The Value of Technological Developments Based on An Islamic Perspective

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Abstract

Islamic values cover all aspects of spiritual, intellectual, economic, social and scientific life. An area that has no boundaries of generations and advances in civilization such as Islam has an impact on the value of technological knowledge, messages spread through direct determination, reminders of Allah SWT blessing, proof based on the past, and allusions of science as fact through modern scientific activities. Includes 5 (five) roles of Islam in modern scientific activities, including: as a basis for scientific and technological research; implementation of epistemology; provides answers to scientific research questions, encourages exploration of nature as God's creation; as a form of value in the development of technological science. So this research is made based on an Islamic perspective related to science and technology research, which concludes that Islam provides a positive image of the value of scientific research and innovation in technological development. This research proves that the global Islamic world understands the extraordinary creations of Allah SWT which are manifested through technological science to provide individual and social welfare for human beings, and provide value to scientific technology policies from an Islamic perspective.

Keywords: Islamic Perspective, Technology, Technology Development

1. INTRODUCTION

The science of technology forces scientists to acknowledge the essential need of a Supreme Creator and that is why knowledge must be spread in the spirit of tawhid [1], leading to the recognition of God Almighty as the Absolute sign of the Creator and Ruler of mankind who is so vast and mindless humans on a particular theme or style that contains the fundamental [2][3].
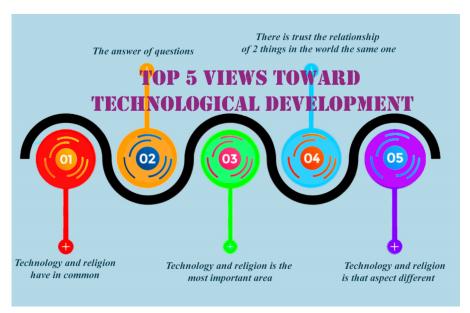

Figure 1. Views of technological development

In figure 1 there are 5 (five) important views related to Islam as the goal of the direction of technology development:

First, the view that believes in the similarity between technology and religion, from asking science questions but does not provide any answers such as: the role that humans play in the creation of religious and technological goals [4], Likewise, faith has a role in science such as belief and the existence of an outside world that is free and cannot provide justification for a problem [5].

Second, the world view that answers questions, according to Charles Townes, answers "*I do not understand how a scientific approach, separate from a religious approach, can certainly explain the origin of everything*". It is true that scientists hope to look beyond an Islamic perspective and perhaps explain the origin of our universe in fluctuations. In fact, the main attraction of muslim scientists in studying the technological aspects of religion is that they consider their research to prove the existence of God [6].

Third, the view of some scholars who consider technology and religion are two fields that have a center including being an important concern, including religion related to God and science with the study of nature which necessitates the incorporation of technological science [7].

Fourth, giving the belief that religion and technology are related to the same world which provides a clear picture of the consistency that occurs, which means that it is needed to unify different comprehensive views to justify scientific activity [8].

Fifth, the view which considers that technology and religion include two different aspects, some are conservative who draw sources based on religious texts and do not give serious responses [9]. The existence of materialist sources is a source of information that is used as a database for the senses and does not believe in God. In this case, it can be called an empirical science which can be explained in various aspects.

2. LITERATURE REVIEW

In the Islamic perspective, humans can explain the truth and exact knowledge with the rules involved in every process of creation from the definition of science [10]. So it is clear that it shows the availability of studying the factuality of the authenticity and reality of a creation in the presence of the verses described. Determination of facts to arrive at appropriate conclusions, systematic identification, and recording of studies conducted [11]. On the basis of summarizing the message conveyed which is stated by proving the verses of the Koran which indirectly accustom oneself to reading, writing, and researching which are obtained from certain spiritual aspects [12]. As proof that the Qur'an was revealed in the 7th century there are many things that are explained about scientific facts which were found in the last hundred years with various phenomena. These verses accurately describe ideas which are consistent with modern observations of the universe. The verses of the Qur'an used in this study have been labeled, as 2:20, and 80: 1-5, which means Chapter 2, Verse 20 and Chapter 80, Verses 1- 5. In Islam too the Qur'an also encourages that one should develop a scientific temperament in his approach and this is clearly and precisely explained [13].

