INTERPRETATION OF THE VIEWS OF EAST EUROPEAN CATHOLICS ON THE IMPACT OF ARTIFICIAL INTELLIGENCE ON THE SOCIAL ENVIRONMENT

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Abstract

The article studies the impact of artificial intelligence on the social environment as seen by East European Catholics. The Hungarian, Russian and Slovak Catholics have both similar and different ideas on the impact of artificial intelligence on the social environment. The authors have revealed different views of the Russian and Hungarian-Slovak Catholics on the fundamental possibility of replacing a person with artificial intelligence. They have also found common ground between the supporters of artificial intelligence and its opponents. The article is the first to conduct a comparative analysis of the views of Catholics living in Eastern Europe on the impact of artificial intelligence on the person's status and personal space. The article is relevant since it strives to solve the problems related to the use of artificial intelligence in the social environment based on the opinion of the representatives of one of the world's leading religions - Catholicism.

Keywords: artificial intelligence, status, person, personal, space

1. Introduction

The dynamic development of information and communication technologies and the introduction of artificial intelligence into all spheres of social life significantly change not only the professional activity of people but also their lifestyle, values and attitudes [1]. Artificial intelligence enriches collective activities and contributes to the development and strengthening of social, cultural and educational capital [2].

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Under the influence of digital technologies, religious leaders discuss the nature of social changes in the digital society, as well as the new essence of persons and their attitude to religion, both within their confessions and with representatives of other religions. The most important subject of discussion is the role of an individual, their soul and artificial intelligence. Approaches and views differ not only between religious leaders belonging to various confessions but also within the religions themselves [S. Musaddique, *How artificial intelligence is shaping religion in the 21st century*, May 11, 2018, https://www.cnbc.com/2018/05/11/how-artificial-intelligence-is-shaping-religion-in-the-21st-century.html, accessed on 27.06.2020].

The current cultural situation characterized by the large-scale digitalization of all spheres of public life, the global coverage of computer networks and the development of artificial intelligence forms new values and behavioural patterns [3; European Commission, *Digital Economy and Society Index Methodological Note*, DESI, 2020, https://ec.europa.eu/commission/press corner/detail/en/qanda_20_1022, accessed on 27.06.2020]. Modern scientific studies consider several contradictions. On the one hand, artificial intelligence is the result of the most advanced scientific innovations. On the other hand, new technologies create "an asylum for numerous irrational fantasies and mythical images" [4].

The use of artificial intelligence technologies was often accompanied by cultural myths about the creation of a thinking machine that would be able to imitate cognitive abilities of the human mind. Three main myth models were distinguished: the description of artificial intelligence technologies based on analogies and discursive shifts from other areas of Science, the hope of overcoming the existing disadvantages of using artificial intelligence in the future, and the constant debate over the risks and positive aspects of using artificial intelligence [5].

In the conditions of social and academic inequality, digital environment and artificial intelligence technologies transform communication models, lifestyles and form alternative personal identities [https://www.cnbc.com/2018/05/11/how-artificial-intelligence-is-shaping-religion-in-the-21st-century.html]. In this regard, the risks of a social gap between generations increase: different values, worldviews, lifestyles and ways of learning [6].

According to scholars, growing digital inequality is an additional risk for the development of artificial intelligence. The difference in digital competencies of various groups is determined by their socio-economic status [7].

There is also another opinion: digitalization is the domain of the poor. For example, Nellie Bowles claims that the rich can afford to live without social networks, avoid digital tools and communicate only in real life. The provision of information and services, the transfer of life and even death into the screens makes it cheap and affordable for the vast majority of the world's population, while live communication becomes available only for very rich people [N. Bowles, *Human Contact Is Now a Luxury Good. Screens used to be for the elite.*

Now avoiding them is a status symbol, The New York Times, March 23, 2019, accessed on 11.08.2020].

