

Improving the Quality and Relevance of Education through Digital Technology-Based Planning

Ilham Azhari¹, Brayen Jordi Forester², Novia Nurhayati³, Muhammad Sirozi⁴

¹ Universitas Islam Negeri Raden Fatah Palembang; iamilham099@radenfatah.ac.id

² Universitas Islam Negeri Raden Fatah Palembang; bjodi17@gmail.com

³ Universitas Islam Negeri Raden Fatah Palembang; nurhayatinovia052@gmail.com

⁴ Universitas Islam Negeri Raden Fatah Palembang; muhammadsirozi@radenfatah.ac.id

ARTICLE INFO

Keywords:

Quality; Education; Digital Technology

Article history:

Received 2025-01-01

Revised 2025-03-15

Accepted 2025-05-15

ABSTRACT

This study aims to analyze the role of digital technology in improving the quality and relevance of education in the era of digital transformation. Using a literature review method and a descriptive qualitative approach, the study examines recent scholarly works discussing the integration of e-learning platforms, virtual reality (VR), and data analytics in the learning process. The results show that digital technology enables more interactive, personalized, and adaptive learning experiences that cater to students' individual needs. Furthermore, it contributes significantly to the development of 21st-century skills such as digital literacy, creativity, problem-solving, and collaboration. However, the implementation of digital technology in education still faces several challenges, including digital access inequality, infrastructure limitations, and low teacher competency in utilizing technology effectively. The main contribution of this study is to provide a comprehensive overview of the opportunities and challenges associated with digital technology in education, along with strategic recommendations for building an inclusive, high-quality, and future-oriented educational system

This is an open access article under the [CC BY-NC-SA](https://creativecommons.org/licenses/by-nc-sa/4.0/) license.



Corresponding Author:

Ilham Azhari

Universitas Islam Negeri Raden Fatah Palembang; iamilham099@radenfatah.ac.id

INTRODUCTION

Education is a strategic aspect in a country's development because it can produce quality human resources. With good quality human resources, a country has the potential to compete globally in various fields. Indonesia is no exception, as various efforts are made to provide equal access to education and improve the quality of national education. However, the quality of education in Indonesia still faces various challenges such as quality disparities between regions and low adaptation to the developments of the times. Therefore, there needs to be a renewal of educational concepts that can adapt to the needs of the modern era and globalization. Quality education not only produces educated individuals but also prepares society to face social transformation in a sustainable manner (Sirozi, 2024).

In the digital era, education must be directed toward strengthening technology-based human resource development. Educational institutions are required to innovate through the implementation of digital-based learning methods, such as technology training and online learning platforms. This aligns with the need to integrate Islamic education management with adaptive quality management strategies. One of the main challenges is how educational institutions can implement quality management systems that conform to policy changes and the demands of the

digital era. This change requires an approach that combines traditional Islamic values with modern innovations in education management (firman, Islam, Pembelajaran, and Pendidikan 2024).

Information technology plays an important role in creating a more collaborative and open learning ecosystem. Collaboration between educators and students through digital media not only improves efficiency but also enables the creation of an adaptive learning environment (Nabila, 2024). The development of technology-based education management models becomes a strategic step to improve access to and quality of education, especially in 3T areas (underdeveloped, frontier, and outermost). This model also addresses the need to expand the reach of Islamic education through the use of inclusive digital media (Sugeng, 2022).

However, the implementation of technology in education is not free from various challenges such as gaps in internet access, quality of learning content, and readiness of teachers and students. Technology can be a double-edged sword if not balanced with the right pedagogical approach. Therefore, strategies are needed that are not only technology-based but also pay attention to educational values and learning effectiveness (Purba & Saragih, 2023).

This research was conducted to address the need for an Islamic education management model that is responsive to the digital era. This research aims to examine digital-based education management implementation strategies that can improve the quality, relevance, and efficiency of learning. To date, there haven't been many studies specifically discussing the integration between Islamic education management and data-based and collaborative digital systems, so this is the research gap that this study aims to fill (Purba & Saragih, 2023). By strategically adopting technology and considering Islamic educational values, schools and educational institutions can respond to the challenges and opportunities of the digital era. The use of data and analytics also opens new opportunities for more targeted learning evaluation. Therefore, this research has urgency in providing theoretical and practical contributions to the development of relevant Islamic education management in the digital era.

