutions that has a strong commitment to integrating Islamic values with modern technology in the learning process and school management. This makes the school a relevant object to be studied in the context of educational management strategies in the digital era.

Data collection techniques in this study include interviews, observations, and documentation. Interview techniques were carried out in depth with stakeholders in the school including the principal, vice principal, teachers, and administrative staff. Observations were carried out to directly observe how technology is integrated into various operational and learning aspects in schools. Meanwhile, documentation is used to analyze various relevant documents, such as school policies, academic reports, curricula, and other documents related to the use of technology in educational management. By combining these three techniques, the data obtained is expected to provide a comprehensive picture of educational management strategies in the digital era.

The data analysis of this study uses a model developed by Miles and Huberman in (Assyakurrohim, Ikhrum, Sirodj, & Afgani, 2022), which consists of three main stages: data reduction, data presentation, and drawing conclusions/verification. The process is carried out in a cycle where each stage is interrelated with each other. The first stage, data reduction, is carried out by simplifying and organizing the data that has been collected through interviews, observations, and documentation. Furthermore, the reduced data will be presented in a more organized form such as descriptive narratives, matrices, or graphs, to make it easier for researchers to understand patterns and relationships between variables. The last stage is drawing conclusions and verification where researchers interpret the data that has been analyzed. Conclusions are drawn based on a thorough understanding of the data presented, and researchers ensure that the results are supported by strong and relevant data.

The data obtained were then checked for data validity through data triangulation techniques that involve the use of various sources and data collection methods to ensure the validity of the findings. Data triangulation is carried out by comparing information obtained from interviews, observations, and documentation. By utilizing various data sources, researchers can check the consistency of the information received and reduce the potential for bias that may arise from one method or one point of view alone. Through data triangulation, this study seeks to provide an objective and in-depth picture of educational management strategies in the digital era. The validity of the research results

is expected to be more guaranteed, so that the findings produced can be relied on and become an important contribution to Islamic education management in facing global challenges.

## **RESULTS AND DISCUSSION**

Educational strategy management in keeping up with digital progress requires an adaptive and proactive approach to face challenges and take advantage of the opportunities offered by technology (Faiz, Al-Amin, Mundiri, & Fahmi, 2023; Gabriel, Marrone, Van Sebille, Kovanovic, & de Laat, 2022; Rof, Bikfalvi, & Marques, 2022). One key strategy is the digitalization of the learning process through the use of e-learning platforms, interactive learning applications, and the integration of information technology into the curriculum (Haleem et al., 2022). In another version, educational institutions need to develop digital competencies for educators so that they are able to optimally utilize technology in the teaching process. Human resource management must also be adjusted where teacher training and capacity development are priorities to face rapid technological developments.

Management strategies in addition to learning aspects must also include digital infrastructure management such as providing adequate internet access, hardware, and software that support efficient administrative and academic processes (Dobrica, Duško, & Lj, 2023; Kholiavko, Popelo, Bazhenkov, Shaposhnykova, & Sheremet, 2021; Zaini, 2023). Good management also needs to integrate technology into the school information system, enabling fast and accurate reporting, and effective communication between schools, students, and parents (Öz & Arastaman, 2022; Purwanto & Wafa, 2023). By adopting a holistic and technology-based approach, educational institutions can improve the quality of education, optimize operational efficiency, and prepare students to face an increasingly digitalized world.

### **Application of Technology in Learning**

Learning in the digital era has undergone a significant transformation with the presence of technology that not only changes the way information is delivered but also increases the accessibility and flexibility of learning (Carstens, Mallon, Bataineh, & Al-Bataineh, 2021). Technology has expanded learning opportunities by presenting e-learning platforms, interactive learning applications, and video tutorials that allow students to learn independently anytime and anywhere. Technology in learning acts as a facilitator that facilitates interaction between teachers and students, and enriches teaching materials with more interesting and dynamic multimedia resources. Technology also enables personalized learning, where learning can be adjusted to the needs and learning pace of students (Prayudi, Hakiki, Putra, Anzka, & Ihsan, 2021). Technology-based learning management systems (LMS) allow teachers to monitor student progress in real-time and provide faster and more relevant feedback. Thus, technology is not only a tool but also an integral element in creating a more effective, efficient, and engaging learning experience for today's generation of students in the digital era.

