



Islamic Education And The Challenges Of The Industrial Revolution 4.0

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Abstract:

Introduction to The Problem : This research is motivated by the challenges that come with the advent of the Industrial Revolution 4.0 era, where Islamic education institutions need to improve in order to be able to compete and continue to exist. **Purpose :** This research focuses on problems that occur in Islamic educational institutions in general, including: institutional aspects, curriculum, teacher competency and financing. These four factors are crucial factors that must be responded to positively and sustainably by the management of Islamic Education Institutions. With good management, it is not impossible that in the future Islamic Education Institutions will become pioneer institutions that are financially independent and advanced in science. **Design/methods/approach:** This type of research is library research. In terms of terminology, library research is research by examining literature in the form of books, magazines, tabloids and supporting writings. Meanwhile, the approach used in this research is a qualitative approach, namely an approach that describes and analyzes social phenomena, events, social activities, beliefs, perceptions and thoughts of society both individually and in groups. The author carried out data collection using the documentation method, namely by collecting articles, books and other data. After the documents have been collected, the next step is for the author to carry out data analysis, the technique used is content analysis and deductive thinking methods. **Findings :** This research found the fact that in an institutional context, Islamic Education Institutions must be able to present institutions that are able to read potential, opportunities and challenges, with this ability it will be easy for Islamic Education Institutions to map out strategic steps. It is also important to apply a curriculum that is oriented towards scientific integration and mastery of technology. With this design, it will produce students who are strong in imtaq and capable in science and technology. This will not be achieved if the quality of teachers is inadequate, so Islamic Education Institutions must position teachers as assets and increase capacity and capability in aspects of teaching, knowledge and literacy. An advanced school is a school that is financially independent, with financial adequacy it will be easy for the school to implement all the programs that have been planned. **Research implications/limitations:** This research still has shortcomings in terms of coverage and depth of analytical techniques. In addition, the limited amount of reputable literature limits access to information that needs to be completed in further research. **Originality/value :** The results of this research can provide an overview of the current map of Islamic educational institutions. Further research can be further improved with deeper themes and research variables that can open up and provide solutions to the problems plaguing Islamic educational institutions.

Keywords : The 4.0 Era, Islamic Educational Institutions, Institutional Quality, Industrial Revolution, Educational Challenges.

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Introduction

The need for education in Indonesia has been critically important since the era of Dutch colonization. During this period, the Dutch introduced the ethical policy and established various educational institutions to train a workforce ready for use. While education during the colonial period had positive impacts on the advancement of Indonesian society at that time, the long history of education in Indonesia has resulted in individuals with diverse responses to the changing times. Some from generations who experienced the colonial education system have been able to successfully adapt to the evolving times and have made valuable contributions to the nation's progress. However, on the other hand, there are also individuals who have been trapped in lagging behind and stagnation due to being too influenced by rapid changes of the times. (Hanipudin, 2019)

Education is a continuum that connects the past, present, and future. Historical values from the past can be identified and transferred to the current generation. In this way, any potential issues that may arise in the future can be prepared for early on through empowering human potential inspired by the values of historical times. However, unfortunately, many individuals fail to glean valuable lessons from past historical experiences. As a result, many complex issues faced today are difficult to resolve. This situation requires serious attention because it could potentially impact future human behavior, which may deviate from the perfection of civilization and even repeat the mistakes of the ignorant past. (Sabil Mokodenseho, 2024)

The goal of Islamic education is to achieve a balanced development of all aspects of human beings holistically, encompassing aspects such as the soul, intellect, rational self, emotions, and senses. Therefore, Islamic education strives to develop all potential within students, whether spiritual, intellectual, imaginative, physical, scientific, or linguistic, both individually and in social contexts. The ultimate aim of Islamic education is to attain complete submission to the values and teachings of the religion. (Ahmad Qidro Abdillah Azizy, 2002)