METHODS

This research uses a qualitative approach with a literature study method (Library Research) to analyze the role of digital technology in improving the quality and relevance of education. Data was collected from various secondary sources, such as scientific journals, books, research reports, current articles, and education policy documents that discuss the integration of digital technology in learning. Researchers collected, analyzed, and synthesized information available from various written sources. The data selection process was carried out by selecting relevant and credible literature, published within the range of the last five to ten years, to align with the latest developments in the field of digital education. This method was chosen because it can provide an in-depth understanding of the studied topic through relevant literature review (JASMINE, 2014). Qualitative data analysis in this research uses data analysis techniques proposed by Huberman and Miles in Husaini Usman's book. In this case, the author analyzes using the analytical method, which means an effort to collect data and arrange it to become data and then analyze it (Sutarmizi & Syarnubi, 2022)

RESULTS AND DISCUSSION

Technology-based Education Planning

Education Technology-Based Planning is a systematic approach in designing, implementing, and evaluating the learning process by utilising digital technology as the backbone of its planning. This concept not only includes the use of technological tools in learning, but also involves curriculum planning, teaching strategies, and evaluation of learning outcomes integrated with digital solutions to achieve more effective and efficient educational goals. In the field of management, the term 'planning' is often referred to as 'planning,' which is a preparation for making decisions in the form of steps to solve problems or carry out work directed at specific goals. According to William H. Newman in the book quoted by Abdul Majid, 'planning' is the process of determining what to do. Planning includes a broad set of decisions as well as an explanation of goals, policies, programmes,

methods, specific procedures, and activities based on a daily schedule. Meanwhile, Albert Silalahi states that planning is the activity of setting goals and formulating and organising the use of human, information, financial, method, and time resources to maximise efficiency and effectiveness in achieving goals.

Education planning is also a process that prepares alternative decisions for future activities aimed at achieving goals with optimal effort, while taking into account the economic, social, cultural and political realities of a country. Education planning also aims to look ahead in determining priority policies and education costs, taking into account existing economic, social and political realities, in order to develop the potential of a national education system that meets the needs of the nation and the students served by the system. Thus, education planning is the process of preparing decisions for future activities that are directed towards the optimal achievement of goals, for the overall economic and social development of a country (Sirozi, 2024).

The role of technology in improving education is the basis for the community to be ready to compete in all fields in improving the quality of life of the community to be more prosperous. The need for the quality of education in a country so as to produce a society that is ready to compete both at the national and international levels. Improving the quality of education cannot be separated from various innovations and creative developments both in terms of the use of teaching materials and the learning process carried out. Along with the development of the times, it cannot be separated from the development of technology which is a necessity to help in people's lives. Digital technology has great potential to improve the quality of education through more interactive and personalised learning. However, its success depends on infrastructure readiness, improved teacher competence, and supportive policies. With a holistic approach, digital technology-based education can realise quality and inclusive learning (Merliana, 2019).

Basic Concepts of Education Planning

Educational planning is a basic concept that includes planning, organising, leading and directing all activities related to the educational process. In this context, educational planning involves setting goals, strategies and activities to achieve optimal educational quality. At the planning stage, appropriate steps must be taken to identify educational needs, determine achievable goals and create a clear plan of action. Planning is one of the most important management tasks. This planning activity is also related to school activities. Plans greatly influence the success or failure of operations. Therefore, a good job is one that is planned and executed according to plan. For an educational institution, especially a school institution, planning has a strategic position in the entire learning process. Educational planning provides a clear direction in the business process of organising education, so that the management of educational institutions can be carried out more effectively and efficiently. Planning is the first step in every activity carried out by someone in determining goals, taking a certain time, and taking a certain place. Therefore, planning is also an effort to determine what will be done, how to do it, when to do it, and where to do it to achieve certain goals. Planning determines the success of a programme (Febrianti et al., 2023)

Human resources (HR) is a very crucial element in the management of educational institutions. HRM involves organising based on individual skills, such as conceptual, technical and human relations skills. Technical skills focus on the use of knowledge and tools in specific tasks, while human relations skills are important for collaborating and understanding the motivations of others. In addition, funding is also an important aspect to ensure the efficient use of resources, which includes budget planning and the allocation of funds for educational activities. Good management of materials enables educational institutions to develop a curriculum that meets students' needs and educational objectives, while taking into account students' development and characteristics. The selection of relevant and interesting materials can increase students' learning motivation. Teaching methods should also be adapted to the characteristics of students. Innovations in teaching methods, such as the use of technology and active learning, are helpful in increasing students' engagement in the learning process (Nurhayati, 2025).