The study found that the use of digital technology in educational management at SMP Islam Al Izhar Cendekia Makassar has a significant impact on improving the quality of learning. The implementation of digital platforms in schools such as e-learning has allowed students to access learning materials from anywhere and anytime, thereby increasing learning flexibility. This is very relevant in the era of globalization where

learning is no longer limited to physical classrooms but can be done virtually through digital devices. "We at Al Izhar Cendekia Islamic Junior High School Makassar have started implementing e-learning in the last few years, especially since the pandemic, which has forced us to adapt faster. With e-learning, students can access learning materials from home, even outside of school hours. They can learn at any time, at their own pace and time. This certainly increases learning flexibility and makes learning more independent" (I-hs).

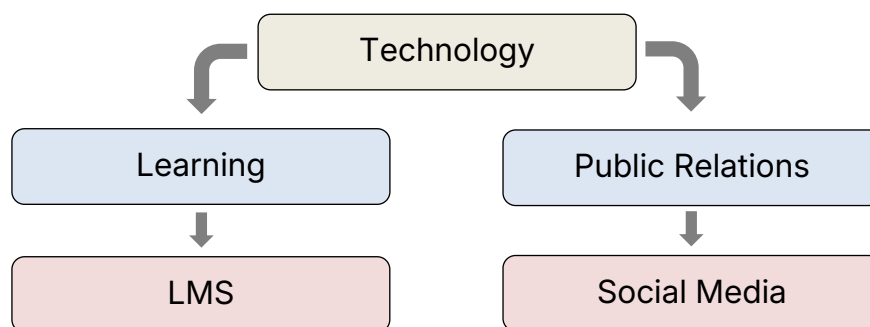
The results of the principal's interview revealed that the implementation of e-learning in this school has been going on since the last few years, with a significant acceleration in implementation during the pandemic. The pandemic is the main trigger that forces schools to immediately adapt to digital technology. The implementation of e-learning allows students to access learning materials from home, which drastically increases learning flexibility. The argument is in accordance with the results of interviews with the curriculum field which conveyed that students are no longer limited by time and physical classrooms, so that they can learn at any time according to their own pace and preferences. "E-learning allows students to access lesson modules, assignments, and explanatory videos from teachers whenever they need it. This is especially helpful for those who may be having difficulty during class hours or want to repeat the material. Teachers can also monitor their progress through the platform" (I-cur).

The results of the interview show that the use of e-learning at Al Izhar Islamic Junior High School Cendekia Makassar provides great advantages for students in terms of flexibility in access to learning materials. Through the e-learning platform, students can easily access lesson modules, assignments, and explanatory videos from teachers whenever they need them, not limited to classroom hours. Technological advances not only have an impact on learning but also on parents who can see directly through digital platforms about the learning outcomes of student. "With the existence of a digital platform, parents can be more involved in monitoring their children's development. They can immediately find out the results of evaluations, see tasks that children have not completed, or even communicate with teachers directly through the same platform. This creates a stronger relationship between the school, students, and parents" (I-pubr).

The results of the interviews show that the implementation of digital platforms at Al Izhar Islamic Junior High School Cendekia Makassar not only facilitates the learning process for students and teachers, but also increases the involvement of parents in monitoring their children's academic development. Through this platform, parents can access the results of student evaluations directly, including viewing tasks that have not been completed by their children. This provides transparency and allows parents to be more proactive in supporting their children in learning.

The results of the observation found that the use of digital technology at Al Izhar Islamic Junior High School Cendekia Makassar has a significant impact on improving the quality of learning with platforms such as e-learning that allow students to access materials from anywhere and anytime, increasing learning flexibility in the era of globalization. In addition, social media and interactive learning apps expand the reach of education, allowing interaction between students, teachers, and peers outside of school hours, as well as facilitating effective communication between teachers, students, and parents. The implementation of technology based on Figure 1 also strengthens the data-driven evaluation system, where students' academic performance can be monitored in real-time, allowing school management to make more informed and faster decisions

based on actual data. The overall impact of the implementation of this technology is an increase in the effectiveness of learning strategies and overall school management.