The Islamic perspective in technology science can be interpreted as a process of follow-up to technological developments in order to motivate future generations to establish cooperation based on Islam and technology science to achieve the era of the industrial revolution 4.0 [14]. Indicators of technological development in an Islamic perspective are based on: QS. Al-Anbiya 21:80, Al-Imran 3:190, Al-Nahl 16:78, Al-Baqarah 2:30, with different studies concluded that it affects performance in information data collection related to understanding the science of technological developments [15]. The link between religion and science and technology is stronger with the existence of different studies on all ability indicators, the innovations carried out have a significant correlation with technological developments in the view of Islam [16].

The method of interpretation is something that is different from the descriptive method, with this method having absolute truth how the descriptive method is relative [17]. The formation of the method itself differs from one another depending on the scientists and religious leaders who adapt the subject with a sociocultural background to the cognition of the field of study being carried out. Based on this point of view, Islam can be interpreted as a source of motivation for the value of technological development which is manifested in an Islamic perspective [18]. This activity is carried out in the form of modern scientific research, unifying differences of opinion between scientists and religious leaders, and respecting Allah's creation by observing the beauty and gifts of his creation both in the past; present time; future. An evaluation of the value of technological development required a completely different process due to Islamic requirements [19]. This illustrates the research between scientists and religious leaders from the perspective of the value of technological development. The research objective is to identify and study values that influence development [20], as well as to explore conceptualizations to broaden existing value concepts. Presentation framework regarding the concept to provide an overview of the value of technological development based on an Islamic perspective [21].

3. METHOD

The research method was carried out descriptively, through data collection through interviews. Furthermore, the authors complete the data analysis with literature reviews obtained from previous research journals, proceedings, and the results of other scientific works [22]. In Islam, the basic rules of human life are laid regarding the relationship with God, human interaction, and behavior towards the natural surroundings.

3.1 The position of religion in technology sciences

It has been mentioned above 2 fields that have a longitudinal relationship, such as being able to provide a comprehensive component according to the implementation of technological scientific work [23].
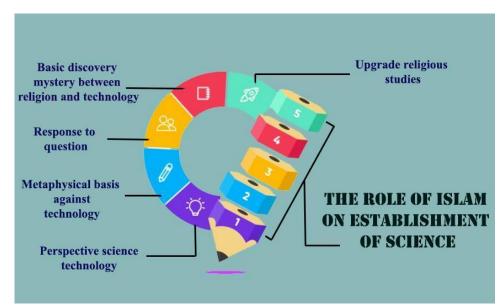

Figure 2. Main points for the formation of science and technology

In Islam Allah has provided an overview of technology in Islam listed in the holy book Al-Qur'an. The purpose of this is to describe it as a learning medium to master various sciences.

The Word of God which describes the naturalness of technology:

وَعَلَّمْنٰهُ صَنْعَةَ لَبُوسٍ لَّكُمْ لِتُحْصِنَكُم مِّنْ بَأْسِكُمْۚ فَهَلْ أَنتُمْ شٰكِرُونَ

"*And We taught David to make armor for you, to sustain you in your battles; So let you give thanks to Allah* (al-Anbiya: 80).

In this verse, Allah SWT told the Prophet David about protective clothing for warfare, the lessons learned by researchers can see the development of making armor specifically designed for combat soldiers as technological developments that have been taught [24].

