Digitalization of Pesantren: A Perspective from Human Capital

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Abstract

Digital transformation is urgent for every aspect of life today. This is also inseparable from pesantren as Indonesia's centers of Islamic religious education. This study aims to see how the digital transformation process in the human resources field in Islamic boarding schools is. The approach to this research is library research, in which a review of the literature related to the research topic is carried out. The discussion results show that several aspects must be improved, namely 1. Digitizing Human Resource Management Activities, 2. Creative Thinking, Innovative and Collaboration Behavior, 3. Leadership and Digital Transformation, 4. Digital Environment. Transformation in human capital can increase work effectiveness, simplify work and save costs in a sustainable process.

Keywords: digitalization; human capital; pesantren

Abstrak

Transformasi digital menjadi urgensi dari setiap aspek kehidupan di masa sekarang, hal ini juga tidak terlepas dari pesantren sebagai pusat pendidikan agama Islam di Indonesia. Tujuan studi ini yaitu melihat bagaimana proses transformasi digital di bidang sumber daya manusia di pesantren. Adapun pendekatan pada penelitian ini yaitu library research dimana dilakukan pengkajian literatur-literatur yang berkaitan dengan topik penelitian. Hasil pembahasan yaitu dimana terdapat beberapa aspek yang perlu ditingkatkan yaitu 1.

Mendigitalisasi aktivitas manajemen sumber daya manusia, 2. Perilaku berfikir kreatif, inovatif dan berkolaborasi, 3. Kepemimpinan dan transformasi digital, dan 4. Lingkungan Digital. Dengan transformasi dibidang SDM dapat meningkatkan efektivitas kerja, mempermudah pekerjaan serta menghemat biaya dalam proses yang berkelanjutan.

Keywords: digitalisasi; modal manusia; pesantren

A. Introduction

Islam is a religion that teaches comprehensive and universal values of goodness to all humanity. Islam is always relevant in all places and times and guarantees the realization of the happiness and welfare of society when Islamic teachings serve as a way of life and are carried out in earnest by humanity.[1] Islamic education in Indonesia is centered on Islamic boarding schools, which are spread worldwide. With this pesantren, it is hoped that it will become a pillar of the development of Islam in the archipelago.

Islamic boarding schools are Islamic religious-based educational institutions that focus on fostering morals where the learning system is between the kyai/ustadz as teachers and students as students.[2] The role of the teacher in today's modern Islamic boarding schools is crucial in shaping the ummah.[3] Santri activities are also controlled through rules or regulations established in a pesantren to realize students who always get used to behaving in a noble, independent, and disciplined manner.[4] In addition, pesantren must be able to produce a creative generation and have the skills to manage the technology that can provide da'wah strategies so that they are readily accepted by the community.[5] This phenomenon is a challenge for teaching staff/ustadz at Islamic boarding schools in responding to social changes in the current technological era.[6]

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[1] Eko Sumadi, "Dakwah Dan Media Sosial: Menebar Kebaikan Tanpa Diskrimasi," *Jurnal Komunikasi Penyiaran Islam* 4, No. 1 (2016): 173–90, Http://Journal.Stainkudus.Ac.Id/Index.Php/Komunikasi/Article/Viewfile/2912/2083; Adi Wibowo, "Penggunaan Media Sosial Sebagai Trend Media Dakwah Pendidikan Islam Di Era Digital," *Jurnal Islam Nusantara* 03, No. 02 (2019): 339–56.

[2] Dea Ariani And Syahrani, "Manajemen Pesantren Dalam Persiapan Pembelajaran 5.0 Dea," *Cross-Border* 5, No. 1 (2022): 611–21; Siti Badi'ah And Luthfi Salim, "Pesantren Dan Perubahan Sosial Pada Era Digital," *Analisis : Jurnal Studi Keislaman* 21, No. 2 (2021): 349–64.

