INTERPRETATION OF MUSLIM VIEWS ON ARTIFICIAL INTELLIGENCE DURING THE COVID-19 PANDEMIC

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Abstract

The article examines the interpretation of Islam adherents' views on artificial intelligence (AI) during the Covid-19 pandemic. The study reveals the following trends: the increasing importance of regulatory actions in the use of AI in religious activities, the rising importance of regulatory and organizational actions in the use of AI in the socio-cultural development of society, the reducing number of opponents of confessional unification. The study discloses several stable connections: escalating social inequality due to the introduction of AI in social life will take place in direct correlation with the income level of the population. The higher the income level, the higher the possibility of AI use, the greater the gap between the rich and the poor. The number of options for the negative impact of AI on society and individuals will rise significantly with the increase in opportunities, forms and methods of uncontrolled introduction of AI in various areas of human activity, from medicine to the military sphere. The obtained results will contribute to theory and practice in the assessment of the nature of the impact of AI on individuals and society during the Covid 19 pandemic by adherents of Islam and other religions.

Keywords: religion, Muslims, individual, security, human potential

1. Introduction

The beginning of the 21st century was characterized by the rapid development of the digital economy and the introduction of AI in various spheres of life. The impact of these processes is complex and contradictory [1].

On the one hand, AI helps to manage human behaviour [2] and train medical personnel [3]. On the other hand, there is a danger of the loss of freedom and individuality, the problems of human replacement by AI [4] and the reduction of 'digital trust' [5] are aggravating.

In these conditions, the Covid-19 pandemic had a major impact on the national and global economy [6; G. Gopinath, *Limiting the Economic Fallout of the Coronavirus with Large Targeted Policies*, March 9, 2020, https://blogs. imf.org/2020/03/09/limiting-the-economic-fallout-of-the-coronavirus-with-large -targeted-policies/?utm_medium=email&utm_source=govdelivery, accessed on 5.05.2020]. Mass restrictions on business and people's movement were introduced [7] and business activity and the number of staff in organizations are reducing [8]. At the same time, the dynamic development of digital technology in the pandemic has ensured the active integration of the capabilities of artificial intelligence in Science, education, business and other areas of social life [9, 10].

In the course of the Covid-19 pandemic, the digital era faces theologians and the representatives of different denominations with issues that have to be prevented through improving the dialogue between Science and religion [11]. The foundation for this can be formed by the prophetic, ethical and theological roles of the community of faith [12]. A strong AI can pose danger to the Christian understanding of human personality and freedom [13].

Theologians seek to adapt the concepts and meaning of the Bible to the environment of the Fourth Industrial Revolution (4IR) that disrupts many images and dogmas with digitalization and AI [14]. The development of religion and spirituality are studied through media in the context of digitalization of all social spheres including spirituality [15]. The research aims to identify the existing types of intelligence and how can AI influence the spiritual realm [16].

The possibilities of the emergence of techno-humans and AI-human complexes are examined based on the fundamental role of religion in world creation and 4IR [17]. Meanwhile, even under the condition of AI technology reaching the level of human intelligence, it is necessary to put always God at the core and in the first place [18]. The phenomenon of the 'robot monk' and its ability to recreate and translate spiritual and cultural values is discussed. The distribution of roles between monks and 'robot-monks' - Confucius and the 'Digital Confucius' - is proposed [19]. However, all actions of introducing AI into religious activities must be clearly regulated and enshrined in law [20].

The possibility of forming a transnational religious community between Christians and Buddhists for effective humanitarian interaction is considered [21]. The view of religion on the cultural aspects transformed by AI and the role and place of robots in contemporary art are examined [22]. Scenarios of development of the socio-cultural relationship between religion and robotics involving both peaceful coexistence and enslavement or mass destruction of humanity by intelligent robots based on AI are predicted [23].

The processes of digitalization and the introduction of AI are more dynamic and less controllable in the conditions of the pandemic. Therefore, it is important to timely identify the nature of their impact on the spiritual environment. The present study was conducted for this exact purpose.