**Figure 1. Utilization of School Digitalization**

The analysis of this study is in line with previous research that shows the positive impact of the use of digital technology in education. Firdaus et al. (2023) stated that digitalization in Islamic education increases the effectiveness of learning through the expansion of material accessibility and time flexibility for students, as found in Islamic Junior High School through the application of e-learning that allows students to access materials anytime and anywhere as needed. Crompton et al. (2021) also found that technology plays an important role in maintaining the sustainability of distance learning, which is in line with the experience in this school, where the adoption of technology is accelerated, encouraging the adaptation of students and teachers to digital learning. In addition, Fuchs et al. (2021) findings on strengthening data-based evaluation through technology are supported by the results of this study, where the digital-based evaluation system at SMP Islam Al Izhar Cendekia Makassar allows real-time analysis of student performance, so that management can make more informed decisions. The overall results of this study show that the use of digital technologies, such as e-learning and interactive applications, not only improves the flexibility and quality of learning, but also strengthens parental involvement and the effectiveness of school management in data-driven decision-making.

### **Teacher Competency Development**

The development of teacher competence in the face of digital advances is the main key to ensuring the effectiveness of technology integration in education. Teachers are required to master digital literacy, which includes the ability to use technology devices, learning applications, and e-learning platforms effectively (Erstad, Kjällander, & Järvelä, 2021). In addition, teachers also need to understand technology-based learning strategies in order to create an interesting and interactive learning experience for students. Another important competency is adaptability and innovation, where teachers must be able to adapt their teaching methods to changing technological developments, as well as utilize multimedia and interactive applications to improve student understanding. With the development of competencies, teachers can not only teach, but also become facilitators who support personalized learning and monitor student progress in real-time, creating a learning environment that is more flexible, dynamic, and relevant to the needs of the digital era.

The findings of the study show that training and development of teacher competencies in using technology is very important to ensure the effectiveness of digital learning at Al Izhar Islamic Junior High School Cendekia Makassar. With the rapid development of technology, teachers in this school need to be equipped with adequate abilities in using e-learning platforms, interactive learning applications, and social media as teaching aids. This training not only improves the digital literacy of teachers, but also provides them with skills in managing virtual classrooms, optimizing the use of technology in evaluation, and facilitating distance learning.

Competency development at Al Izhar Cendekia Islamic Junior High School Makassar has become more relevant because schools have adopted various digital technologies over the past few years, especially during the pandemic, which has accelerated the adaptation process. With the right training, teachers can more easily utilize technology to monitor student progress in real-time, provide faster feedback, and create a more interactive and engaging learning experience. Therefore, the development of teacher competencies in schools is an important element in the successful implementation of technology-based learning strategies and ensures that teachers can optimally keep pace with digital progress. "we are indeed focusing on training teachers to be able to adopt technology in the learning process. We recognize that digital literacy is very important, so the training we conduct includes the use of e-learning platforms, such as Google Classroom, as well as interactive learning applications that can make learning more dynamic. We also provide training to manage virtual classrooms and use social media as a means of communication with students and parents" (I-hs).

The results of the interview show that Al Izhar Islamic Junior High School Cendekia Makassar places teacher training as a top priority in facing the digital era. The school recognizes the importance of digital literacy for their teachers, so the focus of the training includes the use of various digital technologies and platforms such as Google Classroom and interactive learning applications. As the representative of the curriculum sector stated that technology can help teachers in evaluating and monitoring student development in real-time. "Our teachers are now more confident in managing virtual classrooms and providing interactive learning. They can provide material in the form of videos, online quizzes, and other interactive modules, which makes it easier for students to understand the material. In addition, teachers' ability to use technology also helps us monitor student progress in more detail and in real-time. Feedback can be given faster, so that the teaching-learning process becomes more effective" (I-cur).

The results of interviews with other teachers stated that "Technological developments are indeed accelerating our need to adapt to technology. If previously technology was only a complement, now it has become the main need. Trained teachers became better prepared when we suddenly had to switch completely to distance learning. They not only use technology to deliver material, but also in evaluating students and providing guidance online. This keeps schools running despite physical restrictions" (I-tc).

