

Artificial Intelligence (AI): An Opportunity and Challenge for Achieving Success in Islamic Education in the Era of Digital Transformation

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ABSTRACT

Artificial Intelligence (AI) has become an integral part of digital literacy systems and plays a vital role in the development of intelligence. In the educational sector, AI represents a significant innovation that can greatly enhance the quality of learning and educational management. This technology offers numerous benefits, supporting educational stability and improving the teaching and learning processes. However, it is crucial to acknowledge that AI can also lead to adverse effects if misused. Therefore, ensuring the responsible use of AI in education is essential, adhering to applicable ethical standards. Educational institutions, particularly those with Islamic values, must continually innovate in response to technological advancements. At the same time, they should equip their students with strong religious values to mitigate potential harm that may arise from these technological developments. By fostering a balanced approach, educational institutions can leverage AI's potential while safeguarding their students' moral and ethical foundations.

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1. Introduction

The progress of a nation can be measured by the quality of its education. If the education is good, the nation will advance; conversely, if the education is poor, the nation will fall behind. Education is a process of human maturation aimed at developing individuals into well-rounded, useful members of society who contribute to religion, the nation, and the country. In Islam, the goal of education is to achieve happiness in both this world and the hereafter, which is realized through the development of self-quality through knowledge. This knowledge is then used to build the nation into a *baldatun thayyibatun wa rabbun ghafur* (a good and prosperous land with the forgiveness of Allah), according to each individual's capacity, skills, and knowledge [1].

Islam teaches its people to seek knowledge as high as possible, without limitations of space and time, so that human duties as caliphs on earth can truly be achieved and Islam as *rahmatan lil 'alamin* can truly be felt so that the form of *baldatun thayyibatun wa rabbun ghafur* can be realized. Allah says:

وَإِذْ قَالَ رَبُّكَ لِلْمَلَائِكَةِ إِنِّي جَاعِلٌ فِي الْأَرْضِ خَلِيفَةً

“Remember when your Lord said to the angels, I will make a caliph on earth” Al-Baqarah (2: 30)

In the digital era, all elements of education have utilized digital technology to facilitate the learning process, one of which is Artificial Intelligence (AI). Artificial Intelligence (AI) is a branch of computer science that focuses on the development of machine intelligence, allowing machines to think and work like humans. AI is also part of digital literacy and plays an important role in the development of intelligence and the ability to process information efficiently [2].

AI is an innovation that aims to improve the quality of learning. This technology makes it easier for students and college students to support their studies more effectively and comprehensively. Artificial Intelligence also encourages students to think more critically and carefully. However, it cannot be denied that behind every benefit, there is a potential for harm. Everything that brings positive value also has a negative side that needs to be watched out for [3].

AI is very helpful in facilitating teachers or students in doing their learning tasks. Likewise, IT is very helpful in completing heavy work related to processing data and searching for information. When done manually, it requires a lot of energy and time, but when using IT through computer software, all work can be completed effectively and efficiently [4].

Therefore, Islamic education must be able to carry out various innovations to answer various challenges related to the rapid development of the times, including technological developments that cannot be denied but must be faced [5].

Technological advances are an opportunity for the world of Islamic education to be used as well as possible according to existing ethics and not to misuse them. In this case, the role of educators is very important in guiding their students so that this technological advance can be beneficial, not detrimental. AI can provide benefits to humans if used according to its portion. On the other hand, it can be harmful if misused [6].

The urgency of implementing AI in the perspective of Islamic education in the era of transformative digitalization lies in its ability to increase the effectiveness and accessibility of religious learning amidst technological developments. AI enables the personalization of the learning process so that students can receive Islamic education materials that are tailored to their abilities, interests, and spiritual needs. In addition, this technology can expand the reach of Islamic education globally, allowing more people to access religious knowledge easily. However, the application of AI must be carried out while maintaining the principles of Islamic ethics so that this technology is not only an innovative tool but also remains in line with the spiritual and moral values adopted in Islam. Thus, AI becomes an important means to encourage the transformation of Islamic education that is more inclusive, efficient, and relevant to the challenges of the digital era [7].