Government's role in improving the Quality and Relevance of Education

One of the mandates in the preamble of the 1945 Constitution of the Republic of Indonesia (UUD 1945) mandates that the Government of the State of Indonesia must be able to educate the nation's life. Efforts to educate the nation's life are by improving the quality of education and its distribution in every region of the Unitary State of the Republic of Indonesia (NKRI). It cannot be denied that there have been many efforts made by the government in an effort to improve the quality of education. For example, an increase in the education budget of 20% of the APBN and APBD, school operational assistance (BOS), teacher certification and welfare improvement, school standardisation and accreditation and various other policies. The government plays an important role in improving the quality of Indonesian education, from the availability of facilities and infrastructure to qualified teachers. Both central and local governments have their own roles to play, revealing the support of the central government in relation to standardisation, and the support of provincial and district/city governments in relation to budget services and school facilities. In addition to the provision of facilities and human resources, another important role of government is to ensure that the implementation of education is free from interests, interventions and other things that can interfere with and hinder the achievement of quality education goals. This requires a strong and sustained commitment from the central, provincial and local governments (Fadli, 2017).

Role and function of the committee in improving education quality

The role of school committees is a new paradigm that was born due to the shift in government administration from centralisation to decentralisation, resulting in the granting of broad and real autonomy to the regions. The granting of autonomy is intended to make the region more independent and empower the community so that it is more free to regulate and exercise its authority on its own initiative. The granting of broad and responsible autonomy is carried out based on the principles of democracy, community participation, equity, justice, and attention to the potential and diversity of the region with the central point of autonomy at the regional level closest to the people, namely districts and cities. The School Committee as a forum for the community to participate in improving the quality of services and educational outcomes in schools, its existence should rest on this foundation. Therefore, its formation must pay attention to the division of roles according to the existing position and autonomy (Samsidar, 2018). The roles played by the School Committee are:

- a. Advisory agency in the determination and implementation of education policy in education units.
- b. Supporting agency, whether in the form of finance, thought, or energy in the implementation of education in education units.
- c. Controlling agency in the context of transparency and accountability in the implementation and expenditure of education in education units.
- d. Mediator between the government (executive) and the community in the education unit.

The function of the School Committee is formed so that these roles can run, the School Committee has the following functions:

- a. Encourage the growth of community attention and commitment to the provision of quality education.
- b. Cooperating with the community (individuals/organisations/business world/industry world) and government regarding the provision of quality education.
- c. Accommodating and analysing aspirations, ideas, demands and various educational needs submitted by the community.
- d. Providing input, considerations and recommendations to the education unit regarding:
 - 1) education policies and programmes
 - 2) the school budget plan (RAPBS);
 - 3) education unit performance criteria
 - 4) criteria for education personnel
 - 5) criteria for education facilities other matters related to education

- 6) Encouraging parents and communities to participate in education to support improvements in the quality and equity of education.
- 7) Raising public funds in order to finance the implementation of education in education units.
- 8) Evaluating and monitoring education policies, programmes, implementation and outputs in education units.

The Role of Teaching Staff in Improving the Quality of Education

Of course, the role of an educator is very crucial in developing human beings who are capable of facing various global obstacles today. In the aspect of education, teachers are the main figures in education that are very crucial. Education begins when students go to school and runs until adulthood. Teachers are the main driving force behind successful education. According to Ridwan's view, Giroux (2008) suggests how we interpret the role of teachers in society determines how we build social order. The role of educators as a transformative and therapeutic intellectual force. Teachers cannot be agents of change if they only keep perceptions and models of education that are only recycled, or only connect perceptions that have existed before. Likewise, educators cannot simply teach students how to be critical of the social conditions in their neighbourhood (Didik Himmawan et al., 2023)

In today's digital era, crime rates, violence, as well as unemployment and poverty are increasing. Such a situation, of course, requires the role of competent teachers in order to equip their students with the ability so that their students are able to face and fight the current that is happening and continues to change in this digital era. Thus, in the current digital era, teachers are required to be able to improve their scientific qualifications in changing the classical patterns that still exist in the learning process, as well as improving and maintaining attitudes and behaviour in front of students. In addition, teachers must have a conscious attitude towards the rapid development of technology. In this case, teachers must apply the positive impact and anticipate the negative impact of the development of educational technology in the digital era on the learning process (Sri Widiyaningsih DKK, 2024).

CONCLUSION

The development of digital technology has opened up great opportunities for the world of education to transform towards a system that is more qualified, relevant and adaptive to changing times. Education planning based on digital technology not only enables more accurate and real-time data management, but also supports more targeted decision-making in improving the quality of learning and compatibility with the needs of society and the world of work. However, the implementation of digital technology in education planning is not without challenges, such as limited infrastructure, unpreparedness of human resources in adapting technology, and policies that are not fully supportive. Therefore, to realise effective technology-based education planning, synergy efforts are needed between strengthening the capacity of education human resources, providing adequate infrastructure, and policies that support the sustainable implementation of technology. With these concrete steps, improving the quality and relevance of education through digital technology-based planning is not just an option, but a necessity to answer the challenges and opportunities of education in the digital era.

