

Research Article

Literature Review: The Relationship Between Technology Development, the Digital Era, and HRD In Indonesia's Underdeveloped Regions

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Abstract.

This study aimed to find the relationship between technology development and human resource development in underdeveloped areas, especially in Indonesia. The effect of technological development in the digital era is really good, but there are fewer facilities in underdeveloped areas. This was a literature review study. The sources for this literature review were indexed journals and proceedings on Google Scholars from 2019 onwards. There was only one journal before 2019, which was in 2017. With low human resources and minimal access to the internet, human resources in remote areas are threatened with being left behind in facing the changing times brought by the digital era. This research was limited to a general overview of remote areas and their impacts on existing conditions in the digital era. This research can contribute to policy building by the government by giving some views about the condition of the digital era and its impact on human resource development. This research also showed the importance of human resource development in underdeveloped areas. This research can also be a reference for future research on human resource development, the digital era, and the underdeveloped regions in Indonesia.

Keywords: human resource development, digital era, change, underdeveloped area, facility

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1. Introduction

In essence, humans are continually changing, and these changes affect various aspects of their lives. What represents progress in one era can render other things outdated. Even new, sophisticated discoveries can become antiquated when new innovations enter human life. Technological advancements continue to occur in human life. There are constant discoveries and innovations that make human life easier. For example, in the 1960s and 1970s in the United States, there was a change in the way information was accessed. Surveys showed that the role of the front page of newspapers, except for news developed by the newspapers themselves and not available on radio or television, had been replaced by getting the first news from television and car radios for most Americans [1].

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Today, we met Internet. The internet, however, has changed the way people learn. Nowadays, learning something, like the English language, doesn't require physical attendance at language courses. There are digital facilities that offer similar services but can be accessed remotely via a smartphone. In other example, the research by [2] stating that the internet is a significant source of information that plays a crucial role in supporting teaching and learning activities, particularly in the context of Pancasila education materials, and also serves as an unlimited information medium in terms of both space and time, allowing students to access the internet outside of class hours. This is an image that the internet can enhance a learning activity that can help people to catalyst their learning program at any topic.

But, according to [3] more than half of the 3T (underdeveloped, frontier, and outermost regions in Indonesia) regions already have internet networks, but they cannot be utilized effectively, could be due to weak signal strength, as well as a lack of human resources' ability to access technology. While the world is advancing rapidly with the internet and digitization, which can accelerate change, some parts of Indonesia are still severely limited in facilities that support progress. Therefore, research is needed to understand the relation of the digital era and human resource development in underdeveloped regions in Indonesia. While the internet and digitization can accelerate change, limitations in facilities may cause underdeveloped regions to fall further behind.

2. Literature Review

Technological progress represents a form of change initiated by humans. For instance, as users of online trading systems, the affinity of youth with technology facilitates their engagement with these systems [4]. The close relationship between youth and technology eases their access to and use of online trading systems. This signifies that technology has already induced a change that allows young individuals to adapt more easily to their economic needs, exemplified by online trading systems, which they use as tools. Ultimately, this leads to increased access to resources and skills, allowing them to reap more benefits from technology and effectively deal with the changes they encounter.

Ease of use and mastery of technology by employees are forms of technological skill that enhance productivity. Clear evidence of this is seen in the speed and precision of information dissemination using technology, time savings, and overall work productivity [5]. It is evident that technology mastery can enhance the skills of human resources in fulfilling their job responsibilities. In the case of using online trading systems, young

individuals have been provided with ease of access due to their familiarity with technology. The key point is that their ease of using online trading systems is a result of them being able to learn more easily, change can occur more rapidly.

The evolution of science and technology encourages humans to strive for excellence in order to anticipate the modernizing world's changes effectively and efficiently, using it for specific studies [6]. The increasing modernity of technology has brought various advancements that need to be mastered and understood. As previously mentioned, change always introduces innovations that can render what one knows and possesses today obsolete. Therefore, the new innovations can be learned and used to update the capacity of each human resource to enhance their abilities in performing a task.

Discussing about how the digital era shaping the development, there are more issues can be found. The digital era is a period in which various aspects of life, including learning, rely heavily on digital technology [7]. During this time, digital technology is extensively utilized, including in education. For example, the use of Zoom meetings for remote learning during the COVID-19 pandemic is a clear illustration of adapting technology to address pressing issues. The digital era is a reality that every individual living in this age must confront. As mentioned earlier, change is an inevitable part of human life, and these changes can render what is currently being used ineffective, inefficient, and outdated. Therefore, humans must adapt to these changes and do their best according to their priorities.