2. Methods

The study on the interpretation of Muslim attitudes was conducted based on a group of Sociology students from the Faculty of Public Administration of the Lomonosov Moscow State University with the support of Z.A. Komilova, the UNICEF Project Manager of 'Child Protection in Migration Processes' in Tajikistan. The study presents a logical continuation of an earlier study on Muslims' assessment of AI in the social environment [24].

The goal of the study was to identify and interpret the views of Muslims in Russia and Tajikistan on the nature of the impact of AI on individuals and society during the pandemic.

The purpose of the study was realized through solving the following research objectives:
1. identifying the nature of the influence of AI on Muslim religious activity,
2. determining the essence of the dependence of socio-cultural aspects of societal development on AI,
3. identifying the main threats and risks to society and humans posed by AI.

The study proposes the following hypothesis: **H1.** The impact of AI on individuals and societies is contradictory and ambiguous. Its essence is not fully understood by the adherents of Islam and it is changing during the pandemic.

The study was conducted from December 20, 2020, to March 20, 2021, in Russia (Lomonosov Moscow State University) and Tajikistan (Russian Tajik Slavonic University, Tajik National University, Branch of Moscow State University in Dushanbe). The choice of the countries is justified by the importance of the studied issues at national levels, as well as by the scientific interest in this problem demonstrated by the scientific teams of universities that took part in the study.

The study was conducted in three stages. The first one involved conducting a sociological survey to identify the views of Muslims in Russia and Tajikistan on the nature of the impact of AI on individuals and society during the pandemic. The second stage involved clarifying the identified problem areas during in-depth interviews with clerics (imams) of the Spiritual Administration of Muslims in the Khanty-Mansi Autonomous District of Russia. The third stage involved members of the expert community determining the trends and stable relationships in the nature of the influence of AI on individuals and society during the pandemic.

At the first stage of the study, the sample in Russia and Tajikistan consisted of adherents of Islam (n = 578). Respondents for the sociological survey were selected through the 'snowball' method by recruiting members of the sampling group through a chain of questionnaire redirections to invite the

next group of Muslims to take part in the study. The sociological survey was conducted online using Google Forms, Skype and Zoom.

The second stage involved determining the feelings of Muslims about the dynamics of changes in terms of the influence of AI on individuals and society that had taken place during the pandemic. The sample of respondents at the second stage was composed of imams of mosques of the Spiritual Administration of Muslims of the Khanty-Mansi Autonomous Okrug-Yugra of Russia invited to participate in the study. Invitations were sent to 17 imams. 11 imams between the ages of 32 and 57 ended up participating in the study, which represents 65% of the number of the invited respondents. In-depth interviews were conducted in several stages. First, respondents were sent a questionnaire with questions that aroused the greatest interest among Muslims in Russia and Tajikistan. Based on the analysis of the results, we designed an in-depth interview that was conducted online using Skype and Zoom and took about 30-60 minutes.

The third stage of the study involved conducting a focus group. The focus groups discussed the problematic issues identified during the first two stages. In the interests of recruiting experts to participate in the focus group, 20 invitations were sent, and consent to take part in the study was received from 9 scientists and practitioners (45% of those invited). The main requirements for the experts included competence on the problem under study, weighted and reliable assessment, and stability in approaches.

Table 1. Socio-demographic sample characteristics (%).

Sample characteristics		%
Sex	male	54.7
	female	45.3
Age	under 18 years old	5.2
	18-20 years old	44.5
	21-22 years old	24.8
	23-25 years old	12.1
	26-35 years old	5.4
	36-45 years old	3.2
	46-55 years old	2.7
	over 55 years old	2.1
Education	higher	35.1
	incomplete higher education	46.5
	secondary (specialized secondary) education	18.4
Work experience	no work experience	34.2
	temporary jobs	24.5
	over 3 years	14.2
	1-3 years	17.8
	less than a year	9.3

Respondents from Russia and Tajikistan for the sociological survey were selected based on quotas concerning gender, age, education and work experience (Table 1).