Previous research related to AI in Islamic education in the era of transformative digitalization generally discusses how AI technology can enrich the learning and teaching experience [8]. Several studies have shown that AI can help develop more personalized and interactive religion-based learning applications. For example, studies have shown how AI is used in e-learning platforms to deliver Islamic materials more effectively, such as the study of the Qur'an, hadith, and fiqh. This technology is also applied in the development of chatbots to answer religious questions, speed up consultations, and help students understand religious concepts more deeply [9]. These studies generally highlight how AI can help Islamic education become more inclusive and accessible to a wide range of audiences [10].

However, other studies also examine the ethical and theological challenges of implementing AI in Islamic education. Several studies raise issues about how AI can influence the authority of religious

scholars and teachers, as well as concerns about the loss of traditional values in the learning process [11]. In this context, several studies emphasize the importance of maintaining a balance between technological innovation and the sustainability of Islamic educational methods rooted in oral and face-to-face traditions [12]. Therefore, this study shows that although AI has great potential to support the transformation of Islamic education, its implementation still requires clear guidelines to comply with religious principles [13].

The focus of this research is to analyze the close relationship between AI and Islamic education. In this context, AI provides a great opportunity to expand access to Islamic education through the use of technologies such as online learning platforms, chatbots for religious consultations, and automation in the delivery of teaching materials based on Islamic values. In addition, AI is able to personalize the learning process for each individual according to their spiritual and intellectual needs, helping to create a more in-depth and relevant learning experience for students around the world.

However, the relationship between AI and Islamic education also faces challenges, especially in maintaining a balance between technological innovation and the basic principles of Islamic teachings. The application of AI needs to be guided by ethics and religious values so as not to deviate from the essence of Islamic spirituality. For example, the integrity of learning materials, the authenticity of traditional teaching, and the role of religious teachers must be maintained amidst technological developments. Thus, the relationship between AI and Islamic education in the digital era reflects a combination of utilizing technology to increase the effectiveness of learning while maintaining the integrity of religious values amidst digital transformation [4], [6].

2. Method

This article is a literature review that uses data collection techniques through an in-depth review of expert opinions contained in relevant literature, both books and scientific journals. This process involves identifying and selecting quality and reliable sources to ensure that the data collected is accurate and relevant. After data from various sources is collected, the next step is an in-depth analysis to identify patterns, trends, and gaps in existing knowledge. Based on this analysis, conclusions are drawn to provide comprehensive insights into the topic being studied [14].

The data collection technique in this literature review is carried out through an in-depth review of various relevant literature, both in the form of books, scientific journals, and research reports that focus on the topic being studied. This process begins by identifying and selecting sources that have a high academic reputation, such as journals that have gone through a peer-review process and books written by experts in related fields. The data collected from the literature includes expert opinions, empirical findings, and concepts underlying the development of Artificial Intelligence (AI) and its application in Islamic education in the digital era. By focusing on quality sources, researchers can obtain accurate and in-depth data [15].

The criteria for selecting literature in this study focused on three main aspects: relevance, quality, and recency. Relevance is the main factor, where only literature that is directly related to the relationship between AI and Islamic education is considered. In addition, the quality of the literature is also a benchmark, where only literature from academically recognized and trusted sources is used. The selection of literature also considers recency by prioritizing the latest studies that discuss the latest developments in AI technology and their implications for the world of Islamic education. Literature that covers the latest developments is considered important because this topic is related to a very dynamic phenomenon [16].

This approach has a strong justification because the literature review provides a broader understanding of various perspectives and previous research results. With literature-based data collection techniques, researchers can analyze patterns, trends, and gaps in the literature. In addition, this method allows researchers to avoid empirical bias from field studies and focus on data that has been validated by other studies. This approach is very appropriate in the context of a theoretical study like this, where a synthesis of various expert opinions is needed to reach a comprehensive conclusion [17].