This research contributes to providing strategic insights into the importance of technology integration in education planning. In the future, further research could examine implementation models based on local contexts or specific education levels to strengthen their effectiveness.

REFERENCES

- Didik Himmawan, Syaefulloh, Sofyan Sauri, & Azi Khoirurrahman. (2023). Peran Tenaga Pendidik Dalam Transformasi Pendidikan Menuju Generasi Emas Indonesia. *Manajia: Journal of Education and Management*, 1(1), 20–30. <https://doi.org/10.58355/manajia.v1i1.3>
- Fadli, M. (2017). Manajemen Peningkatan Mutu Pendidikan Muhammad Fadhli Pendahuluan Mutu merupakan sesuatu yang dianggap salah satu bagian penting , karena mutu pada dasarnya

- menunjukkan keunggulan suatu produk jika dibandingkan dengan produk lainnya . Peningkatan mutu mer. *Jurnal Studi Management Pendidikan*, 1(02), 26.
- Febrianti, I., Tuffahati, J., Rifai, A., Affandi, R. H., Pradita, S., Akmalia, R., & Siahaan, A. (2023). Pengaruh Penggunaan Teknologi Informasi Dalam Manajemen Perencanaan Pendidikan Untuk Meningkatkan Efisiensi Pendidikan. *Academy of Education Journal*, 14(2), 506–522. <https://doi.org/10.47200/aoej.v14i2.1763>
- Islam, M. P., Pembelajaran, K., & Pendidikan, E. (2024). *INOVASI ISLAM PEMBELAJARAN DI ERA DIGITAL*. 7, 9035–9044.
- JASMINE, K. (2014). No Title No Title No Title. *Penambahan Natrium Benzoat Dan Kalium Sorbat (Antiinversi) Dan Kecepatan Pengadukan Sebagai Upaya Penghambatan Reaksi Inversi Pada Nira Tebu*, 8.
- Merliana, N. P. E. (2019). Peranan Teknologi Dalam Peningkatan Mutu Pendidikan Pembelajaran Bahasa Di SMAN 1 Katingan Hulu Kabupaten Katingan. *Jurnal Penjaminan Mutu*, 5(2), 214. <https://doi.org/10.25078/jpm.v5i2.895>
- Nabila, M. (2024). *Pengembangan Model Manajemen Pendidikan Islam Berbasis Teknologi untuk Meningkatkan Akses dan Kualitas Pendidikan*. 5(10), 3725–3733.
- Purba, A., & Saragih, A. (2023). Peran Teknologi dalam Transformasi Pendidikan Bahasa Indonesia di Era Digital. *All Fields of Science Journal Liaison Academia and Society*, 3(3), 43–52. <https://doi.org/10.58939/afosj-las.v3i3.619>
- Samsidar, D. (2018). Peran Komite Sekolah dalam Meningkatkan Mutu Pendidikan. *Al-Muaddib : Jurnal Ilmu-Ilmu Sosial & Keislaman*, 3(1), 1–15. <https://doi.org/10.31604/muaddib.v1i1.364>
- Sirozi, M. (2024). *Perencanaan Peningkatan Mutu dan Relevansi Pendidikan Agama Islam di Era Revolusi Industri 4 . 0. 4*, 485–491.
- Sri Widiyaningsih, Ulil Ma’rifah, Umuma’rifah. (2024). Peran tenaga pendidikan dalam pembelajaran di era digital (1), 1–23.
- Sugeng, S. L. P. (2022). Manajemen Marketing Jasa Pendidikan Di Era Digital. *Jurnal Manajemen Pendidikan*, 13(1), 45–57. <https://doi.org/10.21009/jmp.v13i1.28335>
- Sutarmizi, S., & Syarnubi, S. (2022). Strategi Pengembangan Kompetensi Pedagogik Guru Rumpun Pai Di Mts. Mu’Alliminislamiyah Kabupaten Musi Banyuasin. *Tadrib*, 8(1), 56–74. <https://doi.org/10.19109/tadrib.v8i1.11315>
- Teknologi, B. (2025). *Strategi Manajemen Pendidikan di Era Digital : Optimalisasi*. 2(4), 376–383. <https://doi.org/10.59996/jurnalpelitanusantara.v2i4.698>