Entering the era 4.0, also known as the Fourth Industrial Revolution, is akin to stepping into a rapidly changing and digitally interconnected world. This era marks a profound transformation combining high technology, artificial intelligence, cloud computing, robotics, and the Internet of Things (IoT) to reshape nearly every aspect of life (Limanseto, 2022). The following are the characteristics of the 4.0 era: 1). Strong digital infrastructure, when entering the 4.0 era, we must realize that digital infrastructure is the backbone of society. Super fast internet connection, widespread 5G network, and access to unlimited cloud computing, 2). The Internet of Things (IoT) is changing everyday life, in this era, almost everything can be connected to the internet. 3). Artificial intelligence (AI) is becoming a loyal friend, AI is present in many aspects of life from intelligent virtual assistants that help organize schedules to more accurate medical diagnoses, AI helps make better decisions. 4). Adjusted education, and the education system changed drastically. The curriculum is tailored to individual student abilities and interests. Technology enables more interactive and global distance learning.

Seeing such big challenges, it is time for Islamic education institutions to improve. It is time for improvements in quality, learning processes, curriculum, teachers and other equipment to be reviewed and adapted to current challenges.

Literature Review

In the era of the Fourth Industrial Revolution, Islamic educational institutions face a series of significant challenges that are reshaping the educational landscape as a whole. This era not only signifies rapid technological advancements but also introduces a new paradigm in how humans interact with technology and information. For Islamic educational institutions, these challenges encompass various aspects that influence how they teach, prepare students, and meet the demands of an increasingly interconnected global society.

Firstly, technology is at the heart of these changes. The Fourth Industrial Revolution brings forth advanced technologies such as artificial intelligence, Internet of Things, cloud computing, and robotics. Islamic educational institutions must integrate these technologies into their curricula and learning processes so that students can develop skills relevant to the future job market.

Secondly, adapting to digital learning is crucial. In an era where access to information is no longer restricted by the physical confines of the classroom, educational institutions need to develop effective and secure online learning platforms. This not only allows broader access to education but also provides the flexibility necessary for students to learn at their own pace and according to their learning styles. Thirdly, changes in the workforce necessitate the acquisition of new skills. Students need to be equipped with skills such as programming, data analysis, and digital literacy to thrive in an increasingly automated and digitally connected work environment. Fourthly, ethical and cultural challenges arise. The use of technologies like artificial intelligence and automated decision-making raises questions about their ethical use in accordance with Islamic values. Educational institutions play a crucial role in imparting a deep understanding of Islamic ethics and morality within the context of modern technology. Fifthly, the protection of personal data and information security becomes increasingly important in a digital environment vulnerable to cyber threats. Islamic educational institutions must ensure that their information systems are well-protected and that data privacy policies are strictly enforced. (Hakim et al., 2023)

By addressing these challenges, Islamic educational institutions can leverage the opportunities presented by the Fourth Industrial Revolution to enhance the quality of their education and prepare the younger generation to confront complex and rapidly changing global challenges. It is not just about adapting to new technologies but also ensuring that education remains relevant and impactful in shaping individuals of integrity, broad vision, and readiness for an unpredictable future.

Methods

This type of research is library research. In terms of terminology, library research is research by examining literature in the form of books, magazines, tabloids and supporting writings. Meanwhile, the approach used in this research is a qualitative approach. In terms of terminology, a qualitative approach is an approach that describes and analyzes phenomena, events, social activities, beliefs, perceptions, thoughts of people both individually and in groups. (Suharsimi Arikunto, 2010)

The data collection method used by researchers is by using the documentation method. After the data is collected, the researcher's next step is to analyze the data using descriptive techniques, interpretative steps, and decision making. (Sugiyono, 2014)

Result

In this section, the author will provide a description related to the research conducted.

Institutional

Based on data from the Indonesian Ministry of Religion (Kemenag), the number of Islamic educational institutions in Indonesia has reached 300,270 institutions, which include those from raudhatul Athfal, MI, MTs, MA, to universities and Islamic boarding schools. Based on that quantity, the number of Islamic Education Institutions in Indonesia is the largest in the world. (Arieshandy, 2015)