3. Results and Discussion

Based on problem analysis or problem analysis wrapped in research methods, then several findings and discussion analysis studies can be found as follows:

3.1. Getting to Know Artificial Intelligence

Today's technology has improved to the point that it can be utilized to execute many activities in daily life with minimum effort [18]. Included in the development of this technology is Artificial Intelligence (AI) technology.

According to Prof. Mohd Zakree Ahmad Nazri, Head of the Doctoral Program (S3) at the National University of Malaysia, the term Artificial Intelligence consists of two words, namely, Intelligence and Artificial. The word intelligence is something related to cleverness, ingenuity, and wisdom. Meanwhile, the word artificial is an imitation or something that is not natural. So, artificial intelligence can be interpreted as science and techniques that focus on computer methods for programming applications and intelligent machines by imitating human intelligence. AI can see, hear, speak, think, calculate, walk, run, and search for all human abilities, but AI does not have emotions, intuition, creativity, and other things that are so subjective [19].

The term technology comes from the Greek word technologic. According to Webster's Dictionary, it means systematic treatment or handling something systematically, while techne, as the basis for the word technology, means skill or expertise, skills, and knowledge. The word intelligence comes from the Latin interleague, which means I understand, so the basis of intelligence is the ability to understand and take action. So artificial intelligence (AI) technology is a field of computer science that has an important role in the present and future eras (The term technology comes from the Greek technologies, according to Webster's dictionary, means systematic treatment or handling something systematically, while techne as the basis, the word technology means skill or expertise, skills, and knowledge, The word intelligence comes from the Latin interleague which means I understand, so the basis of intelligence is the ability to understand and take action. So artificial intelligence (AI) technology is one of the fields of computer science that has an important role in the present and future era [20].

Artificial Intelligence (AI) is a multidisciplinary field that aims to automate activities that currently require human intelligence. Humans and artificial intelligence can work together to make decisions that are less influenced by personal values. Artificial intelligence, as a subfield of computer science, is focused on creating artificial intelligence that has human-like thought patterns and behaviors. AI can be used in education to influence students' morals and character, improve their mental acuity, and give them new insights. AI can also be used in several fields, such as health, economics, and agriculture (smart garden).

Some other definitions of AI include:

1. Schalkoff (1990): AI is a field of study that seeks to explain and imitate intelligent behavior in the form of computational processes.
2. Rich and Knight (1991). AI is the study of how to make computers do things that, until now, people have been better at doing.
3. Luger & Stubblefield (1993). AI is a branch of computer science that deals with the automation of intelligent behavior.
4. Haag and Keen (1996). AI is a field of study that deals with the capture, modeling, and storage of human intelligence in an information technology system so that the system can facilitate the decision-making process that is usually carried out by humans [21].

Types of artificial Intelligence are as follows:

1. Artificial Narrow Intelligence (ANI) is the most common type of AI used today, and its functions are limited. ANI is designed to be able to do only one task. The results of ANI's work are

guaranteed to be of very good quality. ANI is very close to people's lives and can be applied in all sectors of life. Starting from giving product recommendations to predicting the weather,

2. Artificial General Intelligence (AGI) is still a concept, described as a system that can work at a cognitive level equivalent to humans. Includes language processing, images, and decision-making functions. AGI requires thousands of ANIs to work together and integrate with each other.
3. Artificial Super Intelligence (ASI): ASI can surpass AGI. ASI can make decisions, think rationally,

Artificial Intelligence (AI) was created with the following objectives:

1. It is expected that AI will be used to create software or robots that can help with routine human activities;
2. It is hoped that AI can make machines smarter than before.
3. It is hoped that AI can really help in solving complex problems, such as through the development of fast-calculating smart calculators.

Artificial intelligence (AI) is a computer system that functions like humans and can work even faster than humans so that work can be more effective and efficient. AI is developing in all fields, including in education. Through AI technology, the institution's learning process and management can be made more effective. So that work can be completed easily and efficiently in terms of time, energy, and thought.