The results of the interview findings illustrate the school's commitment to improving the digital competence of teachers so that they are able to keep up with technological developments in the world of education. Table 1 of teacher competency development has been shown below, which includes aspects of digital literacy, virtual classroom management, the use of interactive learning applications, the application of social media, technology-based evaluation, and its benefits for learning.

**Table 1. Teacher Competency Development**

Competence	Development Description	Benefits for Learning
Digital Literacy	Teaching teachers to understand and use technology devices, e-learning applications, and digital platforms	Improve basic technology skills and readiness for digital developments
Virtual Classroom Management	Provide training on classroom management through virtual platforms such as Google Classroom and Zoom	Facilitate the management of distance learning with a more organized structure
Use of Interactive Learning Apps	Teach the use of interactive learning apps to increase student engagement in learning	Improving the quality of learning with more interactive and interesting methods
Application of Social Media in Communication	Train teachers to use social media as a communication tool with students and parents to expand interaction	Strengthen communication between teachers, students, and parents quickly and effectively
Evaluation of Technology-Based Learning	Train teachers in using a digital data-based evaluation system to monitor student progress in real-time	Provides fast, data-driven feedback for improved learning
Implementation of Distance Learning	Improving teachers' skills in facilitating effective and efficient distance learning	Increase accessibility and flexibility in the teaching and learning process
Real-time Data Analysis and Monitoring	Provides the ability to analyze data and monitor student performance in real-time using technology	Easier identification of student problems through accurate and fast data

Teacher competency development in the digital era includes important aspects such as digital literacy, virtual classroom management, and the use of interactive learning applications. Digital literacy prepares teachers to use e-learning technology and platforms, while managing virtual classrooms through tools such as Google Classroom and Zoom makes distance learning more structured. Teachers are also trained to utilize interactive applications to increase student engagement and strengthen communication through social media with students and parents. In evaluation, teachers develop the ability to monitor student progress in real-time with data-driven systems, which allows for faster and more accurate feedback. Overall, these competencies help teachers create a more flexible and effective learning environment, as well as allow them to keep pace with technological advances in education.

### Changes in Communication and Interaction Patterns

Global changes, especially with the rapid advancement of technology, have forced a change in the pattern of communication between teachers, students, and parents in education. Communication that previously took place in person or through physical meetings has now shifted to digital platforms such as social media, instant messaging applications, and e-learning platforms (Howard, Tondeur, Ma, & Yang, 2021). Technology allows for faster, more efficient, and transparent communication. Teachers can now interact with students and parents through digital platforms to provide information related to assignments, learning progress, and assessments. The digitization of education also makes it easier to convey information, where parents can real-time see the results of children's evaluations through a learning management system (LMS) or other applications. This creates a more collaborative relationship between teachers, students, and parents, with all parties being actively involved in the educational process. With this pattern of digital-based communication, education becomes more open, responsive, and

interactive, supporting students to thrive in a global era that demands rapid adaptation to technological changes.

The digitization of communication at Al Izhar Islamic Junior High School Makassar not only improves learning effectiveness, but also creates stronger engagement between schools, students, and parents, all of which play a role in supporting the achievement of optimal learning outcomes. This change in communication patterns is very noticeable along with the adoption of digital technology in the learning process. The school has used e-learning platforms and social media as a means of communication between teachers, students, and parents. Through this platform, teachers can provide feedback quickly and parents can monitor their child's academic progress in real time, without having to wait for a physical meeting. This increases transparency and parental participation in children's education. This change in digital-based communication patterns makes it easier for all parties to collaborate, so that the learning process becomes more flexible and in accordance with the demands of the globalization era. Head school said "we see quite significant changes, especially after the implementation of digital technology in schools. Communication is no longer limited to face-to-face meetings or correspondence. Now, teachers, students, and parents can communicate directly through digital platforms such as WhatsApp, email, or online school portals" (I-hs).

