

Analysis of Opportunities and Challenges for Human Resources in the Digital Era: A Literature Review

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ABSTRACT

Objective: This study examines the opportunities and challenges in developing human resources in education within the digital era, focusing on enhancing the quality and technological competence of educational personnel. **Method:** A literature review was conducted to analyze existing studies on human resource development in education, particularly concerning the integration of digital technologies into teaching and administrative processes. **Results:** The review identifies opportunities, such as the use of technology to create engaging teaching materials, improve learning effectiveness, and enhance educational efficiency. However, significant challenges include financial limitations, inadequate technological infrastructure, and restricted internet accessibility, which hinder the full realization of these opportunities. **Novelty:** By synthesizing insights from diverse sources, this study highlights the dual nature of digital transformation in education. It underscores the urgent need for strategic investment in technological infrastructure and ongoing professional development to address these challenges, thereby contributing to a more resilient and adaptable educational workforce.

INTRODUCTION

In its role, human resources are the main framework used as the axis of performance in Islamic education management. Human resources play a role in supporting targets and achievements in the workplace [1]; [2]. Through the journey of performance aimed at achieving the goals of an institution, planning is required that is designed and agreed upon by all stakeholders within the institution. In this digital era, many educational institutions are competing to create schools that adapt to technology with the aim of advancing the quality and digital literacy skills of students.

Technology that is becoming increasingly sophisticated and advanced makes our minds more open, especially in learning practices. With the presence of technology, it becomes an opportunity for students to gain access to more decent and advanced education. For the past century, many educational institutions, from elementary schools to universities, have used digital equipment as companions in the implementation of learning, making it a requirement for educators to master programs related to technology.

With the existence of this, it becomes both a challenge and an opportunity for educational management practitioners in implementing technology-based learning practices, one of which is to formulate strategies to improve the quality of the institution.

One example of implementation that is often carried out in the field of education is training. Based on the existing issues, this research aims to analyze the challenges and opportunities of human resources in the education sector in implementing technology-based learning, considering that there are several educational institutions that find technology to be a difficult challenge for them.

RESEARCH METHOD

The research methods used in this study are qualitative and literature review. (literature review). The researcher used data collection techniques through articles and relevant reading sources related to issues in the field of human resource management, specifically categorized as challenges and opportunities in HR management within the Islamic education environment. All cited article documents come from Zotero and Google Scholar.

RESULTS AND DISCUSSION

Challenge

A challenge is a situation that requires effort to overcome something whose capacity is greater than the usual average. In a study conducted by Sari and Rukmana in 2021, it was stated that the gap in technology access in each region can result in uneven implementation of learning. There is a need for exclusive policies so that access to technology can reach remote areas. The research conducted by Mardhiyah and Hartini in 2020 also explains that there are limitations in technology and training for educators, which affects the implementation of technology in learning [3].

Opportunity

Opportunity is a favorable situation for something [4]. In the scope of educational management, opportunities are conditions that can encourage the achievement of program goals in educational institutions in an efficient, effective, and innovative manner. One of the opportunities that has emerged in this era of globalization is the development of technology and the ability of educators to use technology as an implementation of learning. According to Mujamil Qamar, the scope of HR in education includes career development as well as training and development for educators. This creates an opportunity in human resources to enhance the digital skills of educators [5].

Opportunities that are often pursued by educational institutions include training and development of educators' skills, one of which is digital skills that have been used for more than half a century. An example of what schools do in HR management is digital training conducted both in and outside the school, with the aim that after the training is completed, it is implemented for students to facilitate the school's system performance. In addition to providing digital training, educational institutions also offer technology-based facilities that are suitable for the operational resources and goals of an institution.

Table 1 Journal Reference Analysis Table

Researchers	Journal name (Tahun, Vol, Tahun Terbit)	Article Title	Type of Research	Research Results
Iswahyu Pranawukir	Jurnal Pustaka Komunikasi, Volume 4, No 2, September 2021	Perencanaan dan Strategi Komunikasi Dalam Meningkatk an Adaptifitas Sumberdaya Manusia dan Keunggulan Kompetitif Lembaga	Qualitative Descriptive	The communication strategy used at the Modern Tahfizh Islamic Boarding School "Madinatul Qur'an" is carried out systematically. The adaptability of human resources has also increased. The students and educators are able to adapt to changes, but the challenges faced in this research mention that there are obstacles such as limited resources, strategy implementation, and the need to increase the involvement of all stakeholders in the educational process [6].
Anisa	Jurnal Pengemban gan Masyarakat Islam, Volume 5, No 2, Desember 2019	Kelompok Difabel dan Kesempatan Kerja: Penanggula ngan Diskriminasi di Dunia Kerja Dalam Perspektif Pekerja Sosial	Qualitative Analysis and Literature Review	In terms of equal employment opportunities, persons with disabilities have the right to participate in economic development, although there are several challenges in its implementation. In terms of opportunities, technology accessibility can serve as an intermediary for people with disabilities in carrying out daily activities,

				provided that the technology is accessible to all individuals with disabilities [7].
Fitria Zulfa, dkk	Jurnal Manajemen Pendidikan Islam, Volume 6, No 1, Juni 2021	Peluang dan Tantangan Pengelolaan Lembaga Pendidikan Islam Pada Masa Covid-19	Descriptive Qualitative	Opportunities that can be pursued in improving the quality of Islamic education are by utilizing technology, information, and communication. One example is using digital platforms for online learning that can access a wider network in the learning process. The challenges faced include limited access and the readiness of human resources in managing digital-based learning. The readiness of human resources is key in facing challenges that must be maximized [8].
Umar Al-Faruq	Jurnal Ar-Risalah, Volume 8, No 1, Mei 2020	Peluang dan Tantangan Pendidikan Muhammadiyah di Era 4.0	Qualitative Descriptive	Opportunities that can be pursued for the process of growth and competition are through renewal, relevance to the demands of the times, and strong relationships. However, there are challenges faced by Muhammadiyah in the 4.0 era, one of which is the rapid development of technology that