3.2. Artificial Intelligence (AI) Opportunities for Islamic Education

Artificial intelligence (AI) technology is an opportunity for education because it provides convenience in completing various tasks and problems related to education so that educational and learning tasks can be completed effectively and efficiently.

AI technology in the world of education can function as:

1. Virtual mentors are more useful than regular classroom instruction. The availability of virtual mentors makes contact more efficient from a managerial and financial point of view.
2. Voice assistant functions to speed up students' search for additional materials in class. Voice assistant also allows students to get transparent and accurate information
3. from smart content, serves to provide the latest reading materials from newly released books and to search for information according to learning needs covered in the field of education.
4. Presentation translator or presentation translator is useful for explaining or presenting a text from a different language into the desired language [22].

The role of AI in education includes [23]:

1. Artificial intelligence can automate basic activities in education, such as assessment.
2. Educational software can be customized to students' needs.
3. This can show areas where the course needs improvement.
4. Students can get additional support from AI tutors.
5. AI-based programs can provide useful feedback to students and teachers.
6. AI is changing the way we find and interact with information.
7. AI can change the role of teachers.
8. AI can make trial-and-error learning less intimidating.
9. AI-powered data can transform how schools find, teach, and support students.
10. AI can change where students learn, who teaches them, and how they acquire basic skills.

The positive impacts of implementing artificial intelligence in the field of education include [24]:

1. Facilitating the tasks of teachers and students in teaching and learning activities
2. Unlimited data storage
3. Make the tasks of educators non-repetitive
4. It can be used anytime without a time limit
5. Work gets faster and better.

The positive impacts of the development of information technology, including AI, on Islamic education include students being able to adapt, socialize with the public man, age their friendship networks, and being able to complete their assignments more easily. The negative impacts include negligence on the part of students, resulting in a lack of discipline and laziness, encouraging students to copy other people's work, a decrease in politeness in dressing and speaking, frequent quarrels due to watching dangerous things such as pornography, violence, war and so on, encouraging children to skip school because they feel more comfortable with the internet than studying at school, students can spend more pocket money and can take other people's money secretly to access the internet [25].

Some positive impacts or benefits of AI should be used as opportunities to further improve the quality of education. Because with AI, everything becomes easier. Therefore, education needs to prepare human resources so that AI can be utilized optimally.

3.3. Challenge Artificial Intelligence (AI)

Artificial Intelligences a branch of computer science that emphasizes the development of machine intelligence, thinking patterns and working like humans. For example, speech recognition, problem-solving, learning, and planning. AI is part of the digital literacy system branch that plays a major role in the intelligence development process [26].

Some of the negative impacts are: 1) Children spend more time watching TV than engaging in other activities, such as studying and exercising; 2) Children lose their ability to integrate into society and tend to prefer online life; 3) Copyright violations; 4) Internet crime; 5) The spread of computer viruses; and 6) Exposure to harmful content, including pornography, gambling, fraud, and violent media. To mitigate these negative impacts, it is important to implement solutions such as [27]:

The negative impacts of IT include: 1) being used at the wrong time and place; 2) changes in social behavior occur when individuals overuse smartphones, leading to disrupted social interactions; 3) in the school environment, the negative impacts of using information and communication technology (ICT) on smartphones are that students lose focus during lessons, become individualistic, and ignore their surroundings. On the other hand, the positive impacts of using ICT in the school environment are: helping students find additional learning materials, assisting with homework, and enabling students to engage in entrepreneurship by selling products online via smartphones [28].

It is also necessary to note that the elements of teachers in Islamic educational institutions and Islamic Religious Education teachers must be able to face these challenges. Therefore, a teacher must have at least three abilities, namely:

1. ability to solve a problem,
2. the ability to think critically and
3. the ability to be creative in facing the challenges arising from the emergence of the digital era

The advancement of information technology that continues to develop will have an impact on all areas of life, both economic, socio-cultural, and political, even in the field of education. Likewise,

the presence of AI (artificial intelligence), which is currently being rapidly developed, will have a major impact on the world of education, both positive and negative impacts [29].

