
Harmonization of Artificial Intelligence (AI) in Indonesia: Exploration of Technology and Ethics in Islam

Mufidah

Sebelas Maret University
mufidah.amin@student.uns.ac.id

Hartiwiningsih

Sebelas Maret University

Isharyanto

Sebelas Maret University

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Corresponding

Author:

Mufidah
mufidah.amin@student
.uns.ac.id

ABSTRACT

Indonesia is one of the countries that agrees that Artificial Intelligence has a positive influence on human life. The presence of Artificial Intelligence as a form of technological progress simultaneously also raises various ethical challenges such as issues of privacy, justice, uneven social impacts and even ignoring the decline in moral values. Therefore, in this article we will explore how Artificial Intelligence can influence human dignity and freedom, then also how technology can influence human relationships with the universe and its creator which is developed through a regulatory framework that takes into account religious ethical values in the Islamic view so that they have a guide to the use of Artificial Intelligence. This research is normative legal research, the author uses three approaches which include: (a) philosophical approach, (b) statutory approach, (c) conceptual approach. The primary data for this research are: (1) Primary legal materials consisting of: the 1945 Constitution of the Republic of Indonesia, Electronic Information and Transaction Law no. 11 of 2008 along with government regulation no. 71 of 2019 concerning Implementation of Electronic Systems and Transactions as well as the Quran, Hadith and Ijtihad (2) Secondary legal materials consisting of: books, legal journals, expert opinions. The results of this research show two things, namely: (1) The blurring of privacy protection due to the application of AI systems in various aspects of life so that artificial intelligence accompanied by technological advances needs to be evaluated. (2) There must also be someone who ensures the security of the system, and establishes an appropriate responsibility framework.

Keywords: Islamic Ethics, Artificial Intelligence, Technology

ABSTRAK

Indonesia adalah salah satu negara yang percaya bahwa AI (artificial intelligence/kecerdasan buatan) dapat meningkatkan kehidupan manusia. Sebagai salah satu bentuk kemajuan teknologi, AI memunculkan dilema etika seperti privasi, keadilan, dampak sosial yang tidak merata, dan mengabaikan

kemerosotan moral. Artikel ini akan mengkaji bagaimana AI dapat mempengaruhi martabat dan kebebasan manusia, serta bagaimana teknologi dapat mempengaruhi hubungan manusia dengan alam semesta dan Tuhan, yang dikembangkan melalui kerangka peraturan yang mempertimbangkan nilai-nilai etika agama Islam untuk memandu penggunaan AI. Penelitian ini merupakan penelitian hukum normatif, penulis menggunakan tiga pendekatan yang meliputi: (a) pendekatan filosofis, (b) pendekatan perundang-undangan, (c) pendekatan konseptual. Data dalam, penelitian ini terdiri: (1) Bahan hukum primer yang terdiri dari: Undang-Undang Dasar Negara Republik Indonesia Tahun 1945, Undang-Undang ITE No. 11 Tahun 2008 beserta Peraturan Pemerintah No. 71 Tahun 2019 tentang PSTE serta Al-Qur'an, Hadist dan Ijtihad (2) Bahan hukum sekunder yang terdiri dari: buku-buku, jurnal-jurnal hukum, pendapat para ahli. Hasil penelitian ini menunjukkan bahwa semakin kaburnya perlindungan privasi akibat penggunaan sistem AI di berbagai sektor kehidupan mengharuskan adanya tinjauan ulang terhadap AI, dan kemajuan teknologi.

Kata kunci: Etika Islam; Kecerdasan Buatan; Teknologi

INTRODUCTION

Artificial intelligence or what is called Artificial Intelligence (AI) has expanded the impact of its development in various aspects of human life. AI is often associated only with the world of technology because it is related to the existence of a part of computer science today which has been developed in various aspects of life, namely medical technology, automotive, finance, consumer services (increasing efficiency and productivity), even AI is now also involved to carry out analysis (Iqrimah, 2023). Therefore, in general, the presence of AI (Artificial Intelligence) is felt to have provided many benefits for human needs. However, along with advances in technology, various ethical questions also arise regarding the morality of its use and impact.

Some controversies over the use of AI in various parts of the world include the spread of misinformation content, the rise of plagiarism and the irresponsible use of data. Cambridge Analytica, a political consulting company, found that approximately 87 personal data were misused for the purposes of the Presidential election campaign.

United States in 2016 which was also used in the Brexit referendum vote leave campaign. Next was the controversy over the photo-scraping scandal by International Business Machines (IBM) Corporation, an American multinational technology company in 2019 that involved at least one million human facial images to carry out Artificial Intelligence -based human facial recognition in the use of social media to obtain users' personal data. In another controversy that is being debated in the use of Artificial Intelligence is the rise of plagiarism which is disturbing and has spread in various sectors related to the impact and ethical risks it produces. The real

impact in the crime of plagiarism is the decline in morality, loss of responsibility, deepfakes becoming commonplace, to ignoring opportunistic attitudes (Witono, 2024).