Looking at this data, it turns out that Islamic educational institutions are not yet fully capable of being financially independent, superior in quality and quality, and at the forefront of scientific development. In general, several problems faced by Islamic educational institutions include: 1). The quality of education varies. There is great variation in the quality of education among various Islamic educational institutions. Some institutions may have a strong curriculum and qualified teaching staff, while others may lack adequate resources and qualifications. 2). Traditional curriculum. Some Islamic educational institutions still rely on a very traditional curriculum, which may be less relevant to the challenges and needs of modern society. This can hinder students' development in terms of critical thinking abilities, digital literacy, and practical skills needed in the world of work. 3). Lack of teacher training. Teacher training in the context of Islamic education is often inadequate. Teachers may need more training in effective teaching methods, especially considering the evolution of technology and modern approaches in education. (Hanipudin, 2020b)

To overcome this problem, Islamic educational institutions must strive to improve the quality of education, integrate Islamic values with modern education, ensure adequate teacher training, and innovate in teaching and management approaches. Apart from that, support from the government, community and non-governmental organizations can also help overcome challenges in Islamic education.

The ideal Islamic educational institution in the 4.0 era must be an environment that is intellectually stimulating, inclusive, and relevant to changes in the modern world. They must have a focus on developing individuals who are ready to face the increasingly complex technological and social challenges of the future.

Curriculum

The curriculum is a very vital thing in an educational institution, the curriculum is a manifestation of the ideals of achievement for future generations. Ideally, the curriculum must be relevant to changing times, so that it is not left behind. However, the curriculum changes that occur today have not yet directed towards the main goal aspect, but these changes arise and are dominant from social and political factors. The following are some common problems in the education curriculum in Indonesia, namely: 1). The curriculum is too dense. The curriculum in Indonesia is often too dense with many subjects that must be completed in a short time. This can make students and teachers feel stressed and hinder deep understanding. 2). Irrelevant curriculum. Sometimes, subject matter is not always relevant to real world needs or current developments. Some curricula may not be adequate in preparing students for the challenges of the 21st century, such as critical and creative thinking skills, as well as digital literacy. 3). Evaluation that is too focused on tests. Educational evaluation systems often focus too much on exams and academic assessments, while other aspects such as social abilities, practical skills and creativity are often neglected. (Hanipudin, 2013)

Continuous education reform and improvements in Indonesia's education curriculum will continue to be important issues for improving the quality of education and preparing the younger generation for an increasingly complex future.

The ideal curriculum for an Islamic educational institution should cover a variety of aspects that help students develop a deep understanding of the Islamic religion, while also preparing them to participate in a diverse modern society. In addition, the curriculum must also be able to create students who have a deep understanding of Islamic teachings, have relevant skills for success in modern society, and can live meaningful lives in accordance with Islamic values. Apart from that, education should create individuals who are tolerant, open to differences, and ready to contribute positively to society.

Teacher Competency

In general, teachers are people who have the responsibility to educate. Meanwhile, specifically, a teacher in an Islamic perspective is a person who is responsible for the development of students by seeking the development of all students' potential, including affective, cognitive and psychomotor potential in accordance with the values of Islamic teachings. The position of the teacher has an important role in forming the ethics or morals of students, but does not also override the role of parents as the basis for forming the ethics or morals of the child. (Hanipudin, 2020a)

Teacher competency is a key factor in improving the quality of education. In Indonesia, several problems related to teacher competency include: 1). Inconsistent performance evaluation. Teacher performance evaluation systems may not always be consistent or based on clear criteria. This can make teachers less motivated to improve their competence. 2). Lack of foreign language skills. In the era of globalization, foreign language skills, especially English, become important. However, many teachers in Indonesia may have limited language skills. 3). Limited use of technology. The use of technology in teaching is an important requirement in modern education. However, some teachers may not have sufficient training or access to integrate technology in their teaching. (Alkhasanah et al., 2023)

To address teacher competency issues in Indonesia, efforts are needed to improve initial and ongoing training, update the curriculum to make it more relevant, provide better access to resources and technology, and develop a more objective and meaningful evaluation system. Apart from that, it is necessary to motivate teachers to continue to improve their competence through appropriate awards and recognition.