The development of information technology should be a medium for learning, strengthening infrastructure and technology, compiling an appropriate digital literacy curriculum, developing creative-innovative learning methods, improving the competence of teachers and educators, increasing awareness and participation of parents in the context of Islamic education [30].

The advancement of information technology should be a means for students to understand information carefully and cautiously, avoid negative information and content, and always carry out *tabayyun* based on Islamic teachings. The wise use of information technology can help achieve the goals of Islamic Education [31].

The advancement of information technology in the world of education can help students find additional materials, help students do schoolwork, and be used for entrepreneurship. Behind that, the misuse of information technology media is often found, namely: used at the wrong time and place; social interaction between students is disrupted; students are not focused when studying; students become individualistic and ignore their surroundings [28].

Globalization has influenced the implementation of education in terms of objectives, processes, relationships between students and educators, ethics, methods, and others. In terms of objectives, for example, educational objectives tend to lead to materialism, so the first thing that might be asked by parents or students is whether the educational institution where they study can guarantee their future. Likewise, the curriculum is more directed at how materialistic things can be achieved [32], [33].

According to Ahmadi, the main problem of national education, including Islamic education, is the low quality of education, which triggers the low quality of human resources. The low quality of human resources has an impact on the low character of the nation. Other problems faced by Islamic education include ideological problems, dualism of the Islamic education system, language, and problems of learning methods [12].

Mastery of foreign languages is very important in accessing various information and developing science and technology. The learning aspect in Islamic education still experiences problems, especially in terms of the methods used. So far, Islamic education still emphasizes the use of one-way methods that tend to be monotonous.

Another problem that occurs in Islamic education is [34]:

1. The emergence of the practice of reducing the function of education. Education is only standardized on efforts to prepare a workforce (practitioner) that is oriented towards material on the grounds of supporting modern industrialization and fulfilling the needs of large quantities of technological products.
2. Lack or irrelevance of education to the needs of society. The problem of relevance increasingly makes Islamic education seem a dilemma.
3. Mastery of information and communication technology devices is still low. The weakness of this aspect affects the ability to access various information and important things related to education or progress in the global world. This will clearly result in poor quality of human resources.

Quoting Bambang Prabowo's explanation, a number of weaknesses, which are also challenges that must be fixed by Islamic educational institutions, include the following:

1. The quality of Islamic educational institutions in general is still sad, although there are several Islamic educational institutions, such as madrasas, which have been able to surpass the quality of public schools.
2. The image of Islamic educational institutions is still relatively low. This can be seen in the ranking of graduates of Islamic educational institutions, which are still below public schools,
3. Inadequate quality and quantity of teachers. Low teacher quality and inadequate student ratio will cause the educational output to be low.
4. Teachers' salaries are still low. If teachers' salaries in Islamic educational institutions are still low, it will affect the quality of their performance. Highly paid teachers will be more effective in carrying out their duties than teachers with lower salaries.
5. The background of students at Islamic educational institutions is generally from lower middle-class families.
6. Increasing demands for competition and competence,
7. The onslaught of foreign globalization influences the economic, political, and cultural fields, which tend to shift religious national culture.
8. Juvenile delinquency, which is increasingly worrying, includes the increasingly widespread abuse of drugs,
9. The hope of the people is that Islamic educational institutions are able to produce intelligent people who are scholars and intellectual scholars.

This hope is a challenge that must be answered seriously by continuously striving to improve the quality of Islamic educational institutions. Islamic education is present with all its potential, trying to prepare the future generation supported by high intellectual, strong personality, morals, good character, and strong faith [35].