[3] Erfan Gazali, "Pesantren Di Antara Generasi Alfa Dan Tantangan Dunia Pendidikan Era Revolusi Industri 4.0," *Oasis : Jurnal Ilmiah Kajian Islam* 2, No. 2 (2018): 94–109.

[4] Muhammad Abdul Manan, "Daya Tahan Dan Eksistensi Pesantren Di Era 4.0," *Jpii* 3, No. 2 (2019): 155–67.

[5] Wahyu Budiantoro, "Dakwah Di Era Digital," *Komunika* 11, No. 2 (2017): 263–81; Muh Hamzah Et Al., "Penguatan Ekonomi Pesantren Melalui Digitalisasi Unit Usaha Pesantren," *Jurnal Ilmiah Ekonomi Islam* 8, No. 01 (2022): 1040–47.

[6] Badi'ah And Salim, "Pesantren Dan Perubahan Sosial Pada Era Digital."

The dynamics of technological development also indirectly impact all aspects, especially students' way of life and behavior.[7] But on the other hand, Islamic boarding schools inevitably must adapt to technology. Islamic boarding schools will continue to exist and develop if pesantren can collaborate on modern cultural values without putting aside classical cultural values because nowadays, it has to look at the needs of students. If it continues to adhere to previous official teachings without incorporating developing technological elements, many students could leave and prefer other educational institutions.[8] Technological developments in this pesantren function as educational institutions that are solutive and transparent, with fast-paced and sophisticated technology that originates from the internet, which will significantly make positive addiction to find the reference inspiration they need precisely with relatively low funding.[9] This case clearly shows that technology has changed the habits of the wider community. Therefore a rich knowledge of technology is needed by young Kyai to keep up with and balance the development of the all-digital era.[10]

Scholars have also developed studies on the digitization of Islamic boarding schools. As Ja'far and Zabidi Tamami's research reveals, the progressive transformation of pesantren literacy needs to be welcomed to expand students' knowledge and give new colors to the learning process. But this literacy also needs to be anticipated and fostered.[11] Maryati and Masriani's research shows that entrepreneurial communities are more easily formed in areas around Islamic boarding schools.[12] Manan's research reveals the existence and resilience of Islamic boarding schools in the technological era.[13] Wibowo's research explains the role of social media as an effective da'wah strategy.[14] Gazali describes the alpha generation (Digital Native) as a generation that has knowledge and

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[7] Gazali, "Pesantren Di Antara Generasi Alfa Dan Tantangan Dunia Pendidikan Era Revolusi Industri 4.0"; Manan, "Daya Tahan Dan Eksistensi Pesantren Di Era 4.0."

[8] Manan, "Daya Tahan Dan Eksistensi Pesantren Di Era 4.0"; Akmal Mundiri And Ira Nawiro, "Ortodoksi Dan Heterodoksi Nilai-Nilai Di Pesantren: Studi Kasus Pada Perubahan Perilaku Santri Di Era Teknologi Digital," *Jurnal Tatsqif* 17, No. 1 (2019): 1–18.

[9] Mohammad Naufal Zabidi And Abd. Bassith Tamami, "Keefektifan Upaya Meningkatkan Literasi Digital Pada Pesantren Rakyat Di Keywords :," *Jurnal Pendidikan Indonesia* 2, No. 1 (2021), Https://Doi.Org/10.36418/Japendi.V2i1.44.

[10] Badi'ah And Salim, "Pesantren Dan Perubahan Sosial Pada Era Digital."

[11] Ali Ja'far, "Literasi Digital Pesantren: Perubahan Dan Kontestasi," *Islamic Review : Jurnal Riset Dan Kajian Keislaman* Viii, No. 1 (2019): 17–35; Zabidi And Tamami, "Keefektifan Upaya Meningkatkan Literasi Digital Pada Pesantren Rakyat Di Keywords :"

[12] Wiwik Maryati And Ida Masriani, "Peluang Bisnis Di Era Digital Bagi Generasi Muda Dalam Berwirausaha : Strategi Menguatkan Perekonomian," *Jurnal Mebis* 4, No. 2 (2019): 53–58.