Indonesia is one of the countries that agrees that Artificial Intelligence has a positive influence on human life. Of the ten countries that were respondents in the survey, Indonesia was ranked first with a percentage of 78%, according to data quoted from Databoks (Annur, 2023) as follows:

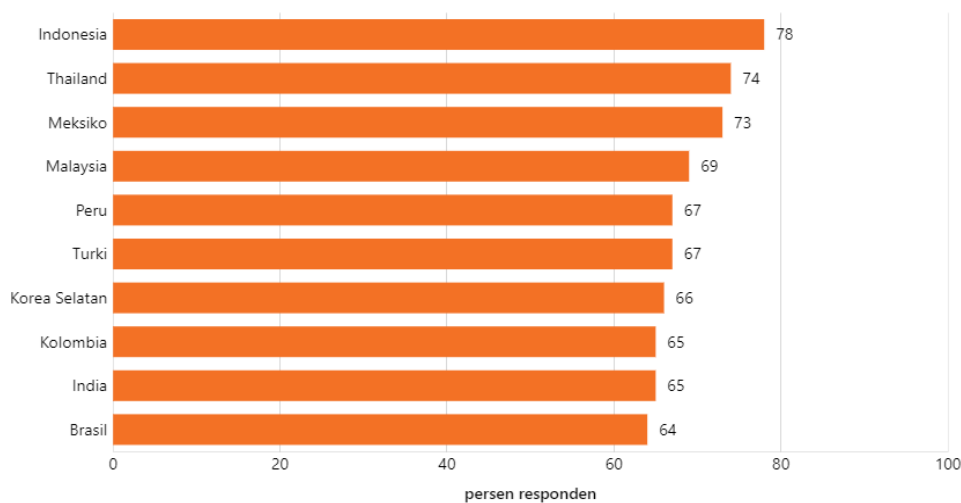


Figure 1. List of 10 Countries Most Agree That Artificial Intelligence/AI Brings More Benefits Than Harms in 2023

This table proves that the level of use of Artificial Intelligence in Indonesia is very high, this cannot be separated from the positive influence that has provided many benefits for life needs with the use of technology in Indonesia.

Referring to the statement by the Deputy Minister of Communication and Information, Nezar Patria, that Indonesian workers are currently using Artificial Intelligence with data on 22.1 percent of Artificial Intelligence being used for various work sectors. Even Artificial Intelligence has succeeded in helping various service sectors ranging from information, communications, financial services and insurance, government and defense (Prasasti, 2023). In public services in particular, a citizen-centric approach has been developed as implemented in the Jakarta Smart City (JSC) initiative, which has the impact of Artificial Intelligence which has helped to improve public services in terms of speed and quality of service, and this is an example and pioneer in the use of AI (Artificial Intelligence) based technology can be used to help realize smart governance (Tempo, 2023). The advantages of using artificial intelligence (Artificial Intelligence) in Indonesia, apart from helping workers personally, basically also make a positive contribution to the country in terms of economic growth, at least based on the

22.1 percent data, the Statista and Kearney & CSET institutions predict Indonesia's economic growth of USD 366 billion or the equivalent of 40 percent of ASEAN's gross domestic income in 2023, even the investment value has also increased based on the potential for developing artificial intelligence, considering the high research output produced regarding Artificial Intelligence which has driven this investment figure.

According to reports from the Organization for Economic Co-operation and Development (OECD), there are accumulatively 124,251 scientific publications on Artificial Intelligence (Tempo, 2023), where this number is the highest number among ASEAN countries which has a direct impact on increasing investment in Indonesia, which averages at USD 23 million (around IDR 351,670 billion rupiah). The growth in investment figures exceeds several ASEAN countries consisting of the Philippines (USD 11 million), Singapore (USD 10 million), Thailand (USD 6.4 million), Malaysia (USD 4 million) and Vietnam (USD 3.9 million) referring to this data, of course Indonesia has a great opportunity to become the navigator of the development of artificial intelligence technology in Southeast Asia, although at the same time challenges are also emerging and becoming problems in Indonesia.

The various opportunities for the presence of Artificial Intelligence in Indonesia have had a positive impact and benefited Indonesia's economic development, but of course ethical challenges are a fundamental point that must continue to be explored so that technological progress can be in harmony with the nation's personality as well as the ideological values instilled by its leaders. founder of the nation. In its national ideology, Indonesia states in the first principle "Belief in One Almighty God" as a form of confirmation that the Indonesian nation recognizes the existence of God (*Four Pillars of National and State Life, Cet. First, Secretariat General of the MPR RI*, 2012). This affirmation was then regulated in the constitution, Article 29, Article 1 of the 1945 Constitution of the Republic of Indonesia, which reads "The state is based on belief in the Almighty God", meaning that Indonesia as a nation affirms the personality that is inherent in the life of its nation as well as being the principle of state administration, namely based on divine values (Mujiburrahman, 2011). Divine values represent a fundamental ethical and religious tenet, originating from the teachings of divine morality as espoused by various religious traditions and the personal beliefs of individual adherents. These values are to be embraced and implemented by those who adhere to a particular religion.