2. Religious discourse on artificial intelligence

The existing religious discourse emphasizes the controversial nature of this issue and destructive and negative consequences of the development of artificial intelligence. Many scientific works express the idea that artificial intelligence and religion are correlated [8]. Some scholars believe that 'Superintelligent Will' (artificial intelligence) is inextricably linked with motivation. The motivation of the instrumental mind is proposed to be considered based on David Hume's theory of motivation, which separates faith and motive [9]. At the same time, they cannot but mention the special role of religion in growing inequality caused by the influence of automation and the use of artificial intelligence [10]. Discussions are held based on the Russian sophiology representing thought and feelings that unite the divided into parts: the Creator and the Creature, fate and life, various religions, countries and peoples. The Orthodox theologians look for answers to questions about the Universe and the role of a person in the modern world where artificial intelligence is being introduced [11]. In this connection, we should consider the scientific works of John Milbank [12] who continuously searches for the truth amid the disputes of evangelists [13].

The ever wider coverage of social life by the artificial intelligence is based on the universalization of approaches in the human-robot system, in which there are no distinctions based on race, ethnicity or religious affiliation. Theorists and practitioners need to consider the unification of religious activity, the erasure of boundaries between different confessions, the transition from one faith to another and the consolidation of all believers under one religion. For example, during the Tanzimat period, Christians and Jews converted to Islam under the influence of social and coercive factors [14]. Today, much attention is paid to common features of Orthodoxy, Catholicism and Protestantism [15] that would help to unify these religions into a single faith 'from below' [16].

The analysis of scientific papers has proved that the introduction of artificial intelligence into human life, society and religious activity deserves close consideration. However, there is still no integral system of knowledge and order of human interaction with artificial intelligence. This is due to the all-encompassing influence of artificial intelligence on society, the social environment and the absence of a single coordination centre for the high-tech humane implementation of the potential of artificial intelligence in human spiritual life, social communication. The absence of an integral system creates risks of the formation of an aggressive environment based on artificial intelligence, a 'digital concentration camp', and human suppression. This study expands knowledge about artificial intelligence in modern society and predicts its further development.

3. Methodology

The research methodology is based on approaches and methods of the previous studies that reveal the impact of artificial intelligence on the social environment according to the representatives of Islam and Orthodoxy [17, 18]. This study further develops these ideas. The article aims at determining the views of East European Catholics on the influence artificial intelligence has on the social environment.

To achieve this objective, we need to solve the following scientific tasks:
1. to determine the degree and nature of the influence artificial intelligence has on one's personal space,
2. to identify the nature of the impact artificial intelligence has on the status of a person.

3.1. Hypothesis and data

Within the framework of this study, we developed the following hypotheses:

H1. Artificial intelligence affects the social environment in a complex and contradictory way; therefore, a systematic study of this phenomenon is required.

H2. The Hungarian, Russian and Slovak Catholics have fundamentally similar views on the impact of artificial intelligence on the social environment but their ideas might differ in particular aspects.

Since artificial intelligence can be understood in different ways, the study is clarifying this concept. Artificial intelligence is regarded as an intelligence program or system whose task is to recreate reasonable arguments and actions [19]. To ensure a clearer perception, we specified that such systems could be humanoid robots or machines in the form of other objects. They are entrusted with the task of helping and/or replacing a person in work and/or personal life.

The study was conducted in Hungary, Slovakia and Russia from March 10 to May 30, 2020. In Russia, Catholics from Moscow and Moscow Oblast took part in a sociological survey since they live in Eastern Europe.

The study involved 217 Catholics (79 Hungarian, 54 Slovak and 84 Russian Catholics). The specificity of the surveyed social groups initiated a number of restrictions in the process of searching and selecting respondents. An additional limitation was the spread of the COVID-19 pandemic, the growth of fears and concerns of the population somewhat reduced the willingness to participate in the survey. The limited sample size requires further additional research, clarification of a number of conclusions regarding the determination of the possibility of replacing human by artificial intelligence in religion, the degree of artificial intelligence danger to humans, and the nature of the inconveniences for humans when artificial intelligence invades their privacy.

The data in Table 1 demonstrate that more than half of the Hungarian and Slovak Catholics who participated in the survey were men. Most of the Russian respondents were women.

Table 1. Socio-demographic characteristics of the respondents (%).