The digital era offers solutions for human resource development. The features offered by applications like Zoom provide solutions for the education sector when faced with complex issues, such as the sudden need for remote learning due to restrictions like stay-at-home orders and social distancing, which were implemented to protect individuals from the dangers of the COVID-19 virus. While these restrictions were rational and necessary for public safety, they disrupted human interaction. Maintaining physical distance became a norm, leading to the suspension of in-person learning. Continuing with in-person learning could have posed significant risks, including the spread of the dangerous SAR-CoV-2 virus. These measures were necessary to protect human lives, but they disrupted the traditional learning process.

Research conducted by [8] shows that online learning using Zoom meetings enhances the effectiveness of education, supported by numerous features that facilitate learning during the COVID-19 pandemic. Zoom meeting applications have proven to be capable of delivering effective learning experiences. In a world facing complex problems that require innovative solutions, the digital era has provided a powerful solution aligned with human needs. However, this disrupted traditional learning is contrary to the desired

goal of developing a strong human resource base. When educators and students are threatened by potential health risks, the conventional learning process becomes ineffective. Fears and concerns overshadow the teaching and learning experience. Moreover, if there were significant casualties among educators or students, it could be considered a failure in human resource development.

In the long-term context of economic development, along with the advancement of knowledge and technology, human resources are one of the dynamic factors [9]. Hence, it is essential to establish distance education methods to ensure human resource development can continue without taking risks that contradict the need for such development. The use of Zoom meetings is a fitting solution because it aligns with the needs of remote human resource development.

Continue to human resource, in terms of human resource management, there are significant advantages brought about by the digital era and its various digital technologies. These benefits include greater efficiency in recruitment, such as replacing manual curriculum vitae (CV) screening with automated screening that completes tasks within seconds, increased transparency and access to previously closed data sets, in-depth analytics and higher performance levels, direct or real-time employee monitoring, more analytics-driven HR that “pushes” reporting to line partners, allowing them to view relevant data in real time and take appropriate actions, and the automation of transactional tasks [10]. Human resource development is also essential in the business or corporate sector. Companies are entities that will nurture and utilize production factors, one of which is human resources. They require competent human resources to perform tasks and achieve set objectives. Conversely, human resources need companies that can maintain and utilize their skills, ensuring they receive appropriate compensation to sustain their livelihoods. There is a mutually beneficial symbiosis between human resources and companies in terms of utilizing skills. The digital era appears to have brought many benefits for human resource development to be efficiently utilized or utilized. Various aspects of HR policy management can be performed more efficiently with digital technology. For example, the use of curriculum vitae (CV) screening streamlines the selection process and makes it more efficient. This reduces the time required for sifting through numerous CVs, making HR management more efficient. This efficiency provides HR management with more time to make decisions and formulate policies to develop human resources according to their needs.

Although there are so many benefits, the technology advancement in the digital era also has some negative impact. While the advancements brought about by the digital era have undoubtedly contributed positively to various aspects of human life, there are also

negative aspects associated with it. In the case of adolescents, the digital era provides easy access to the internet, which can be used for unproductive activities such as gaming and excessive internet browsing. The widespread availability of entertainment and information on the internet can lead to a decline in reading interest [11]. The digital era not only facilitates human resource capacity-building through education and improves job efficiency but also presents certain challenges.

In the field of education, Information and Communication Technology (ICT) plays a crucial role [7]. Education can be heavily relies on various digital technologies to meet its requirements for smooth processes. As previously explained, technologies in the digital era, such as software or applications like Zoom meetings, have made significant contributions to facilitating important aspects of human resource development. However, the close proximity of human resources, particularly adolescents, to software and applications connected to the internet indicates their familiarity with various online entertainment and gaming options. This accessibility can lead adolescents to engage in unproductive activities, undermining their human resource development. Reading interest, which is vital for achieving various academic criteria and mastering a field of knowledge, is adversely affected.

When the issue came to underdeveloped areas, then comes come certain topics. When talking about remote areas, [12], describe the minimal access to communication and transportation, worsened by the lack of educational facilities, as well as the quantity and quality of educators. As a result, the quality of education in these areas falls far short of expectations. So, there is a serious issue for remote areas, namely, the inadequacy of self-development facilities. Therefore, considerable effort is required for them to acquire the competencies needed to cope with the rapidly changing digital era.

When discussing remote and border areas, [13], state that there has been no equal distribution of development, demonstrated by, among other things, the limited access to quality healthcare services, indicating a lack of basic infrastructure that communities require. However, basic services, such as healthcare, are crucial, as they encompass matters related to human life. Sick human resources cannot work optimally, which can disrupt their activities. Even human resources being developed in remote areas may be at risk. Consequently, we may lose valuable human resources due to the lack of facilities in remote areas.