Ethical-religious fundamentals contain the meaning that divine values as the basis of the state have a transcendental dimension in the practice of life and statehood which cannot be separated from the 'sovereignty of God' where religious teachings are not only symbols but as

guidance and guidelines for life (Hidayat, 2021). It is imperative that technological advancements such as artificial intelligence be evaluated in conjunction with religious ethical values, particularly in the context of Islamic studies. According to the Royal Islamic Strategic Studies Center (RISSC), Indonesia is the most populous Muslim country in the world, with a Muslim population of 237.56 million, representing 86.7% of the total population. This figure represents 11.92% of the global Muslim population (Kusnandar, 2021).

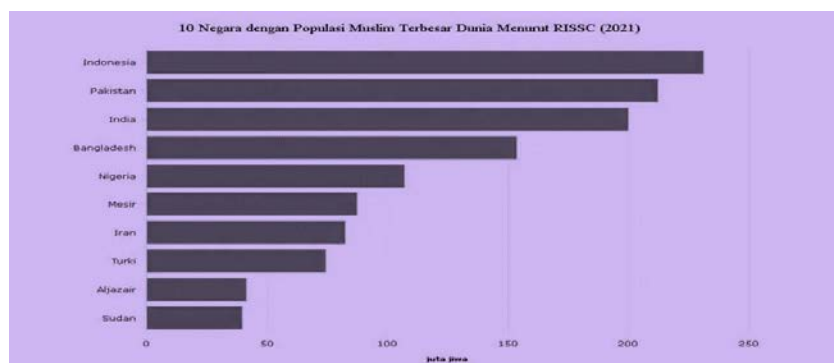


Figure 2.

In the order of a person's life, religion has a function as a value system that contains norms which generally become a reference in behaving and behaving in order to be in line with religious teachings which are irrational in nature (Mulyadi, 2016). Religion provides a framework for ethical behavior, offering guidance on how humans should conduct themselves in social interactions. Religious ethics help individuals distinguish between morally acceptable and unacceptable actions, with the understanding that these choices have implications for the afterlife.

As previously elucidated, the advent of artificial intelligence (AI) as a form of technological advancement gives rise to a plethora of ethical quandaries. These include concerns pertaining to privacy, justice, disparate social impacts, and the potential exacerbation of moral decline. Therefore, in this article we will explore how Artificial Intelligence can influence human dignity and freedom, then also how technology can influence human relationships with the universe and its creator which is developed through a regulatory framework that takes into account religious ethical values in the Islamic view so that they have guide in using Artificial Intelligence, then with this guide it is also hoped that ethical values in Islam provide limitations that become principles in using Artificial Intelligence.

RESEARCH METHOD

This research is normative legal research (legal research) (Soekanto, 1984), to find the truth with scientific logic in a normative perspective, which is not limited to statutory regulations, jurisprudence (in the context of Positive Law) but also to sources of Islamic law, namely the Qur'an and Hadith. As stated by Hans Kelsen regarding the rules made by the authorities as the legitimacy of legal products (Ibrahim, 2013). It is evident that material legal sources play a pivotal role in shaping the legal framework surrounding Artificial Intelligence. Given that Indonesia is a nation where four distinct legal systems coexist—namely, the Western, Islamic, National, and Customary legal systems—the implications of AI on these systems must be carefully considered. Furthermore, in order to develop academic arguments, the author uses three approaches which include: (a) A philosophical approach which is related to ethical values in law and also ethical values in Islam, (b) A statutory approach to study at the same time. explains juridical problems regarding development Artificial Intelligence and its growth potential in Indonesia (c) Conceptual approach to analyze the dynamics of opportunities and challenges Artificial Intelligence in Indonesia (Marzuki, 2011).

In this research, the data used is primary data obtained from (1) Primary legal materials consisting of: 1945 Constitution of the Republic of Indonesia, Electronic Information and Transaction Law No. 11 of 2008 along with government regulation no. 71 of 2019 concerning Implementation of Electronic Systems and Transactions as well as the Qur'an, Hadith and Ijtihad (2) Secondary legal materials consisting of: books, legal journals, opinions of legal experts, and jurisprudence related to decisions relating to the Electronic Information and Transaction Law that are relevant to discussion of this article. Using a collection technique by means of library research to search for legal documents and formal legal sources that are references in this research. Researchers assume that the library research method is the most compatible research method for use in normative legal research, especially for analyzing discussions of Artificial Intelligence.

RESULTS & DISCUSSION

To arrive at a discussion related to the Harmonization of Artificial in Indonesia: Exploring Technology and Ethics in Islam, the discussion in this article is divided into the following sub-discussions:

1. Technological Advances and Artificial Intelligence

Technological progress certainly has a big influence on human life. Where this progress is then used by humans to achieve technological goals through the results of human rationality to facilitate various life needs (Martono, 2012). Furthermore, over time human rationality has produced various technologies that are quite complicated, but in the end the existence of this technology is used as a tool to achieve the goals of human life. One of them concerns the development of science and artificial intelligence, known as Artificial Intelligence. Based on previous literature, AI has been predicted to be a technology-based computer processing concept that can be operated on personal computers, which is one of the latest breakthroughs in this era.