The sociological survey used a questionnaire designed based on a version from a previous study conducted in 2019 with Muslims in Russia and Tajikistan [24]. The questionnaire used the Likert methodology.

3. Results

3.1. The nature of the impact of AI on Muslim religious activity

The assessment of the impact of AI on religious activities reveals that a large number of Islam adherents who participated in the sociological survey consider the use of AI in religious affairs useful (42%) (Figure 1). The number of those opposed to the expediency of using AI in religious affairs was lower, only 37%.
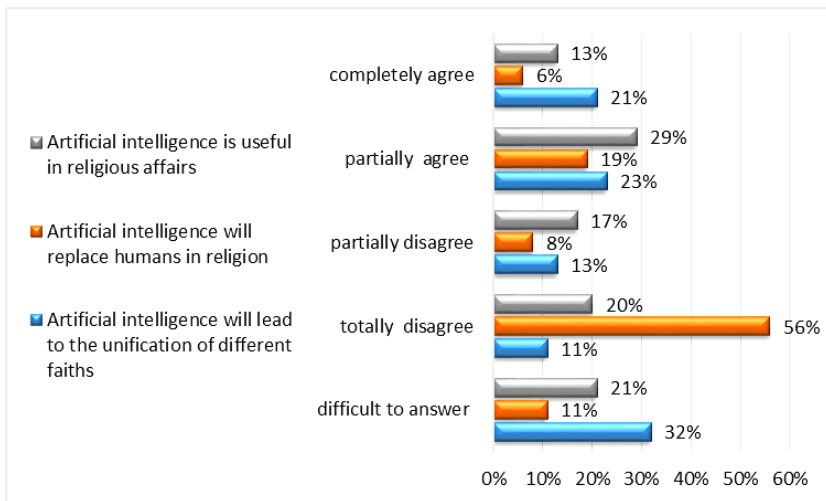

Figure 1. The impact of AI on religious activity.

The number of respondents unable to determine the usefulness of AI in religious matters is quite large (21%) and gives way only to the proportion of those who partially agreed with the usefulness of AI in religious matters.

The replacement of humans by AI in religion is considered a real possibility by 6% of Muslim respondents and 19% partially agree with this statement. 56% of the respondents are quite categorical and do not even entertain the idea of AI replacing humans in religion and Islam specifically. 11% of the respondents were unable to clearly express their position on the issue.

The question on the understanding of the role of AI in the interaction of different faiths was also challenging. 44% of the respondents believe that artificial intelligence will lead to the unification of different faiths. Opponents of the possibility of unification of religions on the basis of AI were less numerous -

only 24%. 32% of the respondents were puzzled by this question and could not determine their position on it.

3.2. The essence of the dependence of socio-cultural aspects of societal development on AI

The study of the nature and degree of the influence of AI on the socio-cultural environment indicates that social inequality will intensify with the further active introduction of AI into human life (Figure 2). 42% of the respondents agree with this statement to some extent. About the same number of respondents do not see any serious danger to their social status from the impact of AI (41%). Quite a large number of Muslims are undecided on this issue (17%).
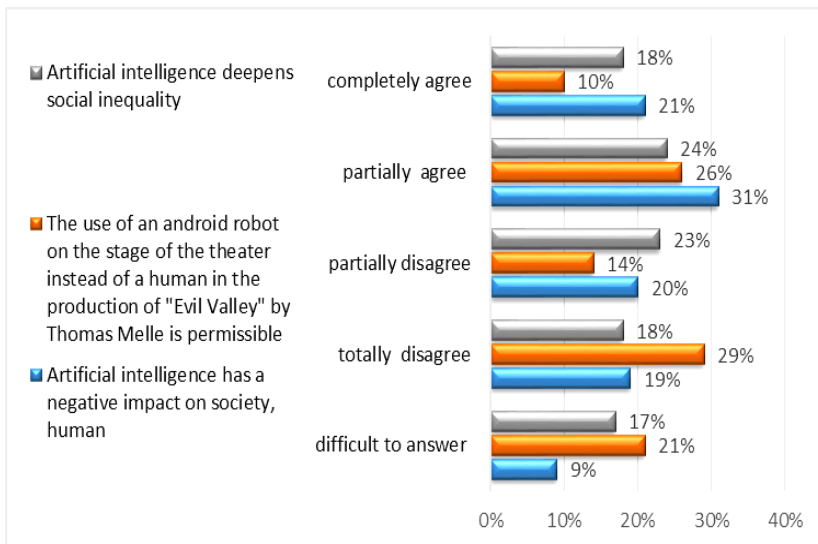