Furthermore, [14] claim that in remote areas, many schools still face various limitations, such as unreliable electricity, especially when it comes to human resources. Most schools in these areas rely on community members with limited teaching skills as educators. In remote areas, facilities that support development and qualified educators

are sorely needed to meet the demands of the digital era. The theories on the journals have been gave some clues about the relations between the technological development in the digital era and human resources development on underdeveloped area In Indonesia. The Journals giving information that referring to “the digitalization giving the development catalyst”. So, the digitalization fasten the development and technology. But, in underdeveloped area, the development cannot reach them properly because the lack of facilities needed. So, the hypothesis of the research is the development of technology in digital era is make the human resource development in underdeveloped area in Indonesia being fall further behind. In other word, the development of human resources in underdevelopment area in Indonesia is limited because of lack of facilities needed in digital era and can be being fall further behind if the situation doesn't change. Specially on the facilities need.

3. Research Methods

The research conducted is a literature review. A literature review is the process of reviewing and analyzing relevant literature on a specific topic. The sources for this literature review are 15 journals and proceedings indexed in Google Scholar from 2019 onwards, with only one journal from 2017 and one journal form 2016. A literature review is one of the many techniques that can be employed in conducting research activities, it occupies the top position in the hierarchy of evidence, wich indicates that a literature review is one of the techniques for substantiating or approaching specific issues, or it can be said that a literature review is a scientific process that produces output in the form of a report intended for scientific research or the focus of a study [15].

4. Results and Discussion

As explained by [4], as users of online trading systems, the proximity of young people to technology can facilitate them. This means that the use of technology has made it easier for humans to achieve their goals. This view is supported by [5], who states that tangible evidence of success is the speed and accuracy in disseminating information using technology, time savings, and increased work productivity. This is supported by the statement of [6], which states that the increase in knowledge and technology motivates people to compete in improving resource achievement to anticipate the increasingly modern era, so it can be used effectively and efficiently to achieve specific studies.

This statement supports the fact that technological advancement can support progress in efficiency and effectiveness.

This era is a time when various aspects of life, including the learning process, rely more on digital technology [15]. Therefore, proximity to technology can accelerate learning and development. As mentioned above, the study conducted by [8] found that online learning using Zoom meetings makes learning more effective, supported by many supporting features during the COVID-19 pandemic. This proves that the digital era provides better adaptability for humans to meet their needs.

In terms of long-term economic development, alongside knowledge and technology, human resources are one of the dynamic factors [9]. Human resources play a crucial role in economic development. The digital era has accelerated the development of these human resources. [10] explains the benefits felt by the world of human resource management due to the digital era, including greater efficiency in recruitment, such as replacing manual curriculum vitae (CV) and automatic screening that completes these tasks in seconds; transparency and greater access to previously closed data collections; in-depth analytics and higher performance levels; direct or real-time employee monitoring; more human resource analytics that 'drive' reporting to line partners, allowing them to see relevant data directly or in real-time and take appropriate actions; and transactional task automation. This shows evidence of how the digital era manages human life to be more efficient and effective in doing things, including developing other human resources.

There is a statement from [11] that in adolescents, the digital era provides access to the internet, which is often used for unproductive activities such as playing games and surfing the internet due to the wide access provided by the internet in the form of entertainment and information, leading to a decline in reading interest. However, in the field of education, Information and Communication Technology (ICT) plays a crucial role [7]. So, the convenience brought by the digital era has both positive and negative impacts. Its implementation in education is one example of this fact.

When discussing remote areas [12], describe the minimal access to communication and transportation, worsened by the lack of educational facilities, as well as the quantity and quality of educators, which results in the quality of education in these areas falling far short of expectations. Additionally, when discussing remote and border areas, [13], state that there has been no equal distribution of development, demonstrated by, among other things, the limited access to quality healthcare services, indicating a lack of basic infrastructure that communities require. Furthermore, [14] claim that in remote areas, many schools still face various limitations, such as unreliable electricity, especially when

it comes to human resources. Most schools in these areas rely on community members with limited teaching skills as educators. Therefore, there is an urgent need for adequate development in remote areas. With the rapid progress in the digital era, remote areas may become even more left behind. With low human resources and minimal internet access, human resources in remote areas are threatened to fall even further behind in coping with the changes brought by the digital era. This is enhanced by the research by [16] that state “the digital divide between urban and rural areas ultimately results in a high level of disparity between urban development and rural development”. This research shows how the technology development can fasten the development.

5. Finding and Conclusion

This research highlights the urgency of developing remote areas more rapidly. Remote areas lack facilities and educators for human resource development. However, human resources are a crucial asset in long-term economic development. Furthermore, in the digital era, changes occur very quickly. Therefore, if human resources in remote areas are not provided with adequate facilities for self-development, they will fall further behind in the progress and changes brought by the digital era.

6. Implications, Limitations, and Suggestions

This research is limited to a general overview of human resource development in under developed areas in relation the current state technological development on the digital era. Further studies recommended include delving deeper into specific aspects related to remote areas, such as regional geography and the potential for facility development, and their relationship to human resource development in the digital era.

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