Furthermore, this processing is a method of solving problems by adopting human form, character and habits in living life (Kusumawati, 2008). Artificial intelligence offers both a medium and a test of intelligence theory. These kinds of theories can be expressed in computer program language and proven through their execution on a computer so that they can be more easily understood and can be applied to problem solving and decision making. In its development, computers functioned as data processing and information producing tools. Even computers also play a role in the decision-making process.

Not satisfied with just this function, computer experts are still continuing to develop the sophistication of computers so that they can have human-like abilities which were mentioned in the introduction and initial discussion regarding Artificial Intelligence. According to Jacob Turner, AI is the ability of an artificial entity to make choices through an evaluation process as a process of consideration and/or adjustment to constraints (applied principles or rules) which is carried out before the AI makes a choice/conclusion (Turner, 2019). Another definition was presented by John McCarthy who stated more specifically that AI is an attempt to model human thought processes and design machines so that they can imitate human behavior (McCarthy, 2007).

Islam interprets Artificial Intelligence as quoted by Prof. Dr. Mohd Zakree Ahmad Nazri defines AI as science and engineering that focuses on computer methods for programming applications and intelligent machines by imitating human intelligence (M.Z, n.d.). The development of AI in Islam can also be considered a scientific development. Furthermore, some Muslims adhere to the understanding that science is neutral knowledge, where scientific development does not depend on a person's religion. This is because the increasingly rapid development of technology has led to the development and expansion of

the scope that requires the presence of artificial intelligence. Smart characteristics are starting to be needed in various scientific and technological disciplines. Artificial intelligence is not only dominant in the field of computer science (informatics), but has also penetrated various other scientific disciplines (Zohar & Ian, 2001).

Apart from that, the field of artificial intelligence seeks to understand intelligent entities in humans which are then implemented in the form of intelligent behavior automation using computer media. But unlike the fields of philosophy and psychology, which are also related to intelligence through human input and using knowledge through simulations of human reasoning and thinking processes to solve various problems (Kristanto, 2004).

The input provided to an artificial intelligence system is in the form of a problem domain and must be equipped with a set of knowledge from the knowledge base. Such knowledge may be obtained from experts, or it may be automatically extracted from libraries or databases. In order for the system to be able to draw conclusions based on facts or knowledge, it must possess an inference engine. So, the inference engine acts as an executive who decides the running of the system. The output provided is a solution to the problem as a result of inference (Kusumadewi, 2003).

Inference itself is a process used by expert systems to produce new information from information that is already known. In an expert system the inference process is carried out in a module called an inference engine. No matter how much information the user gives to the computer, with a very fast information processing process based on applicable rules and criteria, the computer can still find a solution. This shows that everything he does is an experiment on various alternatives in an effort to find several combinations of information that match the designed criteria so that a solution can be achieved.

Nevertheless, it is evident that technological advancement has two opposing effects, namely beneficial and detrimental, particularly in the context of artificial intelligence. The consequences of technological advancement, particularly in the field of artificial intelligence, are inescapable. One of the most evident and immediate effects is the erosion of privacy safeguards due to the integration of AI systems into numerous facets of modern life. This, in turn, has led to a curtailment of the fundamental human rights to freedom and the right to private life.

A common problem that always arises is regarding the responsible use of AI systems. This problem refers to the existence of moral considerations in every AI development in its correlation with human life. Furthermore, the disruption of artificial intelligence also

concerns how humans today view the importance of privacy as an essential element in living as a human being with dignity. This shows that contemporary problems regarding moral considerations are crucial to technological progress in human life.

The presence of AI has changed many systems in life, including the closest ones, namely the economic, education, employment and government systems. Many people will lose their jobs, and anxiety will arise among young people who are not ready to face the challenges of the new world of employment which demands something more, due to the application of AI in the world of work (Mahdiraji & H, 2022).

What is also no less urgent is the mindset and way of acting of today's humans regarding invisible dimensions, namely human dignity, namely autonomy, freedom and privacy (Kateb, 2011). One important element when talking about artificial intelligence is data as fuel for artificial intelligence technology. One of the purposes of this data is to understand the intentions, desires and interests of users, which can vary greatly (Taulli, 2019). Artificial intelligence technology is getting faster and moving exponentially over time. However, this has resulted in increasingly widening gaps between nations. Consumer country data will automatically be controlled by developed countries or Megatech companies (Andrasto, 2013).

Users of social media platforms will become providers of data for certain interests, both by the state and by companies. Recently, social media has been shocked by the Pegasus Project scandal, a spyware created to retrieve data from personal smartphones or certain targeted individuals (Hermawan, 2016). Even though freedom and privacy are essential things in human dignity.