AI has negative impacts that need to be considered. Job loss, economic inequality, privacy and data security issues, human dependence on technology, loss of social connectedness, and discrimination and bias are some of the negative impacts of AI. Therefore, there needs to be strict regulation and supervision in the development and implementation of AI to minimize these negative impacts [36].

The negative impact of AI is a challenge for Islamic education. These challenges should be evaluated to continue to improve the quality of education. Islamic education needs to prepare qualified human resources and innovate both in the field of institutional management and in the learning process.

3.4. Importance of Islamic Education in the Information Technology Era

Artificial Intelligence creates a more critical and observant mindset in students, but it will not completely guarantee good grades and character. Therefore, educators need guidance and direction accompanied by the use of artificial intelligence-based features [26].

The presence of AI technology does not violate the concept of Islamic education. Islamic education is the process of building humans into perfect humans who are able to carry out their duties as caliphs on earth and in order to achieve happiness in the afterlife through certain methods and strategies based on the sources of the Islamic religion, the Qur'an and Hadith [37]. This means that Islamic education does not only prepare to achieve the goal of the afterlife but there needs to be a balance between the goals of the world and the afterlife. Humans have a duty as caliphs on earth. As

caliphs on earth, humans have the responsibility to advance their country. In order for a country to advance, it must be able to follow global developments [38].

The presence of AI technology has fulfilled one of the goals of national education. One of the goals of national education is to form knowledgeable, capable, and creative people, as stated in the National Education System Law No. 20 of 2003, which reads: "aims to form knowledgeable, capable people, develop the potential of students to become people who believe and fear God Almighty, have noble morals, are healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens

Islamic education aims to form a perfect human being physically and mentally, achieve happiness in the world of the hereafter, dedicate oneself to Allah, carry out the duties of the caliph on earth, and seek Allah's approval [37]. This implies that success will not be achieved without having knowledge and expertise. A person will also not benefit from his life without having knowledge, skills, and abilities. Through this, a person can play a role and be involved in building this country.

In the book Ta'lim Al-Muta'allim, it is stated that the purpose of education is to hope for the blessing of Allah SWT, to eliminate ignorance, and to spread the religion of Allah (Azzarnuji and others). Seeking the pleasure of Allah means that education is not financially oriented but more oriented toward benefits. Eliminating ignorance can be understood as knowledgeable people's ability to answer the problems faced, both personal problems and problems related to religion, nation, and country. Spreading the religion of Allah, of course, the knowledge possessed is based on religious values, not based on unclear things [39].

Allah commands his servants to continue learning to develop themselves according to developments and the demands of the times. Allah says in the Qur'an Surah Al-'Alaq verses 1-5, as follows:

أَفْرَأْ بِاسْمِ رَبِّكَ الَّذِي خَلَقَ (١) خَلَقَ الْإِنْسَانَ مِنْ عَلَقٍ (٢) أَفْرَأْ وَرَبُّكَ الْأَكْرَمُ (٣) الَّذِي عَلَّمَ بِالْقَلَمِ (٤) عَلَّمَ الْإِنْسَانَ مَا لَمْ يَعْلَمْ

"Read in (mentioning) the name of your Lord Who created. He created man from a clot of blood. Read, and your Lord is the Most Merciful, Who teaches (humans) by means of qalam. He taught man what he did not know."

Surah Al-'Alaq is the first revelation revealed to the Prophet Muhammad SAW. It begins with the word Iqra and is mentioned twice. This shows how important knowledge and education are. The word Iqra, which means reading in the etymological sense, means reading literature written in books. As for the terminological meaning, it is reading in a broader sense, namely reading the universe so that one understands how many things must be studied and done so that everything becomes useful, including reading technological developments so that technology becomes useful and becomes a means of teaching progress in all fields.