The ideal teacher profile in the 4.0 era includes a combination of educational qualifications, skills, personal characteristics and technological capabilities that enable them to provide relevant and quality education in an increasingly digitalized environment. The following is the ideal profile of a teacher in the 4.0 era: 1). Strong educational qualifications. Teachers must have a bachelor's degree or higher in the field of education or subject they teach. They should also continue to receive ongoing training in the latest teaching methods and developments in education. 2). Ability to think critically and creatively. Teachers must be role models in critical and creative thinking. They should encourage students to question, analyze, and develop innovative solutions to problems. 3). Technology skills. Teachers must have a strong understanding of educational technology and skills in integrating technology into teaching. They must be able to use tools such as learning software, educational applications, and online learning platforms. 3). Digital literacy skills. Teachers must be skilled in digital literacy, including the ability to identify valid and ethical information in digital environments and maintain students' online safety. (Enco Mulyasa, 2007)

The profile of the ideal teacher in the 4.0 era reflects a combination of education, technology skills, and personal traits that enable them to face the challenges and opportunities in an increasingly connected and rapidly changing education. Additionally, ideal teachers should be role models for their students, encouraging them to become adaptive and innovative lifelong learners.

Financing

Islamic educational institutions, such as madrasas, Islamic schools and Islamic colleges, often face various financial problems. Some of the financial problems faced by Islamic educational institutions include: 1) Lack of operational funds. 2) Education funding costs. 3) Dependence on donations and zakat. 4) Unstable income. (Wahab, 2022)

To overcome financial problems, Islamic educational institutions often need to develop more effective fundraising strategies, seek sustainable funding sources, and manage resources wisely. They can also seek assistance from the community, foundations, and donor agencies to help meet their financial needs. In some cases, the government may also provide financial support or incentives to support Islamic education.

So that Islamic educational institutions can be financially independent, which means the school can finance its own operations without relying too much on external assistance or donated funds. The following are several steps that institutions can take to achieve financial independence, namely: 1). Diversify income sources. 2). Partnership with Companies. 3). Open a school shop. 4). Campus funding program. 5). Investment in Alumni development.

Discussion

In the era of Industrial Revolution 4.0, changes in technology and job market needs have become very significant. This affects all sectors of life including education, including Islamic educational institutions. The following are several reasons why preparation in the 4.0 era is very important for Islamic educational institutions: *First*, Digital Technology and Education: Digital technology has changed the way we learn and teach. Islamic educational institutions need to utilize this technology to improve teaching, facilitate distance learning, and provide access to a wider range of learning resources. *Second*, Global Competition: In this era of globalization, competition in the job market is becoming tighter. Islamic educational institutions need to ensure that their students not only have strong religious knowledge but also skills that are relevant to the demands of an increasingly digital and connected global market. *Third*, Multicultural Education and Tolerance: In the midst of globalization, Islamic education must teach the values of multiculturalism and tolerance so that students can live side by side with various cultural and religious backgrounds. *Fourth*, Strengthening Islamic Identity: While Islamic educational institutions adapt to the digital

era, it is important to maintain and strengthen students' Islamic identity. This can be done by including comprehensive and relevant religious education in their curriculum. *Fifth*, Preparation for the Future World of Work: Islamic educational institutions must ensure that their graduates are ready to enter an increasingly digitally connected world of work. This includes preparing them with the necessary information and communication technology skills.(Hawi, 2017)

Overall, Islamic educational institutions need to prepare themselves in the 4.0 era so that they can provide education that is holistic, relevant and in line with the demands of the times. By doing this, they can ensure that their graduates are ready to face the challenges and take advantage of the opportunities in an increasingly digital future.(Syukurman et al., 2020)

Conclusion

Welcoming the era of Industrial Revolution 4.0, educational institutions need to improve to be able to compete and exist. The focus that needs to be strengthened is institutional aspects, curriculum, teacher competency and financing. These four factors are crucial factors that must be responded to positively and sustainably by the management of Islamic Education Institutions. With good management, it is not impossible that in the future Islamic Education Institutions will become pioneer institutions that are financially independent and advanced in science.

In an institutional context, Islamic Education Institutions must be able to present institutions that are able to read potential, opportunities and challenges, with this ability it will be easy for Islamic Education Institutions to map out strategic steps. It is also important to apply a curriculum that is oriented towards scientific integration and mastery of technology. With this design, it will produce students who are strong in imtaq and capable in science and technology. This will not be achieved if the quality of teachers is inadequate, so Islamic Education Institutions must position teachers as assets and increase capacity and capability in aspects of teaching, knowledge and literacy. An advanced school is a school that is financially independent, with financial adequacy it will be easy for the school to implement all the programs that have been planned.