Figure 2. The impact of AI on the socio-cultural development of society.

Replacing humans with android robots on stage in Thomas Melle's production of 'Sinister Valley' is considered acceptable by 36% of the respondents. Opponents of the use of AI and robots on stage as performers replacing humans were slightly more prevalent - 43%. The question was too difficult to answer for 21% of the respondents. That number is quite large considering that only 10% of the study participants supported the idea fully.

The respondents' opinions on the impact of AI on society and individuals distributed in favour of supporters of negative influence (52%). At the same time, 39% of Muslims who participated in the study disagree with this statement to some extent. They believe that AI has the potential to improve the existing society. 9% of the respondents had difficulty answering this question.

3.3. The main threats and risks to society and humans posed by AI

In the sociological survey, the respondents predominantly expressed their opinion that AI poses a danger to society as it can be used by bad people for nefarious purposes. This position is to varying degrees shared by 65% of the respondents (Figure 3).
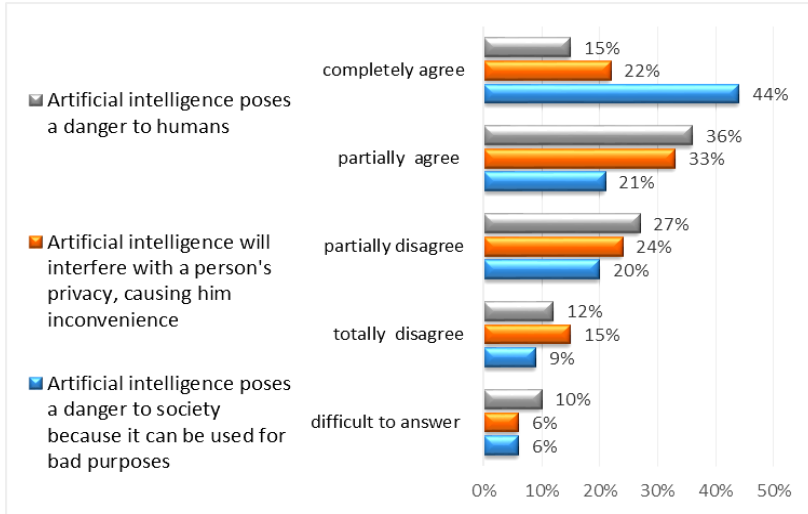

Figure 3. The nature of the danger to humans posed by AI.

The danger to society from the use of AI by individuals for bad purposes is categorically rejected by 9% of the respondents. 6% of the respondents had difficulty answering this question.

In addition, more than half of the respondents believe that AI will interfere in people's private lives causing them inconvenience (55%). At the same time, 15% of the respondents strongly disagree with this statement. They believe that at the level of daily life, AI will not burden humans. Only 6% of the respondents were undecided on this issue.

The overall assessment of the nature of the danger to humans posed by AI is contradictory, although more than half of the respondents are in the negative zone (51%). Along with this, there are quite a few supporters of the safe use of AI in human and social life. This group constitutes 39% of the respondents. They consider AI to be safe to varying degrees. 10% of respondents found it difficult to answer this question.