The use of artificial intelligence technology that is not based on mature ethical considerations can violate the principles of respect for human dignity. Furthermore, the absence of clear regulations and sanctions will weaken human dignity as those who have the right to freedom and privacy. Especially if technological progress is not framed properly and can only be seen dimly and citizens' privacy is completely lost in the surveillance of dictatorial spies. In a situation like this, people can no longer talk about freedom as a right of every individual.

Simply put, artificial intelligence accompanied by technological advances needs to be a comprehensive evaluation regarding the impact of technological developments, especially AI artificial intelligence, considering that privacy protection for each individual has not

been accommodated effectively. Apart from that, the convenience offered by technological advances is also accompanied by a domino effect which can have an impact on human life.

2. Indonesia and Religious Ethics as a National Ideology

The survival of the Indonesian state and nation requires us to preserve the ideology of Pancasila, so that the nation's future generations can continue to appreciate and practice it and so that the values of this ideology are maintained and serve as guidelines for the Indonesian nation throughout time and for the Indonesian nation in implementing it in national and state life. Efforts to implement the Pancasila ideology in everyday life are a form of maintaining the integrity of the Indonesian state. Because if the Indonesian people do not instill and implement this ideology, problems will come from various aspects that can harm themselves and others (Fuad, 2012). Maintaining the integrity of the Pancasila ideology is something that we as Indonesians can do in maintaining the integrity of our nation and state. Pancasila is the basis of the state, ideology, and outlook on life that must be guided by the Indonesian people in the process of organizing national and state life in realizing the ideals of the proclamation of independence. The values contained in it are values extracted from national culture and have basic values and ideologies that are universally recognized and will not change.

Pancasila as a way of life for the Indonesian people in the life of the nation and state has the aim of forming its society into *Pancasilaists* through every Pancasila value. A Pancasila society can be seen from all its actions which are in accordance with every Pancasila value. It is not only social life that must align with Pancasila; the government system must also be consistent with the nation's ideological foundation, namely Pancasila. The implementation of Pancasila values represents a manifestation of Pancasila ethics, which is founded upon the tenets of moral principles that guide human conduct.

As an ethical system that refers to the values of the Pancasila principles, the implementation of Pancasila ethics can be seen in each of its principles, namely; (Shaleh, 2019)

1) Precepts of Belief in One Almighty God

The first principle in Pancasila shows that Indonesian society is a society that believes and is devoted to God in accordance with their respective religions and beliefs. In the midst of the diversity of society, in this case the implementation of the Pancasila ethical system is strong tolerance for mutual respect and respect for the religions and beliefs of other individuals. This is done so that social life is always peaceful and

peaceful. Indonesia as a country founded by religious communities is one of the goals of humans who have a belief system in God Almighty. Neither the state nor any individual in society has the right to force other individuals to convert to their religion. The existence of freedom in choosing beliefs is also an implementation of the Pancasila ethical system in the first principle (Zoelva, 2012). Apart from that, implementing an ethical system also applies if Indonesian society as a religious community makes every teaching of their religion a guide for their lives.

2) The Principles of Just and Civilized Humanity.

Human values in this case relate to the recognition of the honor, dignity and status of humans as creatures created by God Almighty. As fellow human beings created by God, society can implement this by equalizing rights and obligations without looking at existing differences. As humans of the same rank, the thing that must continue to be developed is cooperation and mutual respect. In this second principle there is also the value of justice. This value is implemented by having a brave attitude in defending applicable justice and truth. The source of this human value comes from the nature of humans as a composition of soul and body in their composition with natural characteristics as individual creatures and social creatures, as well as their position as independent creatures of God. Implementation in the Pancasila ethical system of this second principle can also be carried out with mutual respect for other individuals as complete individuals in managing the rights that have become their nature as the integrity of their existence as social beings (Amri, 2018).

3) The Principle of Indonesian Unity The principle of mutual cooperation which is well ingrained in Indonesia is closely related to this third principle. Where the principle of unity is always the main thing in pluralism. There are no longer the terms majority and minority, everyone merges and unites to form the Unitary State of the Republic of Indonesia. The implementation of the Pancasila ethical system in this principle is when Indonesian society prioritizes the principles of unity, unity and safety of the nation above personal or group interests (Hudiarini, 2017). In this instance, it signifies that the Indonesian populace is amenable to making compromises for the collective benefit. This disposition to make sacrifices is rooted in a sense of affection for the Indonesian homeland, which gives rise to a desire to establish order and preserve peace within the nation. The concept of unity based on a love of the homeland can be developed by

implementing the *Bhinneka Tunggal Ika* verse as a unifying force that transcends existing differences.

4) Popular Principles Led by Wisdom in Deliberation/Representation.

This contains the value of deliberation where decisions are always respected, upheld and accepted by all parties involved in the deliberation. This decision must also be implemented with full responsibility by prioritizing collective interests rather than personal or group interests. Deliberation to reach consensus in this case can also develop a sense of freedom, independence and togetherness (Soeprapto, 2013). The ethical system implemented can be reflected in the implementation of rights and obligations as citizens, always paying attention to the priorities of the state's interests and the interests of society.