The interview argument shows that the application of digital technology at Al Izhar Islamic Junior High School Cendekia Makassar has brought significant changes in communication patterns between teachers, students, and parents. Previously, communication tended to be limited to face-to-face meetings, correspondence, or formal meetings, but with digitalization, communication has become faster and more efficient through platforms such as WhatsApp, email, and online school portals as the results of interviews with teachers follow. Teacher said "social media is very helpful for teachers in providing information directly to students or parents, especially for sudden announcements, additional assignments, or brief reports on children's development. Meanwhile, online school portals provide more structured access to view the results of evaluations, attendance, and uncompleted assignments. This is very easy, both for teachers, students, and parents"(I-tc).

Online school portals provide more structured and systematic access to view information related to evaluation results, attendance, and uncompleted assignments by students. This portal makes it easier for teachers to monitor student progress, while providing transparency for parents to monitor their children's progress in real-time. Parents do not need to wait for periodic reports, as all information is already available on the portal, making the monitoring process more efficient. Deputy Head of Public Relations said "this digitization of communication not only makes it easier for teachers, but also strengthens the collaborative relationship between schools, students, and parents. All parties become more connected and actively involved in the educational process, which ultimately has a positive impact on the quality of learning" (I-hums).

The findings show that the digitization of communication at Al Izhar Islamic Junior High School Cendekia Makassar has brought significant changes in the interaction between teachers, students, and parents. Prior to the adoption of digital technology, communication was limited to physical meetings or correspondence, which was often less efficient and took longer. With the adoption of digital platforms such as WhatsApp, email, and online school portals, communication has become faster, more efficient, and more transparent. Social media makes it easier for teachers to provide immediate

information related to sudden announcements or additional assignments, while online portals provide structured access for parents to monitor their children's academic development in real-time. This increases parental involvement in the educational process, creating stronger collaboration between schools, teachers, students, and parents. In the end, this digitization not only accelerates the delivery of information, but also strengthens collaborative relationships that have a positive impact on the quality of learning and the achievement of optimal learning outcomes.

The findings are consistent with those that show that the digitization of communication in education can improve parental engagement and strengthen collaboration between all parties involved. Research by Rubach & Lazarides (2021) highlighted that the use of social media and e-learning platforms during the pandemic helped improve transparency and communication between teachers, students, and parents. Similar results were also found at Al Izhar Cendekia Islamic Junior High School Makassar, where social media such as WhatsApp allows for direct and fast communication for various purposes, such as sudden announcements and brief reports on children's development. In addition, as outlined by several paper (Mustapa et al., 2023; Destari & Kusumawati, 2023; Idris et al., 2023) digitalization in Islamic education provides easier access for parents to monitor their children's learning outcomes, which is also in line with the finding that online school portals facilitate real-time monitoring of students' academic evaluations and progress. Both studies support the findings at Al Izhar Islamic Junior High School Cendekia Makassar that digitalization not only accelerates communication, but also strengthens collaborative relationships that have an impact on the overall quality of education.

The results of this finding are expected to provide a deeper understanding of the positive impact of the use of digital technology in Islamic education management, especially at Al Izhar Islamic Junior High School Cendekia Makassar which has shown an improvement in the quality of learning through the application of digital platforms such as e-learning, social media, and interactive learning applications. The study also emphasizes the importance of developing teacher competencies through continuous training that focuses on improving digital literacy to ensure better adaptation to global changes. In addition, the study underscores the important role of digitalization in communication patterns, which strengthens the interaction between teachers, students, and parents through social media and online portals, thereby increasing engagement and collaboration. However, the limitation of these findings is that the research is more focused on the context of one institution, so the results may not be fully generalizable to other Islamic educational institutions with different infrastructure or technological support.

## CONCLUSION

The results of this paper show that the application of digital technology at Al Izhar Islamic Junior High School Cendekia Makassar has a significant impact on improving the quality of learning. The use of platforms such as e-learning, social media, and interactive learning applications has expanded the reach of education, increased learning flexibility, and strengthened data-driven evaluation systems. Teacher competency development through continuous digital literacy training has also proven to be important to ensure teachers are able to adapt to global changes and maximize technology in teaching. In addition, the digitization of communication patterns between teachers, students, and

parents strengthens collaboration and involvement in the educational process, which has a positive impact on student learning outcomes. However, while technology offers many benefits, challenges such as access gaps and technical readiness still need to be considered to ensure effective to application and implementation in various educational institutions.

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