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Declaration of interests statement

The author declares that there is no conflict of interest in the creation of this article by the parties involved.

References

- Ahmad Qidro Abdillah Azizy. (2002). Pendidikan Untuk Membangun Etika Sosial. Aneka Ilmu.
- Alkhasanah, N., Darsinah, & Ernawati. (2023). PERAN GURU DALAM MEMBENTUK KARAKTER SISWA SD. *Jurnal Ilmiah Pendidikan Citra Bakti*, 10(2). <https://doi.org/10.38048/jipcb.v10i2.1271>
- Arieshandy. (2015). Menag RI : Jumlah Lembaga Pendidikan Islam di Indonesia Terbesar di Dunia. *Digdaya Kabarpas*. <https://www.kabarpas.com/menag-ri-jumlah-lembaga-pendidikan-islam-di-indonesia-terbesar-di-dunia/>.
- Enco Mulyasa. (2007). Standar Kompetensi dan Sertifikasi Guru. Remaja Rosdakarya.
- Hakim, A. R., Fauzia, E., & Rani, P. (2023). Analisis Kritis Tantangan Pendidik dalam Islam di Era Disruption 4.0. *Al Qalam: Jurnal Ilmiah Keagamaan Dan Kemasyarakatan*, 17(5). <https://doi.org/10.35931/aq.v17i5.2696>
- Hanipudin, S. (2013). Gagasan Dan Manifestasi Modernisasi Pesantren A.S Panji Gumilang Di Ma'had Al-Zaytun. *INSANIA : Jurnal Pemikiran Alternatif Kependidikan*, 18(2).
- Hanipudin, S. (2019). Pendidikan Islam di Indonesia dari Masa ke Masa. *Matan : Journal of Islam and Muslim Society*, 1(1). <https://doi.org/10.20884/1.matan.2019.1.1.2037>
- Hanipudin, S. (2020a). KONSEPSI GURU MODERN DALAM PENDIDIKAN ISLAM. *Al-Munqidz : Jurnal Kajian Keislaman*, 8(3). <https://doi.org/10.52802/amk.v8i3.265>
- Hanipudin, S. (2020b). PENDIDIKAN ISLAM BERKEMAJUAN DALAM PEMIKIRAN HAEDAR NASHIR. *INSANIA : Jurnal Pemikiran Alternatif Kependidikan*, 25(2). <https://doi.org/10.24090/insania.v25i2.4194>
- Hawi, A. (2017). TANTANGAN LEMBAGA PENDIDIKAN ISLAM. *Tadrib: Jurnal Pendidikan Agama Islam*, 3(1). <https://doi.org/10.19109/tadrib.v3i1.1388>
- Limanseto. (2022). Manfaatkan Momentum Bonus Demografi, Pemerintah Dorong Peningkatan Kualitas SDM dan Kembangkan Pendidikan Vokasi. <https://ekon.go.id/publikasi/detail/4667/manfaatkan-momentum-bonus-demografi-pemerintah-dorong-peningkatan-kualitas-sdm-dan-kembangkan-pendidikan-vokasi>.
- Sabil Mokodenseho, S. H. S. L. (2024). Pendidikan Islam Di Pondok Pesantren (1st ed., Vol. 1). Sulur Pustaka.
- Sugiyono. (2014). Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, Dan R & D . Alfabeta.
- Suharsimi Arikunto. (2010). Prosedur Penelitian Suatu Pendekatan Praktik. Rineka Cinta.
- Syukurman, S., Agustang, A., & Adam, A. (2020). Peluang dan tantangan lembaga pendidikan Islam. *EduSociata Jurnal Pendidikan Sosiologi*, 3(1).
- Wahab, A. (2022). STRATEGI PENINGKATAN MUTU MADRASAH MELALUI PENYUSUNAN VISI MISI DI MADRASAH TSANAWIYAH NEGERI BATANG. *JIEM (Journal of Islamic Education Management)*, 6(1). <https://doi.org/10.24235/jiem.v6i1.9571>