3.2 Emphasis on the study of Allah creation

That verse Allah SWT told the Prophet David about protective clothing for war, according to the Qur'an [25], of natural phenomena are signs of God, and by understanding these marks, one reaches the recognition of the signs:

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اِنَّ فِيْ خَلْقِ السَّمٰوٰتِ وَالْاَرْضِ وَاخْتِلَافِ الَّيْلِ وَالنَّهَارِ لَاٰيٰتٍ لِّاُولِى الْاَلْبَابِ

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"*Verily in the creation of the heavens and the earth, and the alternation of night and day there are signs for people sensible. They Are those who remember Allah, standing, sitting and lying on their sides and reflect on the creation of the heavens and the earth saying: "Our Lord, not the one you created this in vain, Glory to Thee, then save us from the torment of neraka*" (Al'Imran 3: 190).

So through this verse it explains how great Allah shows how rich Allah is, while his servants really need Him. Only Allah is able to create the universe and everything in it at once to control all the affairs of the creatures in it. However, this cannot be understood unless only people with perfect intellect and sound logic are called ulul albab.

3.3 The role of Islam implements metaphysical principles in science technology

Pillar of Islam is a type of religious activity with the principle of special instruments [26]. The Islamic world view provides a metaphysical basis for all activities of a believing Muslim, including so-called scientific activity. This assertion shows that scientific activity begins with experimentation and observation, the presupposition of scientists is important in choosing their experiments in the choice of theory and their interpretation, this factor is important for the involvement of fundamental theory cases [27]. Empirical information does not lead to a unique theory and has less theory determination than empirical data. Determination of the theory of a scientist with the involvement of metaphysical principles [28]. In the field of atomic physics, there are two versions of quantum theory: the standard formula refutes the principle of causality and bohemian mechanics which respects causality. The choice between these two quantum theory formulations is based on the metaphysical prejudices of scientists [29].

Likewise, in cosmology, it is known that the constant of technological science and religious principles determines the power of attraction which is very harmonious so as to enable the emergence of a technological era without eliminating religious philosophy [30]. Adjustments made by supernatural agents, some cosmologists have proposed an adornment to the multiverse hypothesis, according to which there is a lot of religious science technology based on religious principles, not one [31]. Each of these technologies, in both views, includes its own metaphysical assumptions. As the eminent physicist Paul Davies believed, the designer assumption is much more economical than the multiverse assumption. To control for the invisible infinite science of technology just to explain what seems like an extreme case of excess baggage carry [32].

An important question was found about whether our universe has a purpose?, prominent scientists thought that the more visible and understandable the universe was, the more pointless it was. Another view is that the universe as a world has a purpose. Furthermore, the inability to find goals for technological developments does not mean that there are no goals [33].

3.4 Understanding science and technology in Islam

In science, sensory-based data technology is considered a reliable source of information about the natural world. Although Islam recognizes the importance of the senses in understanding the world, it does not consider sensory-based data sufficient for full understanding to rather emphasize the role of science and technology in the interpretation of empirical data, while also acknowledging the role of intuition and revelation [34]. The existence of technology science with an Islamic world view has a much broader perspective on development that is recognized by the positive view. While the Qur'an gives instructions on the importance of the senses.

وَاللّٰهُ اَخْرَجَكُمْ مِّنْ بُطُوْنِ اُمَّهٰتِكُمْ لَا تَعْلَمُوْنَ شَيْـًٔاۙ وَّ جَعَلَ لَكُمُ السَّمْعَ وَالْاَبْصَارَ وَالْاَفْـِٕدَةَ ۙ
لَعَلَّكُمْ تَشْكُرُوْنَ

"*And Allah took you out of your mother's stomach knowing nothing, and He gave you hearing, sight and conscience, so that you may be grateful*". (Al-Nahl 16:78)

3.5 Responses to asking the main questions

Submission of the main questions can be answered in the words of the leading philosophers regarding human existence on the possibility of the main main questions. According to Peter Medawar, an awardee in the field of medicine, "there are limits to science which allow unanswered questions in scientific and technological advances. This is argued by Paul Davies by asking unexplainable questions that demand that one must go beyond the development of science and technology.

The success of our Scientific explanation, has embedded initial assumptions such as: explanation of phenomena in physical terms. But one can ask where this law came from. One can even question the origin of the logic that underlies all scientific reasoning. Sooner or later we all have to accept something as a gift, whether it is God, or logic, or a set of laws, or some other basis for existence. Thus, the final question will always be outside the sphere of empirical science as it is usually defined.