Country		Hungary	Russia	Slovakia
Gender	Male	57	32	52
	Female	43	68	48
Age	18-25 years	42	38	32
	25-35 years	28	24	26
	35-50 years	19	27	26
	50-65 years	7	9	12
	65+ years	4	2	4
Education	Sc.D.	0	2	0
	Ph.D.	1	11	0
	University	60	63	49
	Secondary school	28	22	44
	Elementary school	11	2	7
Scope of activity (study)	Service	23	54	31
	Industry	16	12	17
	Agriculture	5	2	2
	Public sector	17	7	14
	Students	32	18	24
	Unemployed	7	7	12

In general, the survey involved respondents with an academic degree aged between 18 and 50 years. There were Catholics from Russia and Hungary with post-graduate degrees. Most respondents were involved in the service sector, industry, public service and undergraduate students. More than half of the Russian Catholics worked in the service sector.

3.2. Methods

The research methodology comprised a system of general and specific scientific methods. The main empirical methods were a questionnaire through a Google Form, online survey, observation, in-depth interview and focus group research method. We also used such methods as content and statistical analysis. To assess the views of East European Catholics, we utilized the Likert scale questionnaire. The sociological survey and in-depth interview complied with the requirements of research ethics. Due to travel restrictions in Hungary, Russia and Slovakia caused by COVID-19, these methods were applied with the help of the Internet and programs that provide video communication and other types of communication.

To achieve the study objective, we formed a focus group of eight experts from the field under study and asked them to participate in discussions. The focus group discussed the issues revealed during sociological surveys and in-depth interviews.

4. Results

4.1. Artificial intelligence and personal space

The digitalization of society, as well as a wide coverage of spheres of life by the artificial intelligence, contribute to its penetration into a person's personal space. Artificial intelligence actively interacts with people on an everyday basis, which questions the degree and nature of their interdependence. The study demonstrated that the respondents from all the countries under study acknowledged their dependence on artificial intelligence (Figure 1).

56% of the Slovak Catholics (51% fully agree and 5% partially agree) and 68% of the Russian Catholics (32% fully agree and 36% partially agree) acknowledged the dependence on artificial intelligence. The Hungarian respondents either agreed (41%) or partially disagreed (37%) with the statement. In fact, the Hungarian Catholics divided into two groups, i.e. those recognizing dependence on artificial intelligence (41% + 7% = 48%) and somehow rejecting dependence on artificial intelligence when it is introduced into the social environment (36% + 12% = 48%).

The respondents from the above-mentioned countries saw the dynamic introduction of artificial intelligence into public life. That said, they feel concerned about artificial intelligence (Figure 2).

73% of the Hungarian Catholics and 68% of the Slovak Catholics partially or fully disagreed with the fact that artificial intelligence is dangerous. About half of these respondents partially disagreed with the statement. They claimed that everything is under control and the introduction of artificial intelligence into human life cannot be dangerous. On the contrary, 50% of the Russian Catholics believed that artificial intelligence poses a threat to society. The other half of the Russian Catholics included 29% of those who partially disagreed, 7% of those who completely disagreed and 4% of those who could not answer the question. Thus, the opinions of Russian Catholics on several issues differ from those of the Hungarian and Slovak Catholics. In some cases, the views expressed by the Slovak Catholics stand out.

The study stated that the Hungarian and Slovak Catholics shared similar views on the negative impact of artificial intelligence on personal space and possible inconveniences (Figure 3). Almost half of the respondents fully agreed with this statement (51% and 48%, respectively). Only 20% of the Russian Catholics supported this position. Alongside the above-mentioned respondents, about 50% of the participants negatively assessed the impact of artificial intelligence on one's personal life. The number of Catholics who partially or fully disagreed with the statement was roughly the same in all the countries, with

a slightly larger number of the disagreeing Slovak respondents (46%). Only 6-7% of all the respondents claimed that artificial intelligence did not affect their personal lives.
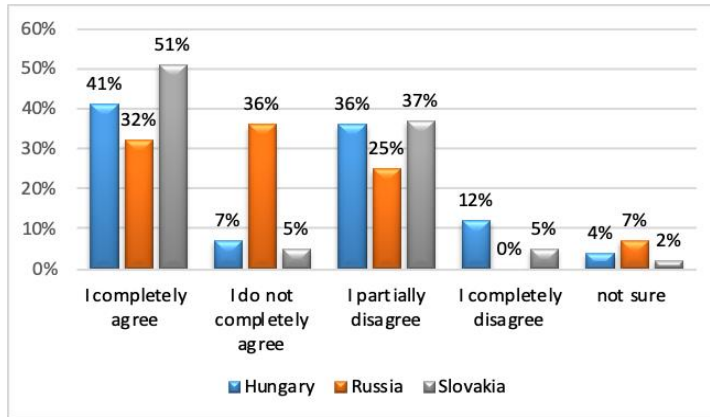