[13] Manan, "Daya Tahan Dan Eksistensi Pesantren Di Era 4.0."

[14] Wibowo, "Penggunaan Media Sosial Sebagai Trend Media Dakwah Pendidikan Islam Di Era Digital."

skills with advanced information technology in a boarding school environment.[15] Hamzah's research also explains where digitalization can strengthen business units and increase the pesantren economy.[16] In addition, Ulum and Mun'im also revealed that digitizing pesantren is a paradigm shift and a challenge in maintaining pesantren culture.[17] Rahman has also explained the urgency of formulating a pesantren system in the globalization era.[18] In addition, Sandiaga Uno, as a public figure, also promotes digital preneur students where Sandiaga Uno's target is "Every year, 20 percent of each Islamic boarding school can improve their ability to adopt digital technology".[19]

Santri is currently faced with internet technology which is a double-edged sword in using it. Technology can be used for learning, business, and Da'wah.[20] Apart from reasons for efficiency in education and broader access to information, the digital world has become a new means of obtaining and conveying religious ideas and opinions. However, many anticipate media presence in Islamic boarding schools because digital media also has a negative impact.[21] One of the negative factors is that technology is often used to convey messages of hostility and violence and will become a worldly pseudo-entertainment that is destructive if one does not understand how to use it.[22] Islamic boarding schools still use old platforms like Whatsapp and Google Classroom. These platforms are considered unsuitable for educators in teaching and learning. Even though various digital media have emerged, few teachers / ustadz can operationalize, let alone implement, these digital platforms.[23] Budiantoro even argues that technology has accelerated gaining popularity and quite a large congregation.

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[15] Gazali, "Pesantren Di Antara Generasi Alfa Dan Tantangan Dunia Pendidikan Era Revolusi Industri 4.0."

[16] Hamzah Et Al., "Penguatan Ekonomi Pesantren Melalui Digitalisasi Unit Usaha Pesantren."

[17] Miftachul Ulum, "Digitalisasi Pendidikan Pesantren (Paradigma Dan Tantangan Dalam Menjaga Kultur Pesantren)," *Annual Conference For Muslim Scholars* 2 (2019): 664–70.

[18] Arif Rahman And Zalik Nuryana, *Pendidikan Islam Di Era Revolusi Industri 4.0*, 2019, Https://Doi.Org/10.31219/Osf.Io/8xwp6.

[19] Agustinus Rangga Respati, "Sandiaga Uno: Setiap Tahun, 20 Persen Pondok Pesantren Harus Adopsi Teknologi Digital," Kompas, 2022, https://money.kompas.com/read/2022/10/21/144000326/sandiaga-uno--setiap-tahun-20-persen-pondok-pesantren-harus-adopsi-teknologi.

[20] Mundiri And Nawiro, "Ortodoksi Dan Heterodoksi Nilai-Nilai Di Pesantren: Studi Kasus Pada Perubahan Perilaku Santri Di Era Teknologi Digital."

[21] Ja'far, "Literasi Digital Pesantren: Perubahan Dan Kontestasi."

[22] Mundiri And Nawiro, "Ortodoksi Dan Heterodoksi Nilai-Nilai Di Pesantren: Studi Kasus Pada Perubahan Perilaku Santri Di Era Teknologi Digital"; Sumadi, "Dakwah Dan Media Sosial: Menebar Kebaikan Tanpa Diskrimasi."

[23] Muh Barid Nizarudin Wajdi, M Burhanuddin Ubaidillah, And Hasan Syaiful Rizal, "Pendampingan Redesign Pembelajaran Masa Pandemi Covid- 19 Bagi Tenaga Pendidik Di Lembaga Pendidikan Berbasis Pesantren Di Jawa Timur," *Engagement* 04, No. 01 (2020): 266–77; Angga Eka Yuda

Digitizing Islamic boarding schools is indeed inseparable from the role of HR. The use of technology in Islamic boarding schools needs massive stages. This requires various competent human resources, sufficient facilities and infrastructure, and other supporting components contained in the pesantren. The future will no longer rely on mastery of conventional technology but instead requires the ability of human resources in the field of information technology.[24] Many studies on digitization in Islamic boarding schools above, but none focus on the HR perspective. This study examines how the essential role of improving human resources in technology can accelerate transformation.