5) The Principles of Social Justice for All Indonesian People

Social justice must be realized by realizing the rights and obligations of the people of a country. Its implementation in the Pancasila ethical system is reflected in the attitude of mutual cooperation and kinship. Apart from that, the implementation of the Pancasila ethical system in this principle leads to a sense of respect for others, such as respecting other people's work, respecting other people's rights, and respecting other people's efforts (Yudhyarta, 2020).

Divinity as an essential and fundamental religious value, within the Pancasila framework, reflects the ethical and moral commitment of the Indonesian people to organize a public-political life based on moral values and noble character. The principle of belief in the Almighty God which is placed in the first principle of Pancasila, because of the nature of its hierarchical-pyramidal structure and position, must animate the other four that are below it. It is expressly stated that one of the four main ideas in the Preamble to the 1945 Constitution is "a state based on the belief in one Almighty God on the basis of just and civilized humanity". This basic idea is understood to mean that the Constitution must contain content that requires the Government and other state administrators to always strive to build and maintain noble human character, as well as uphold the high moral ideals of the people (Habibullah, 2019).

It is imperative to acknowledge the ethical commitment to the Almighty God in a proportionate manner. This entails recognizing that Pancasila is not a religion and does not occupy an equal position with religion. It thus follows that Pancasila is without the authority to regulate belief systems, worship systems, norm systems, and religious

identities in the private sphere and within the domain of each religious community. The concept of Godhead within the Pancasila framework is positioned as a means of identifying common ground in a spirit of mutual cooperation, with the objective of providing a robust moral foundation for state political life based on the morality of religious teachings. It is within this framework that the Indonesian State can be said to not be an extreme secular state, which pretends to corner religion only in the private sphere, because the first principle of Pancasila clearly requires that Godly values underlie public political life (Sumartana, 2000). The state is also expected to protect and support the development of religious life as a means of fostering ethical values in public life.

On the other hand, Pancasila does not also lead to the formation of a religious state that represents one of the aspirations of religious groups, because that would bring religious tyranny and kill national plurality, as well as making adherents of other religions into second-class citizens. The presence of Islam as the majority religion in Indonesia does not make Islam privileged above other religions.

The 1945 Constitution reflects the spirit of the middle way in the push and pull of the debate on the relationship between religion and the state. This idea of a middle path is defined negatively as “neither secular nor state-religious”. The 1945 Constitution, which in the Preamble contains Pancasila, can be said to be present in the construction of the uncertain relationship between religion and the state. This uncertainty can be seen in the formulation of Article 29 paragraph (1) which determines “The State is based on Belief in One Almighty God”, and Article 29 paragraph (2) which reads “The State guarantees the freedom of each resident to embrace their own religion and to worship according to his religion and beliefs”(Rachman, 2018). The spirit of not making the Indonesian State secular or religiously neutral has been demonstrated from the start in the Investigation Board for Preparatory Efforts for Independence (BPUPKI) trial (Putri & Dewi, 20218). Recognition and respect for religion by the State is demonstrated by the establishment of the Department of Religion, thus proving that the Indonesian State has authority in religious matters. These initial initiatives apparently did not develop significantly, because state policy on religious issues was almost entirely based on the existence of the Department of Religion.

3. Challenges of Using AI and Legal Regulations Based on Religious Ethics in Indonesia

Talking about the use of AI certainly cannot be separated from technological development and unlimited innovation potential. Artificial intelligence has transcended the limitations of conventional technology and changed the way we work, interact and access information (Kurniawijaya, n.d.). Based on data reported from the official website, the use of AI in various parts of the world is increasing rapidly, especially in Asian countries, for example, the following diagram shows several Asian countries that use AI.

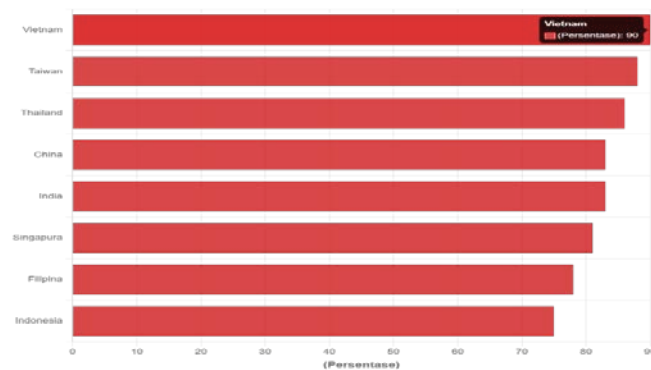


Figure 3.

The diagram above shows that interest in the use of AI in countries is starting to be taken into account to make human life easier, however technological progress in today's life is faced with challenges of complexity that characterize the progress of AI artificial intelligence. For example, the World Economic Forum report, there will be around 14 million world jobs that will disappear in the next 5 years due to AI. Not only that, a Goldman Sachs report revealed that around 300 million permanent jobs in the world will be replaced by AI. This threat is certainly very dangerous for human survival.