Figure 1. Answers to the question: 'Will artificial intelligence make a person dependent on it?'.
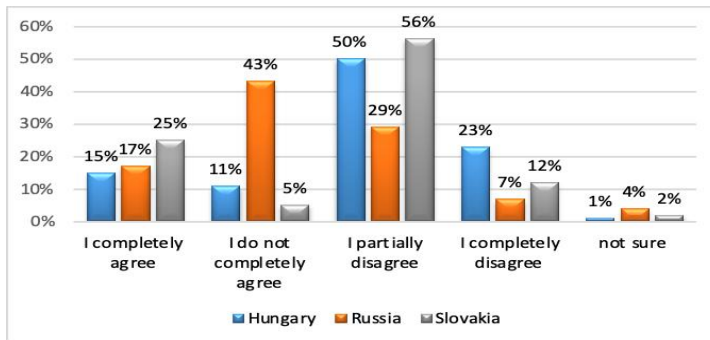

Figure 2. Answers to the question: 'Does artificial intelligence pose a threat to people?'.
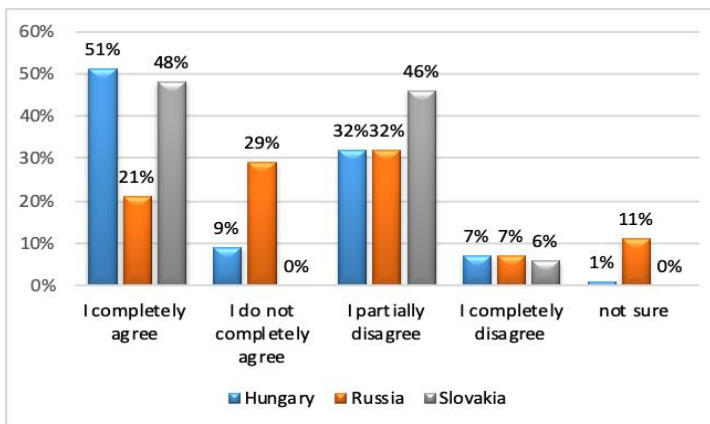

Figure 3. Answers to the question: 'Will artificial intelligence interfere with one's personal life and cause any inconveniences?'.

The survey of the Russian Catholics is of particular interest as their answers are characterized by all degrees of agreement (disagreement), varying by 10%. At the same time, 11% of the Russian Catholics found it difficult to answer the question, in contrast to the respondents from Hungary (1%) and Slovakia (0%). 51% of the Hungarian Catholics fully agreed with the statement, 48% of the Slovak Catholics recognized the negative impact of artificial intelligence on one's personal life and 46% partially disagreed with this provision.

4.2. The impact of artificial intelligence on the status of a person in the spiritual and social spheres

The survey results show that artificial intelligence changes the status of a person (Table 2).

Table 2. The respondents' answers to the questions about the impact of artificial intelligence on the status of a person and their capabilities (%).

Questions	Countries	Completely agree	Do not completely agree	Partially disagree	Completely disagree	Not sure
Will artificial intelligence replace an individual in religion?	Hungary	2	45	17	28	8
	Russia	0	0	7	93	0
	Slovakia	0	65	20	15	0
Will artificial intelligence aggravate social inequality?	Hungary	23	16	33	18	10
	Russia	18	24	22	22	14
	Slovakia	26	12	39	21	2

The question of replacing individuals with artificial intelligence in religion caused a mixed reaction among the respondents. The Russian Catholics were sure that a person cannot be replaced with artificial intelligence in religion and the whole question is inappropriate. Most of them (93%) were against such a replacement. We were surprised by the answer of the Hungarian and Slovak Catholics who partially agreed that artificial intelligence can replace a person in religion in the future (45% and 65%, respectively). They cast a thought that artificial intelligence can become crucial for religious activity and even replace people in it. 45% of the Hungarian respondents and 35% of the Slovak respondents did not want artificial intelligence to replace a person in religion in one way or another. 8% of the Hungarian Catholics could not decide on the possibility of replacing a person in religion. Most likely, they did not fully understand the essence of artificial intelligence and its use in religious matters.