4. Discussion

The study revealed that proponents of the use of AI are gaining an increasing number of supporters in Islam. However, there was also quite a large number of Muslims unable to decide whether they have a need for AI or not. This finding is probably due to the respondents having little (or no) experience

in using AI in practice. During in-depth interviews, the respondents clarified the aspects of religious life in which they can see the usefulness of AI. These aspects predominantly concerned information work: fast search, collection, processing and storage of information of religious content (Islam), promotion of the ideas of Islam through the Internet and social media. During the focus group, the respondents noted the need for rules and recommendations for the use of AI by supporters of Islam. It is important to find the golden mean of using AI in the harmonious development of Islam.

The majority of respondents consider it unacceptable to replace humans with AI in religion. At the same time, a quarter of the respondents see some prospect of replacing humans with AI in religion. This position was not as characteristic of Islam adherents before the pandemic. In-depth interviews clarified the conditions for replacing humans with AI in Islam. The conditions concerned fragmentary actions on information support for Muslims. Experts from the focus group argue that even if the essence of AI is explained to the participants, they are not yet fully aware of how and in what form it is possible to apply AI in worship. Ardent opponents do not allow the interference of external forces and technology in the divine sphere of Islam at all which is to some extent consistent with a number of studies [17, 19].

The emergence of AI and the digitalization of all spheres of life has led to some differences between confessions becoming blurred. The pandemic has had its impact on the typization of communication and exchange of opinions, as well as on the ways in which representatives of virtually all faiths address universal problems. During the in-depth interviews, respondents did not indicate that they themselves wanted such unification with other confessions. They considered such a possibility only hypothetically provided that the decision is made by the top leadership and the foundations of Islam remain unchanged. In the focus group, the conceptual and real possibility of uniting the various confessions based on AI were discussed [15, 21]. During the discussion, such a possibility was doubted even considering the religions that are close in their basis, e.g. different strands of Islam or Christianity.

The influence of AI on the socio-cultural development of society is contradictory with the negative assessment of AI being somewhat predominant. The sociological survey revealed the proportions of those agreeing and disagreeing with the idea of social inequality aggravating due to the introduction of AI into social life being almost equal. This result demonstrates that AI is penetrating into human life more and more deeply and Islam adherents are increasingly sensing the possibility of improving their social status on its basis. The number of respondents undecided on this issue is quite noteworthy. The respondents were unable to discover the ways in which AI can raise their social status. In-depth interviews revealed the respondents' belief that AI allows youth to master new technologies faster and improve their social status based on this knowledge even to the point of reaching the financial level of the richer people. Experts from the focus group expressed some doubt in the ability of large numbers of people to improve their social status based on knowing how to use

the strengths of AI. Few succeed in doing so. Largely this development is about to cause tensions in the labour market, as well as social and ethnic conflicts [25, 26].

The intensification of social inequality due to the introduction of AI into social life will take place in direct correlation with the income level of the population: the higher the income level, the greater the opportunity to use AI, the greater the gap between the rich and the poor. This effect is especially characteristic of countries with developing economies including those where Islam is the main religion. There are also some exceptions to this stable relationship when young people from poor families manage to cross the threshold of poverty and, through the use of AI, improve their social status and eliminate social inequality partially or completely.

The respondents do not show a definite position on the introduction of robots into the arts, such as theatre. The shares of supporters and opponents of the use of AI, the replacement of humans by robots on the theatre stage were about equal. In-depth interviews revealed that some Islam adherents see no problem in replacing humans with robots in theatrical performances. They see theatrical performances as fiction that is not connected to real events that could somehow affect faith. However, a number of respondents are strongly against even the slightest hint at the idea of a robot replacing a human being. They believe that this creates the preconditions for the substitution of concepts at the level of faith in God. New approaches to religion are considered unacceptable. This finding is to some extent consistent with Singler Beth's study [22].

At the focus group, experts expressed their aversion to such experiments in the arts. Attempts at creating stereotypes that allow the idea of replacing a human being with a robot in the spiritual and aesthetic sphere such as the theatre arts are believed to be unacceptable and dangerous as they would undermine the moral foundations of society. This result is consistent with the study conducted by Jackelen [12] who recommend relying on the ethical role of faith and steadfastness in adherence to religious values.