One of the creators of AI, Geoffrey Hinton, expressed concern that AI will one day become smarter than humans. The threat of AI invasion in the employment sector is also felt in Indonesia. According to the Work Trend Index 2023 report launched by Microsoft, 75% of respondents stated that they would use AI in carrying out their daily tasks and work. This places Indonesia in 8th position in the Asia Pacific country with the most predicted AI users in 2023. The first position is held by Vietnam with predicted users of 90%. Taiwan is second with 88% and Thailand is third with 86% (Indonesia, 2023).

Furthermore, as AI develops rapidly, legal challenges arise that require in-depth reflection and adjustments to existing regulatory frameworks. It is feared that AI will threaten various job sectors in the world (Agnez, 2023). These challenges are not just technical, but include dimensions that reach deep into ethics, privacy, security, and social impact. This research seeks to carefully explore and analyze the complexity of legal challenges that arise along with the development of artificial intelligence technology.

As human growth and development become increasingly complex and multifaceted, a multitude of novel issues continue to emerge. To address these challenges, it is imperative that humans engage in continuous learning and research to gain a deeper understanding of the universe and ensure their continued survival. As stewards of the Earth, humans have been entrusted with the responsibility of fostering prosperity on this planet. Accordingly, Allah SWT has directed humans to engage in the study and investigation of the universe, with the objective of resolving a multitude of issues and enhancing the quality of life, thereby facilitating the realization of this prosperity. Among the verses in the Qur'an that command humans to study the universe is QS. Yunus verse 101:

قُلْ أَنْظَرُوا مَاذَا فِي السَّمَوَاتِ وَالْأَرْضِ ۚ وَمَا تُغْنِي ۙ آلْءَايَاتُ وَالنُّذُرُ عَنْ قَوْمٍ لَا يُؤْمِنُونَ

Meaning: Say (Prophet Muhammad), "Pay attention to whatever is in the heavens and on the earth!" These signs (of Allah's greatness) and warnings (to avert Allah's punishment) are of no use to those who do not believe.

QS. Luqman verse 29

اللَّهُ يُؤَلِّمُ الْبَالِغَةَ النَّهَارَ وَيُؤَلِّمُ النَّهَارَ فِي اللَّيْلِ وَسَخَّرَ الشَّمْسَ وَالْقَمَرَ كُلًّا يَجْرِي إِلَىٰ أَجَلٍ مُّسَمًّى وَأَنَّ اللَّهَ

Meaning: Have you not noticed that Allah has put the night into the day, the day into the night, and subdued the sun and the moon, each of which circulates until the appointed time? (Haven't you also noticed that) indeed Allah is very careful about what you do?

QS. An-Nahl verse 12

وَسَخَّرَ لَكُمُ اللَّيْلَ وَالنَّهَارَ وَالشَّمْسَ وَالْقَمَرَ ۗ وَالنُّجُومَ مُسَخَّرَاتٌ بِأَمْرِهِ ۗ إِنَّ فِي ذَٰلِكَ لَءَايَاتٍ لِّقَوْمٍ يَعْقِلُونَ

Meaning: And He subjected the night and the day, the sun and the moon to you. And the stars were subdued (to you) by His command. Indeed, in that there are indeed signs (of Allah's power) for a people who understand (them).

As Muslims, we must start thinking and discussing how Muslims live according to the Qur'an for future development. Because, if we do it too late, then we will be slow in advancing Muslim society and will not be ready when the time comes. In the article entitled Future Interaction between Man and Robots from Islamic Perspective, it examines the interaction of AI robots with Muslims through three scopes, namely *nas* (human), *fiqh* (understanding) and *tabayyun* (investigation). In summary, we can accept AI robots as only resembling humans but never as humans. This is because no living creature can create a better form of life than Allah SWT. However, when we accept their existence, *fiqh* and *fabayyun* will become a problem. Some of the issues discussed include replacing the companionship of deceased loved ones with companion robots and the readiness of Muslims to consume halal food prepared by AI robots (Dahlan, 2018).

Islam allows AI within a range that does not resemble any creature. There seems to be no conflict with the use of AI in mass production, automation, and other such types of technology. In HR. Bukhari No. 7559 and Muslim No. 2111 states that "Allah 'Azza wa Jalla said: 'who is more unjust than the person who creates like My creation?' One may create an image of a seed, sow seeds, or plant wheat. This hadith indicates that humans are incapable of creating a creation that rivals Allah SWT's creation. A significant number of scholars have issued a strict prohibition against the use or creation of robots that are designed to resemble humans. However, it has not been determined the level at which robots (or other forms of humanoids) are considered equal to the creation of Allah SWT. AI is allowed as long as it does not harm society, ethics and humanity (Islam, 2018).

Artificial intelligence itself aims to understand that artificial intelligence technology not only creates tools and systems capable of performing tasks previously performed by humans, but also enters areas that have deep legal implications. With its ability to process and analyze massive amounts of data, the legal questions that arise include individual privacy, system security, legal liability, and more.