About the same number of the Hungarian, Russian and Slovak Catholics agreed or partially agreed with growing social inequality (39%, 42% and 38%, respectively). There is also a similar number of the Hungarian and Russian Catholics who disagreed and partially disagreed with the statement (51% and 44%, respectively). At the same time, the Slovak Catholics (60%) clearly

defined their position of denial. Only 2% of the Slovak Catholics were unable to formulate their position, in contrast to the Russian (14%) and Hungarian (10%) respondents.

5. Discussion

The introduction of artificial intelligence into all spheres of human life makes it useful and sometimes even irreplaceable. The process contributes to the sustainable development of society and conditions certain human dependence on artificial intelligence [20]. Today, more and more people become aware of this fact. The analysis of the research results has proved that about half of the respondents expect human dependence on artificial intelligence in the future. Most of those who fully agreed with this statement were the Slovak Catholics (51%). The total number of the Russian Catholics who fully or partially agreed with the provision amounted to 68%. The Hungarian Catholics were evenly divided into two groups: those who agreed that artificial intelligence can make a person dependent on it (48%) and those who disagreed with the statement. This speaks of some parity among the supporters and opponents of artificial intelligence in Hungarian society. The results we obtained are confirmed by the studies of Shafi Musaddique [https://www.cnbc.com/2018/05/11/how-artificial-intelligence-is-shaping-relig ion-in-the-21st-century.html].

Although artificial intelligence plays a positive role in human life, it has also negative consequences. This study has revealed that the Russian Catholics are the most worried about artificial intelligence. This is due to several factors. The first reason is continuous changes in Russian society that took part in the past 30-45 years and brought deterioration in people's lives. The second factor is the active involvement of Russians into socio-economic changes and their sensitivity to crisis phenomena. The third reason is the Russian mind-set that admires foreign values and simultaneously denies many of them. In terms of artificial intelligence, the Russian science is competitive at the household level because its implementation lags behind some other countries.

The Hungarian and Slovak Catholics do not consider artificial intelligence as such a danger. The stable development of the European society has a positive effect on sentiments of the Catholics living in these countries. Most of the respondents believe that artificial intelligence helps people and cannot do any harm. Scholars, managers and states monitor this process and ensure the effective use of artificial intelligence for the benefits of people and society. The comparative analysis has demonstrated that views of the Slovak Catholics differ from those of the Hungarian Catholics. However, Lisa Burrell [21] and Alexey Turchin [19] claim that there is still a danger and it is necessary to protect human life from the negative effects of artificial intelligence and mass media.

According to the study, only 21% of the Russian Catholics believe that artificial intelligence interferes with one's personal life. The Hungarian and Slovak Catholics hold similar positions in assessing the negative impact of artificial intelligence on people and their personal space. About half of the

respondents believe that artificial intelligence negatively affects a person's life and causes inconveniences. This correlates with psychological studies on the growing flows of information from the Internet and artificial intelligence that overwhelm the person's living space and disrupt inner relations in the system of values [22].

There are different explanations for such figures. The main factor is age, i.e. more than half of the respondents are under 35 years old. Young people often strive to establish themselves in the social environment, not allowing anyone (sometimes even parents) into their personal space. Artificial intelligence overstrained their psyche and became one of the unwanted advisers, witnesses of internal emotions and feelings. The youth finds the experience of the older generation out-dated. In relation to the Hungarian and Slovak Catholics, this judgment is complemented by a large number of students among the respondents (32% and 24%, respectively).

The Slovak Catholics represent two alternative groups: those who completely agreed (48%) and partially disagreed (46%) with the statement. A large number of the partially disagreeing Slovak Catholics (46%) can be explained by the active participation of service-related employees in the study. This sector is less closed from the social environment and is not too afraid of the introduction of artificial intelligence into personal lives. The Russian Catholics took a balanced position and provided almost the same number of agree/disagree answers, varying by 10%. This group had the largest number of undecided respondents. The Russian respondents include graduates who try to find their place in the working community and still do not fully understand what can be attributed to professional activity and what belongs to private life.