B. Research Method

This type of research is library research because the data source is wholly from the library or documentation, which examines data sources consisting of literature related to the theme of Islamic boarding schools, digitalization, and human resources.[25] Furthermore, data processing in this study uses a descriptive-analytical method, namely a research model that seeks to describe, record, analyze and interpret existing conditions so that it is expected to provide an overview of Islamic boarding schools in transforming human resources toward digital in Islamic boarding schools.

C. Reasearch Findings and Discussion

1. Digitizing Human Resource Management Activities

The main thing in the digital transformation process is digitizing every HR management activity in Islamic boarding schools in stages, starting with recruitment, selection, training, evaluation, monitoring of attendance, and so on. By digitizing these activities, Islamic boarding schools will quickly recapitulate, evaluate, and automate work, increasing management effectiveness to the efficiency of using equipment such as paper, pens, and so on.[26]

Wibawa, "Implementasi Platform Digital Sebagai Media Pembelajaran Daring Di Mi Muhammadiyah Pk Kartasura," *Berajah Journal* 1, No. 2 (2021).

[24] Ariani And Syahrani, "Manajemen Pesantren Dalam Persiapan Pembelajaran 5.0 Dea."

[25] William Lawrence Neuman, *Social Research Methods: Qualitative And Quantitative Approaches*, 1994; B. L Berg, *Qualitative Research Method For The Social Science*, 2001.

[26] Aditya Wardhana, "Digitalisasi Pengelolaan Sdm Era Revolusi Industri Industri 4 . 0," No. October (2021): 15.

They are starting with recruiting new teaching staff / ustadz and students using a platform that will make it easier for us in the entire recruitment process. The benefits of this platform are: 1. Make it easier for pesantren leaders to make decisions about hiring competent teaching staff in their fields, 2. Help evaluate the performance of teaching staff in terms of attendance, curriculum, and the teaching and learning process output, 3. Can shorten the process of accepting participants New Didik (PPDB), selection, and archiving process.

In addition, the digitalization of human resources can also increase efficiency and effectiveness, which can lead to the success of the pesantren. Human resource digitization has significant organizational effects, providing better services and critical data for personal strategic decision-making, enabling rapid information acquisition and analysis, and reducing labor costs. However, it should be noted that to digitize it, and pesantren leaders must conduct IT training for teaching staff and recruit IT experts so that the two run in sync and can work together.

2. Creative Thinking, Innovative and Collaborative Behavior

After digitizing human resource management activities, educators in Islamic boarding schools must have some skills to support the success of this digitization, namely creative thinking, and innovative and collaborative behavior. These skills are needed as added value for educators to be more ready to accept technological developments. Educators must have skills in the digital field and think creatively and are required to be more innovative and dynamic in providing knowledge than applying technology as a tool for teaching and learning activities.[27]

The learning approach in Islamic boarding schools must stimulate students' critical thinking skills and creative attitudes and also encourage students to ask questions. Therefore, apart from being contextual with the needs of the times, the pesantren curriculum must also be able to stimulate the critical intellectual power of the students. On the other hand, he can still maintain his identity as the guardian of the classical scientific tradition without having to dissolve modernization entirely. He can take something seen as a positive benefit for the development of Islamic boarding schools.[28] KH. Abdurahman Wahid or Gus Dur stated that even though pesantren accept

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[27] Ariani And Syahrani, "Manajemen Pesantren Dalam Persiapan Pembelajaran 5.0 Dea."