Here are words of wisdom from Sheikh Al-Makky:

مَنْ أَرَادَ الدُّنْيَا فَعَلَيْهِ بِالْعِلْمِ وَمَنْ أَرَادَ الْآخِرَةَ فَعَلَيْهِ بِالْعِلْمِ وَمَنْ أَرَادَهُمَا فَعَلَيْهِ بِالْعِلْمِ

"Whoever wants to achieve goals in the world, then must do it with knowledge. One must achieve the goals of the afterlife with knowledge. For the goals of the world and the afterlife also with knowledge"

This hadith can be understood that all problems can only be solved with knowledge. With knowledge, a person can participate in the struggle to pursue a prosperous country: *baldatun thayyibatun wa rabbun ghafur*. To achieve a prosperous country, one must be able to follow the development of time.

Currently, in the development of information technology (including AI), the world of Islamic education should open itself to continue to race to follow these developments. Islamic education must carry out various innovations in order to form humans who are ready to answer global challenges by providing qualified knowledge while still being based on Islamic values [37].

The advancement of AI technology has had a significant impact on education, but its use also poses several challenges. These challenges include the risk of reduced human interaction, negative impacts on the development of empathy and students' social skills, and imbalances in the use of technology. In this case, it is very important to involve various parties, such as teachers, parents, and the local community, in the implementation of education. Character education remains the foundation for the formation of students' personalities in the AI era [40].

Islamic education must also equip its students with strong religious values so that they can sort and choose what is good and what is not, what is beneficial and what is harmful, so that the technological capabilities they possess will be able to bring them to a meaningful condition, beneficial for the progress of the nation, ready to compete in the global arena while still adhering to Islamic values that are sourced from the Qur'an and Hadith [17].

In this era of technological advancement, Islamic education must carry out various innovations in order to form humans who are ready to answer global challenges by providing adequate knowledge while remaining based on Islamic values [37].

Islamic education must also equip its students with strong religious values so that they can sort and choose what is good and what is not, what is beneficial and what is harmful, so that the technological capabilities they possess will be able to bring them to a meaningful condition, beneficial for the progress of the nation, ready to compete in the global arena while still adhering to Islamic values that are sourced from the Qur'an and Hadith [41].

3.5. AI Analysis in Islamic Education in the Era of Digitalization Transformation

Describes two main aspects of the application of AI in Islamic education—the potential benefits and the challenges that may arise. In this context, AI offers significant opportunities to improve the quality of Islamic education in ways that were previously not possible [42]. This technology can expand access to teaching materials, increase interaction in the learning process, and provide more sophisticated tools for education management. With AI, Islamic educational institutions can take advantage of more personalized e-learning platforms, AI-based applications to teach religious values, and efficient management systems to monitor student progress [43].

One of the practical implications of applying AI in Islamic education is its ability to personalize the learning experience. AI can be used to develop systems that adapt learning materials to the needs and abilities of each student. For example, an AI-based application can assess a student's understanding of the learning material and offer relevant additional exercises to strengthen areas of weakness. This allows students to learn at their own pace and get the support they need to understand religious concepts in depth, in accordance with Islamic teachings [44].

However, the use of AI also brings challenges that must be overcome. One of the main challenges is maintaining the integrity of religious values in the learning process supported by technology. AI, although sophisticated, must be designed and implemented carefully to ensure that the teaching materials and interactions provided remain in accordance with Islamic principles. For

example, the development of AI content must involve religious scholars and educators to ensure that all materials presented are not only scientifically accurate but also in accordance with Islamic values and ethics [45].

In addition, there is a risk that reliance on technology could reduce the human interaction that is essential to Islamic education. Religious education often involves personal and spiritual aspects that cannot be fully accommodated by machines. Therefore, Islamic educational institutions need to ensure that the use of AI does not replace but complements learning experiences that involve direct interaction with teachers and the community. The use of AI should be supported by a holistic approach to education, which includes direct interaction and spiritual guidance [46].

In the context of educational management, AI can improve efficiency by providing tools for in-depth data analysis, which can help in better decision-making. AI-based systems can monitor student performance, identify trends, and provide recommendations for specific improvements. This allows educational institutions to be more proactive in addressing potential issues and designing more effective strategies to improve student learning outcomes [47].