				Muhammadiyah must confront [9].
Imam Taufik	Jurnal Manajemen Pendidikan Islam, Volume 10, No 1, Februari 2024	Pelatihan dan Pengembangan Guru Sebagai Sumber Daya Manusia Bidang Pendidikan di Era Kecerdasan Buatan (AI)	Qualitative Analysis, Case Study	Many teachers do not yet understand how AI can be used in learning. Additionally, there is no adequate training. This becomes a challenge in the implementation of AI technology as an educational tool [10].
Choirunisa Karina, Ida Rindaningsih	Jurnal Pendidikan dan Riset Ilmu Sains, Volume 2, No 1, Februari 2023	Literature Review: Peran Penting Perencanaan Sumber Daya Manusia dalam Lembaga Pendidikan Islam	Descriptive Qualitative, Literature Review	Based on the findings, many Islamic educational institutions have not yet implemented and utilized technology in HRM planning. Meanwhile, in the 4.0 era, technology has become an important aspect to enhance the effectiveness and efficiency of HR management. Additionally, the training and development of HR organized by the institutions are not well-planned. Teachers seek training independently, which can hinder the development of their professionalism [11].
Hernawati	Jurnal Studi dan Penelitian Pendidikan Islam, 2023	Tantangan dan Peluang Pendidikan Islam Dalam Menyiapkan Generasi	Qualitative, Scoping Review	The challenge faced by human resources in the field of education is the necessity to possess digital skills by utilizing technology

		Tangguh di Era 5.0		as a learning medium. Therefore, investment in training and development has become an important matter. With skilled and innovative human resources, they can guide students in an effective learning process [12].
Tugiah	Jurnal Sosial dan Teknologi, Volume 2, No 6, Juni 2022	Pengembangan Pendidikan Sebagai Sumber Daya Manusia Untuk Mempersiapkan Generasi Milenial Menghadapi Era Digital	Literature Study	The role of technology in the implementation of learning can enhance student engagement and the effectiveness of education. However, the facts on the ground indicate that there are still many difficulties faced by human resources in the implementation process. The quality of education still varies, so only a few institutions have succeeded in implementing good practices in human resource development [13].
Feliks Rejeki Sotani Zebua	Jurnal Informatika dan Teknologi Pendidikan, Volume 3, No 1, Juni 2023	Analisis Tantangan dan Peluang Guru Era Digital	Qualitative Descriptive, Literature Study	Opportunities that HR can pursue in the field of education include developing more efficient digital learning materials to increase student interest. In this digital era, teachers can provide collaborative learning facilities. However, the challenge faced is that many teachers do not

yet have adequate digital skills to implement technology as a learning medium. Ideally, in this increasingly advanced era, teachers should be able to resist the rapid tide of globalization. This will impact the relationship between teachers and students [14].

The results of the data analysis are correctly explained in the article. The discussion section logically explains the findings, relating them to relevant sources. Based on the study of the articles that have been reviewed, it shows that there are challenges and opportunities in the development of human resources in the field of education in the digital era.

In the research conducted by Iswahyu Pranawukir, there is an indication of an increase in the adaptability of human resources. This is supported by research conducted by Tugiah, where technology can enhance student engagement in the effectiveness of learning. In the research conducted by Feliks Rejeki Sotani Zebua, opportunities for developing teaching materials that can be carried out by human resources in the educational environment as a form of collaborative learning were also identified.

However, the challenges faced by HR managers are also balanced by the opportunities that have been outlined. The challenges often faced include limitations in financial resources, access to technology, and supporting facilities, which become obstacles. In terms of human resource competence, many educators are considered lacking in understanding digital skills. In the research conducted by Imam Taufik, it was explained that the ability of educators to process artificial intelligence (AI) is still lacking, whereas this should facilitate the performance of educators. From the perspective of the research conducted by Anisa, it is mentioned that the accessibility of technology for people with disabilities is still considered lacking. In fact, the field data explains that institutions adopting technology-based learning are still few. The training provided by the institution is considered insufficient. Training is a method of developing the physical performance of employees in order to support the successful achievement of the foundation's goals, while development is a way carried out to enhance the employees' own performance in order to achieve competence in future opportunities [15].

CONCLUSION

Fundamental Finding : This study reveals a balanced interplay between opportunities and challenges in human resource management within the educational sector in the digital era. Opportunities such as the development of engaging and

collaborative teaching materials are counterbalanced by challenges including uneven technological access and limited digital competence among educators. **Implication :** The findings emphasize the critical need for strategic investments in continuous training and digital skills development for educators, alongside improved access to technological infrastructure. These measures are essential to ensure inclusive and equitable access to digital resources, fostering a more adaptable and effective educational environment. **Limitation :** The research is primarily based on secondary data from literature reviews, which may not capture real-time dynamics or variations across different educational settings and regions. This limits the generalizability of the findings. **Future Research :** Further studies should focus on empirical assessments of digital training programs' effectiveness and investigate the impact of technology access on marginalized groups, including individuals with disabilities, to ensure inclusivity and equity in digital transformation efforts within education.

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