[28] Abdullah Abdullah, "Kurikulum Pesantren Dalam Perspektif Gus Dur; Suatu Kajian Epistemologis," *Jurnal Pendidikan Agama Islam (Journal Of Islamic Education Studies)* 4, No. 2 (2016): 227, Https://Doi.Org/10.15642/Pai.2016.4.2.227-248.

modernization, they must maintain their identity as guardians of the classical scientific tradition without completely dissolving.[29] In addition, educators must also take part and collaborate outside of the pesantren with the community, making the pesantren a service in building a better generation. In delivering it, it needs to be packaged with developing trends. As a result, unique methods are needed so all groups can access that da'wah wherever and whenever.[30] Efforts that can be developed in Islamic boarding schools include building digital literacy in Islamic boarding schools and creating Islamic study channels.[31] Preaching with social media must pay attention to social media's ethics and norms to bring benefits instead of causing problems. But on the other hand, pesantren can still maintain their identity as guardians of tradition.

3. Leadership and Digital Transformation

This transformation process is inseparable from the role of the leader, where in addition to charismatic leaders, leaders who are visionary of technology are also needed. Leaders in pesantren are usually called Kiai, where Kiai play an essential role as guardians of tradition. Therefore, even though the leadership of the Islamic boarding school has a technology vision, they still maintain traditional customs and are not contaminated because technology is meant to facilitate performance, not to destroy the existing culture. The Kiai in every pesantren is a central figure whose every word issued by the Kiai becomes a role model and guide, while his actions are always emulated by those who feel they are part of the pesantren.[32] Thus, the success of this digitization cannot be separated from the support of pesantren leaders. Referring to the Technology Acceptance Model, Kyai must know the benefits, convenience, and interest in using technology.

Perceived usefulness is the extent to which a person believes that using technology will improve the performance of his work, or it can be interpreted that maximizing the use of technology can increase the effectiveness of organizational work.[33] Meanwhile, perceived ease of use means a person's belief that using information

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[29] Gazali, "Pesantren Di Antara Generasi Alfa Dan Tantangan Dunia Pendidikan Era Revolusi Industri 4.0."

[30] Wibowo, "Penggunaan Media Sosial Sebagai Trend Media Dakwah Pendidikan Islam Di Era Digital."

[31] Manan, "Daya Tahan Dan Eksistensi Pesantren Di Era 4.0."

[32] Ulum, "Digitalisasi Pendidikan Pesantren (Paradigma Dan Tantangan Dalam Menjaga Kultur Pesantren)."

[33] Arif Setia Sandi A, Bambang Soedijono, And Asro Nasiri, "Use Of Tam For Evaluation Of Internship Information System," *Jurnal Tam (Technology Acceptance Model)* 13, No. 1 (2022): 44, Https://Doi.Org/10.56327/Jurnaltam.V13i1.1216.

technology will not be a hassle, make work more accessible and save time and effort.[34] Meanwhile, behavioral intention to use reflects someone willing to try and motivated to use a technology.[35] Thus, leadership that can digitally transform should believe that technology can increase work effectiveness, make work more accessible, and be willing to use technology in Islamic boarding schools.

4. Digital Environment

Islamic boarding schools are a unique environment where other domains do not share the characteristics. The pesantren environment traditionally has elements such as Kiai, santri, mosques, huts, and the teaching of classical books. This pattern further describes how the tradition in the pesantren environment emphasizes the ethics of students in studying at pesantren.[36] Islamic boarding schools are expected to carry out a strategic policy of renewal that is adaptive to the community's needs without sacrificing their original character as guardians of the traditions and culture of Islamic education unique to Indonesia. With a touch of digitalization, the digital environment emphasizes change with a renewal of learning tools and methods supported by technology or digital literacy.