Considering that artificial intelligence has the potential to eliminate the barriers to private life that are the rights of every human being. This concerns the data of each individual which at any time can be misused or taken without the permission of the individual concerned. Artificial intelligence that falls into the hands of a dictatorial leader can paralyze freedom which is a logical consequence of human dignity. Countries need to rise together to create regulations to combat the use of artificial intelligence

which can paralyze the foundations of human dignity. Megatech companies also need to be open and express their firmness to comply with regulations that protect human dignity. From an ethical point of view, human dignity must always be the main consideration in every development because development or progress (technology) itself is intended for the advancement (quality) of human life (Anshori, 2022). The importance of developing ethical guidelines and decision standards for the development and use of AI is therefore important.

This research explores legal measures that can be taken to formulate guidelines and standards that can accommodate the ethical values of society at large. By exploring ethical challenges in AI decisions, this research is expected to provide substantial insight into how the law can help guide the development and use of Artificial Intelligence Technology with full ethical considerations.

Considering that the increasingly widespread use of Artificial Intelligence (AI) technology not only brings innovation, but also raises serious concerns regarding security. Threats to AI systems from cyberattacks and manipulation can have detrimental impacts and require serious legal attention (Sihombing & Yusrizal, 2020). Government regulations and the role of supervisory institutions are important factors in determining AI accountability. Apart from that, efforts by the government and regulators to establish a solid legal foundation to ensure effective accountability are also urgently needed. By discussing the challenges and legal questions surrounding responsibility and accountability in AI, to provide a basis for the development of artificial intelligence systems that are not only innovative but also ethically responsible based on religious ethics in Indonesia.

This is a way to deal with the rapid growth of Artificial Intelligence technology that demands smart regulations to protect public interests while facilitating technological development. Considering that the use of AI in Indonesia is quite significant, therefore the legal regulations that are created must accommodate religious principles, especially regarding the ethics of religious harmonization that exist in Indonesia with various ethnicities and cultures.

The relevance of legal regulation of artificial intelligence which has a religious basis is not just a mere formality given the diversity that exists in Indonesia, but rather it is a main standard that is used as a guideline in these legal regulations. Religious

harmonization must also be maintained completely, without any friction that triggers divisions in the nation's ideology, although technological advances are generally related to artificial intelligence which is in line with world developments, but indirectly, regulations on AI artificial intelligence, especially in Indonesia, need to be harmonized in accordance with religious principles, where it is realized that legal culture greatly determines the legal development of a country in line with social changes that influence law enforcement in that country. In the context of a society like Indonesia, social change occurs in connection with the process of decolonization and modernization of Indonesian society (Hoovelt & Ankie, 1985).

The increasing number of legal issues that have emerged alongside the advancement of artificial intelligence (AI) technology necessitates a meticulous and consistent approach from a legal standpoint. This research examines the legal responses to the key challenges faced in the development and use of AI, with a particular focus on recent developments and potential recommendations to address emerging issues (Ravizki & Lintang, 2022). Regulation and Establishment of an AI Legal Framework Regulation is a key component in responding to AI legal challenges.

This research evaluates the latest regulatory developments and the establishment of a legal framework that aims to provide clear guidelines and maintain fairness in the development of AI technology. Privacy Protection and Data Law The challenges of privacy and data protection in the context of AI receive special attention from a legal perspective. This research examines legal responses to the need to protect individual privacy and provide users with greater control over their personal data (Jaya & Wilton, 2021).

Regulation is a central point in responding to these challenges. The development of clear and relevant regulations is an important step in protecting privacy rights, ensuring system security, and establishing appropriate responsibility frameworks. Regulations must also be able to support the sustainability of innovation without sacrificing ethical values and justice. Privacy and data protection challenges require a strict legal approach to safeguard individual rights and ensure ethical data management. Ethics, as a foundation for the development and use of AI, requires the development of clear codes of ethics and professional standards, especially those with a religious feel. Ethics and Professional Codes of Conduct Ethical considerations in the development and use of AI give rise to the need for the establishment of a consistent code of ethics, so that religious

ethical values and promote the use of AI are responsible and in accordance with the interests of society.

CONCLUSION

The current rapid development of technology has two very contradictory impacts, namely positive and negative impacts regarding artificial intelligence. Of course, the impacts arising from technological advances, especially artificial intelligence, cannot be avoided. One of the closest and most obvious things is the blurring of privacy protection due to the application of AI systems in various aspects of life. Simply put, artificial intelligence accompanied by technological advances needs to be a comprehensive evaluation regarding the impact of technological developments, especially artificial intelligence.

On the other hand, Islam allows AI within a range that does not resemble any creature. There seems to be no conflict with the use of AI in mass production, automation, and other such types of technology. However, this must be accompanied by the development of clear and relevant regulations so that they can protect people's privacy. In addition, there must also be ensuring the security of the system, and establishing an appropriate responsibility framework. Regulations must also be able to support the sustainability of innovation without sacrificing ethical values and justice. Privacy and data protection challenges require a strict legal approach to safeguard individual rights and ensure ethical data management.

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