Based on the two leading physicists, it is obvious that the answers to asking questions come from religion. The greatest unsolved mystery is existence as a vast natural being. Why did it get here?, does nature have a purpose?, the origin of the knowledge of good and bad?. The concept of religion that is embraced by the development of technology arises largely from religious beliefs about the nature of God [35].

Now, since scientific knowledge cannot avoid the answers to our questions about the physical world, some scientists suggest that we look for other kinds of knowledge to find answers to these questions. It seems plausible that an approach other than science mentions music, painting, and poetry as well. with science capturing some of the indefinable from the structure of independent reality. The eminent scientist Charles Townes, considering that only religion can provide a convincing response to the last question, the question of origin does not seem to be answered if we explore it from a scientific point of view alone. Hence, it believes there is a need for a religious or metaphysical explanation if we are to have one.

3.6 The role of religion in the development

Islam guides muslims in the right relationship in the world, God declares that humans are representatives of the earth:

وَاِذْ قَالَ رَبُّكَ لِلْمَلٰۤىِٕكَةِ اِنِّيْ جَاعِلٌ فِى الْاَرْضِ خَلِيْفَةً ۗ قَالُوْٓا اَتَجْعَلُ فِيْهَا مَنْ يُّفْسِدُ فِيْهَا وَيَسْفِكُ الدِّمَاۤ

ءَ ۚ وَنَحْنُ نُسَبِّحُ بِحَمْدِكَ وَنُقَدِّسُ لَكَ ۗ قَالَ اِنِّيْٓ اَعْلَمُ مَا لَا تَعْلَمُوْنَ

"And (remember) when your Lord said to the angels," I will make the caliph on earth. " They said, "Are you going to make someone who corrupts and sheds blood there, while we praise You and purify your name?" Allah said, "Indeed, I know what you don't know." (Al-Baqarah 2:30)

Scientific activity always takes place in a world view, which can be a secular or religious world view [36]. If that happens in a religious worldview, the result must be for the well-being of humankind. Scientific and technological research is aimed at the interests of rich countries and not for the benefit of the thousands of millions of people living in extreme poverty. Medical research is not applied to the lower class society but to the high class society.
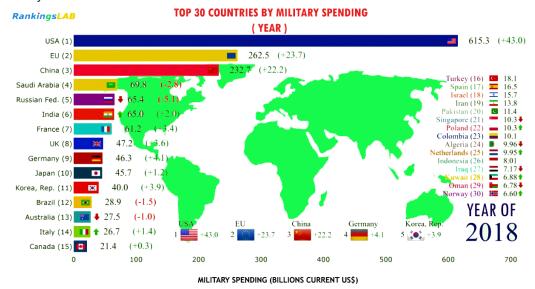

Figure 3. Research graph in 2018

In figure 3 shows that in the USA the budget for the military is very fantastic in 2018, amounting to US$ 615.3 billion per year. The understanding of Islam has resulted in many technological advances, but now we find people around the world abandoning supremacy, a struggle culminating in the building of more and more deadly machines of mass destruction [37]. It can be argued that this trend of modern civilization is so strongly driven by scientific theories that seem to contradict any philosophy of life other than materialism. It may be very difficult to change this dangerous trend. But the essential ingredient for such a change could be the wide spread of a valid approach to scientific knowledge that allows a real spiritual dimension to human life and is compatible with the ancient understanding that mankind is dependent on a transcendental Supreme Being. Such an approach opens up the possibility to direct human energies towards higher spiritual goals and provides a solid ethical basis for the conduct of our material affairs.

The application of religious principles in deciding between theories. The question then arises, can technology really remain neutral towards religion?, if one makes generalizations that are outside the scope of science itself. It is in this generalization that metaphysical assumptions come in, and these are generally not religiously neutral.