In the context of Islamic boarding school education, digital literacy is used as a support for learning, such as to access data, as a source of information, and as a medium for creating media-aware human resources and being able to analyze positive content. Thus, the role of pesantren leaders in developing science and technology has been to innovate to produce intelligent and qualified students. This means Islamic boarding schools, the oldest educational institutions in Indonesia, can still respond to changing times[37]. With digital literacy, they also develop their literacy with creative writing in popular writings, opinions, articles, and others. The hope with digital literacy is the emergence of skilled students who can utilize the media. Opportunities will be faced when students can operationalize brilliant content and narratives so that the da'wah of ustadz and santri can be absorbed by all groups in various media. Getting used to this

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[34] Azhar Alam And Ilham Aji Saputro, "A Qualitative Analysis Of User Interface Design On A Sharia Fintechapplication Based On Technology Acceptance Model (Tam)," *Jurnal Tam (Technology Acceptance Model)* 13, No. 1 (2022): 9, Https://Doi.Org/10.56327/Jurnaltam.V13i1.1142.

[35] Maichel Ruby Julianto And Benny Daniawan, "E-Commerce Information System Using Technology Acceptance Model Approach," *Jurnal Tam (Technology Acceptance Model)* 13, No. 1 (2022): 1, Https://Doi.Org/10.56327/Jurnaltam.V13i1.1106.

[36] Ulum, "Digitalisasi Pendidikan Pesantren (Paradigma Dan Tantangan Dalam Menjaga Kultur Pesantren)."

[37] Badi'ah And Salim, "Pesantren Dan Perubahan Sosial Pada Era Digital."

technological environment among students can also increase creative thinking in entrepreneurship among students.[38] On the other hand, this is a challenge for pesantren educators in educating the technology generation. Lundeto believes that there are four things that educators need to prepare in educating a technology-savvy generation: 1. Focus on skills, not content; 2. Provide learning with greater flexibility and purpose; 3. Planning for collaborative capacity building; 4. Develop soft skills.[39] Mundiri and Nawiro added that the transformation of the habitus of the students that the pesantren educators need to watch out for is the imitation of K-Pop culture, the lack of ability to read the yellow book, violating Islamic boarding school rules, bullying, the transformation of the religious authority of the students, and the change in the primary sources of learning for the students. By preparing for this, it is hoped that educators will understand the will of the technology generation and focus on mastery of technology as a supporting tool and method in facilitating the teaching and learning process and building a more advanced environment.

D. Conclusion

Islamic boarding schools are centers for the formation of noble human beings, with the existence of technology-forcing Islamic boarding schools to carry out transformations toward digitalization. This transformation has positive and negative impacts. On the positive side, educators, both Kiai and Ustadz, are facilitated by technology. Still, on the negative side, pesantren must be able to filter news and limit the use of technology within the students' environment. Islamic boarding schools must still be able to avoid or reduce the negative impacts caused by technological advances because technology is a companion to becoming better. With this perspective accepting change will be more beneficial than maintaining the existing Islamic boarding school culture.

If viewed from an HR perspective, there are several stages in transforming, including HR activities such as recruitment, selection, training, and job evaluation, where utilizing technology will make it easier for leaders to make strategic decisions. In

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[38] Ning Karna Wijaya And Soraya Aini, "Pemberdayaan Santri Dalam Pengembangan Ekonomi Kreatif 'Kimi Bag' Di Pondok Pesantren Al Qohar Klaten," *Dimas: Jurnal Pemikiran Agama Untuk Pemberdayaan* 20, No. 1 (2020): 23, Https://Doi.Org/10.21580/Dms.2020.201.5124.

[39] Adri Lundeto, "Digitalisasi Pesantren : Hilangnya Budaya Tradisionalis Atau Sebuah Kemajuan ?," *Jurnal Education And Development* 9, No. 3 (2021): 452–57.

addition, the behavior needed in the transformation stage is to think creatively, be innovative and collaborate with community institutions where this behavior supports the change process. On the other hand, leadership is also significant in the transformation process. Leaders must perceive that technology increases work effectiveness, makes work more accessible and saves costs sustainably. The last is how the environment built around Islamic boarding schools is a digital environment, such as involving technology in the teaching and learning process, providing competition related to technology, and initiating a creative spirit in entrepreneurship among students.

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