These conclusions also generally coincide with the results of the survey on the impact of AI on individuals and society. During in-depth interviews, the proponents of the negative impact of AI on people and society argued based on the pre-existing negative experience concerning humans being displaced from the labour market by AI, the negative impact of AI on the human psyche, the widening gap between the rich and the poor, and confidential information being leaked. The positive impact of AI on humans was noted in terms of medical issues. Experts from the focus group discussed the need to develop international regulations for the use of AI in the social sphere involving the reduction of the negative impact of AI on individuals and society while the development and implementation of AI are still at an early stage. This correlates with research conducted by P.H. Cheong [20].

Overall, the impact of AI on the socio-cultural development of society is of an ambiguous, contradictory nature with the negative assessment of the impact of AI on society being slightly more prevalent. This calls for prompt

action on the part of special government agencies and social structures to reduce the negative effect of AI on individuals and society.

The study revealed the general vigilance of respondents concerning the various kinds of dangers inherent in the introduction of AI into human life. The respondents are predominantly concerned about the possibility of AI being used by bad people for nefarious purposes. This worry is followed by frustration by the possibility of AI intervening in people's private life causing them inconvenience. In-depth interviews showed that these concerns are based on the great capacity of rich people to use AI to further their own enrichment at the expense of poor people. At the level of daily life, the respondents fear unauthorized interference of AI in personal life and attempts to control a person's desires. In addition, an increase in the possibilities for criminal activity through the use of AI was pointed out. The focus group experts discussed the systemic problems arising from the unauthorized use of AI by bad people for nefarious purposes, as well as by companies seeking to control people's inner life and needs for higher profits. Experts have assessed these concerns as very rational. This to some extent correlates with studies conducted by Isetti et al [16] revealing the positive and negative aspects of the introduction of AI into the spiritual realm. We can conclude that the number of scenarios of the negative impact of AI on society and individuals is increasing significantly with the development of opportunities, forms, and methods of uncontrolled introduction of AI in various areas of human activity ranging from medicine to the military sphere.

5. Conclusions

The present study revealed the ambiguous nature of the impact of AI on religious activity. In the conditions of the pandemic, AI is gaining more supporters among Muslims. The position of religion on the issue of humans being replaced by AI is no longer as categorical as before the pandemic. Nevertheless, the fierce opponents of the introduction of AI into the divine realm of Islam remain the majority. The pandemic has also had its impact on Muslims' opinions on the possibilities for the unification of various confessions based on AI. The discovered trends include the reduction in the number of opponents of the unification of confessions under the conditions of the Covid-19 pandemic, as well as the increasing importance of regulatory actions in the use of AI in religious activities in the context of the pandemic. Respondents and experts expressed a clear position on the need to design and implement regulations for the use of AI in Islam that have to be well developed and evaluated by a broad audience.

The impact of AI on the socio-cultural development of society is also contradictory and ambiguous with the negative assessment of the impact of AI on society being slightly more prevalent. All this calls for prompt action on the part of special government agencies and social structures to reduce the negative effect of AI on individuals and society and to develop international regulations

for the use of AI in the socio-cultural sphere. This manifests in the trend of the increasing importance of regulatory and organizational actions in using AI in the socio-cultural development of society in the context of the Covid-19 pandemic.

The general vigilance of Islam adherents towards the various kinds of dangers inherent in the introduction of AI into human life has been revealed. The discovered stable connections include the following: the aggravation of social inequality due to the introduction of AI in social life will take place in direct correlation with the income level of the population. The higher the income level, the higher the capability of using AI, the greater the gap between the rich and the poor. The number of options for the negative impact of AI on society and individuals increases significantly with the rise in opportunities, forms and methods of uncontrolled introduction of AI into various areas of human activity ranging from medicine to the military sphere.

The hypothesis of the study was generally confirmed - the impact of Ai on individuals and society is ambiguous and contradictory in nature and its essence is not quite fully understood by Islam adherents and is changing in the course of the pandemic.

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