4. RESULTS AND DISCUSSION

In Islamic research, there is no doubt that the science of technology has brought enormous benefits to mankind. However, it is misused to harm humanity and the environment [38]. This is due to differences between science and religion, which are rooted in the domination of a secularist worldview among academics. Scientists are exploring this world view by giving the response that technology science should serve mankind rather than harm.

In the Islamic perspective it is stated that technology has theoretical and applied dimensions as the development of science and technology, Islam gives scientists a view that considers God as the creator and preserver of the universe, sees the purpose of the creation of the universe and believes in a moral order [39]. In addition, it provides a metaphysical basis for technological science to assist scientists in shaping decision selection theories. The applied dimension provides precise direction for the Islamic world view as an implementation of technological science and an emphasis on meeting the needs of society. Disagreements about the purpose of scientific activity are rooted in differences in the world views of scientists.

The secularistic world view prevalent among muslim scientists and the Islamic world is lagging behind in technological science and highly dependent on it, because it cannot properly fulfill its basic needs [40]. Therefore, serious steps are needed to overcome deficiency.

Figure 4. How to overcome obstruction

In figure 4 describes the actions that must be taken to overcome the obstruction of technological development:

4.1 Science planning from an Islamic perspective

The most important element in the development of technological science in the Islamic world is the necessity of planning provisions and scientific activities based on the Islamic world view [41]. This element is necessary to differentiate muslim technological products from materialistic results to ensure conformity with the program established by the Qur'an.

4.2 Changes in policy regarding technology

Changes that occur in technology in the modern era are identified without paying attention to the scientific basis to build the right foundation in technological development in Islam [42]. it is the duty of academics to provide appropriate advice to their governments through appropriate channels.

4.3 Sharing golden opportunities for scientists

Both universities and research institutes should pay special attention to brilliant scientists supporting and meeting their needs.

4.4 Concern for the needs

Efforts most muslim countries build technological knowledge capacity. This is often done without paying attention to national needs, socio-economic conditions, cultural identity or moral values [43]. Universities and research institutes must identify the needs and priorities of their respective communities and industries. Determine suitable projects, seek assistance from government and private sector. This requires a strong national interaction between universities and research institutions and the industrial sector.

4.5 Addressing a critical attitude in the academic environment

Having a critical attitude is often weak in the academic environment of the Islamic world and is rarely encouraged. Most universities are merely centers of knowledge dissemination rather than authentically seeking to expand the boundaries of human knowledge [44]. This attitude destroys the creativity of the young scientist.

4.6 Qualified quality

Preference given is an important factor in the form of lower quality products manufactured in the Islamic world [45]. Thus, an important factor in developing self-reliance in the Islamic world is to prioritize the quality of research and its products.

4.7 Attention to specialists

Islamic State Loses most of their capable scientists and technicians due to the lack of internal opportunities, the presence of some avoidable obstacles and the general neglect of IT specialists [46]. In order to reduce the brain drain of muslim scientists, proper attention must be paid to them, respecting their achievements, so that they are encouraged to keep advancing the boundaries of knowledge and meet the needs of their society [47]. In this direction, competence should serve as the main guide in allocating institutional positions and responsibilities [48].

5. CONCLUSION

This research results in testing based on an Islamic perspective, as a dynamic requirement. The selection of technical decisions in this study was carried out to develop the

global value of technology science.

Based on the research conducted, there are identified outcomes that can change the structure of community action regarding modern technology, in this case it provides a dependency on society for the integration of technological development in the era of the industrial revolution 4.0. This research is evidenced by the 5 (five) roles of Islam in technological development: encouraging the exploration of nature as a creation of God Almighty, as an archetype of physical science research, application of epistemology, providing answers to scientific research questions, and as a form of direction for the development of applied technology science.

In this research, the role of Islam in the value of technological development still needs to be studied in depth, in order to prevent the investigation of perspectives among scientists and religious figures whose feedback has been accurately collected. So the main response of muslims who are still not open to the development of technology can be minimized.

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