Overall, the application of AI in Islamic education in the era of transformative digitalization offers great opportunities for innovation but also requires attention and adjustment to ensure that this technology is used in a way that supports educational goals and religious values. With a careful and ethical approach, AI can be a very effective tool in achieving the success of Islamic education while maintaining a balance between technology and religious principles

From the perspective of Islamic education in the era of digital transformation, Artificial Intelligence (AI) brings two main dimensions: opportunities and challenges. AI has the potential to be a very valuable tool in improving the quality of Islamic education, but it also requires special attention to remain in line with religious values [48].

3.6. AI Opportunities in Islamic Education

AI offers a variety of opportunities that can improve Islamic education. First, this technology can increase the accessibility and inclusiveness of education. AI-based e-learning platforms allow students from various backgrounds and geographical locations to easily access teaching materials and religious guidance. For example, AI-based applications can provide learning materials such as interpretations of the Qur'an and hadith in an interactive and adaptive way tailored to the level of understanding and individual needs of students. This makes it easier to convey religious knowledge to more people without being limited by time and place constraints [49].

Second, AI can enhance the effectiveness of learning through personalization. AI-based learning systems can identify students' strengths and weaknesses in understanding the teaching material and provide appropriate recommendations for practice and reinforcement. This allows for a more individualized and tailored approach to each student's needs, which is important in the context of religious education that often requires deep and reflective understanding. With the support of AI, teachers can focus more on aspects of teaching that require direct interaction and spiritual guidance, while technology handles more routine and administrative tasks [26].

3.7. AI Opportunities in Islamic Education

However, the application of AI in Islamic education also faces some significant challenges. One of the main challenges is ensuring that the technology does not ignore Islamic religious and ethical values. AI must be designed with Islamic principles in mind to ensure that the teaching materials and interactions provided do not deviate from religious teachings. For example, the use of AI to teach fiqh or morals must involve supervision from religious scholars and educators to ensure the

appropriateness of the content. There is a risk that AI-generated materials could ignore the cultural and religious context that is important in teaching Islam [50].

In addition, there is a risk that reliance on technology may diminish the importance of human interaction in religious education. Islamic education often involves spiritual guidance and learning from life experiences that cannot be fully accommodated by machines. It is important to maintain a balance between the use of technology and direct interaction with teachers and the community, which is an integral part of the religious education process. Direct engagement in discussion and reflection with experts and fellow believers remains essential to understanding and internalizing religious values [51].

Overall, AI in Islamic education in the digital era offers great opportunities for innovation and efficiency but also faces challenges that require serious attention. With careful planning and implementation, AI can be a tool that supports Islamic education by increasing access and personalization while still respecting and preserving religious values. Islamic educational institutions must continue to adapt to technological developments while ensuring that religious values remain at the heart of the learning experience [52].

4. Conclusion

Based on the results and discussion to answer the problem formulation above, it can be concluded several important points that Artificial Intelligence (AI) is a subfield of computer science that is created to create artificial intelligence that has a mindset and behavior like humans and even works more effectively than human work. Artificial intelligence (AI) is very useful in all sectors of human life, including the education sector. However, AI can cause harm if misused. The task of Islamic Education in the era of the development of Artificial Intelligence (AI) is to prepare students to have the ability to compete in this global era while still adhering to religious values based on the Qur'an and Hadith.

The researchers recommend further research, namely: To implement AI successfully while maintaining Islamic values, Islamic educational institutions can take several practical steps: first, integrate AI into the curriculum by ensuring that the content and applications used are in accordance with Islamic principles and support religious values. Second, provide training to teachers on the effective and ethical use of AI and how to combine it with traditional teaching methods. Third, guidelines and policies for ethical monitoring and evaluation of technology should be developed, including regular examination of AI content and its impact on students' spiritual development. With these steps, educational institutions can harness the potential of AI to improve the quality of education without sacrificing fundamental religious values.

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