The Hungarian and Slovak Catholics do not see any danger in introducing artificial intelligence into religious activities. It is surprising and alarming that a fairly large part of them admitted the possibility of replacing a person with artificial intelligence in religion. Different countries and religions make attempts to use some elements of artificial intelligence in the dissemination of religious information and the fragmentary replacement of a person in worship services. However, many Catholics do not allow the idea of replacing people with artificial intelligence in religion. The Russian Catholics were the most zealous on this matter. Most of them (93%) were against replacing people with artificial intelligence in religion. This correlates with the study of the Russian Orthodox and Muslims [17, 18]. Such attitudes are conditioned by national traditions, messiahship, mixed cultures in a large territory of Russia (including European and Asian) and distrust of money-related things.

The conclusions drawn by Nadin Mihai confirm the impossibility of replacing people with artificial intelligence in religion since it can only imitate spiritual and creative thoughts of individuals but is not able to completely substitute them [23]. Based on the Second Vatican Council, Alva Reginald also states that it is impossible to replace a religious mission with artificial intelligence [24]. The Holy Spirit is still the main actor and hero in the life of believers rather than artificial intelligence.

The introduction of artificial intelligence into the socio-economic environment will aggravate social inequality, which is acknowledged by approximately the same number of the Hungarian, Russian and Slovak Catholics. However, they amount to less than half of all the respondents. This reveals similar positions and views of the Hungarian, Russian and Slovak respondents on the possibility of using artificial intelligence to make society more democratic, without significant differences between the rich and the poor, i.e. creating a real society of equal opportunities for all people based on social partnership [25]. This approach contradicts several studies [26, 27]. The unemployed support the idea of growing social inequality due to the introduction of various innovations and artificial intelligence since they might lose their jobs when economy and management are digitalized and human labour is replaced with artificial intelligence [28].

The Slovak Catholics feel least afraid of growing social inequality due to the introduction of artificial intelligence into their lives. The undecided respondents among them were most likely students who have equal opportunities in accessing information and realizing their potential. However, some students and graduates might have negative experience in the labour market and fall victims to social inequality. This is evidenced by certain scientific studies [29, 30], especially in crisis conditions [31].

6. Conclusions

In the course of the study, the first hypothesis was generally confirmed. Indeed, artificial intelligence affects the social environment in a complex and contradictory way; therefore, a systematic study of this phenomenon is required.

The analysis of the survey data indicates that many people living in Eastern Europe (the countries under study) do not trust artificial intelligence and are afraid that its implementation can have negative consequences on various spheres of society and their personal lives. At the same time, a third of the respondents have already benefited from the use of artificial intelligence in solving financial, economic and service-related problems or facilitating their solution.

The issue of human dependence on artificial intelligence has many aspects. On the one hand, the creation of services, applications and assisting tools powered by artificial intelligence makes human life easier, more comfortable and convenient. On the other hand, artificial intelligence can take over the service sector and determine not only the services themselves, but also their prices and providers. It would be more dangerous for society if artificial intelligence seizes the existing control system.

The second hypothesis was not fully confirmed. We have revealed a significant difference in the fundamental issue: will artificial intelligence replace a person in religion? The Hungarian and Slovak Catholics expressed their readiness to such changes, while the Russian Catholics completely disagree with this statement. Similarly were the positions of the Russian, Hungarian and

Slovak Catholics on the following issues: artificial intelligence will make a person dependent (especially the Hungarian and Slovak Catholics) and artificial intelligence will aggravate social inequality.

The Russian and Hungarian-Slovak Catholics have different opinions on the following issues: artificial intelligence poses a threat to people; artificial intelligence interferes with one's personal life and causes inconvenience. It is worth mentioning that these differences are generally insignificant. Both groups similarly assess the negative impact of artificial intelligence on one's personal space.

In general, the supporters of artificial intelligence and its opponents have found common ground on most issues. Parity is an acceptable ratio between supporters of new things and those who are afraid of innovations and adhere to old living standards. The opposition of the two parties should ensure the balanced and harmonious development of society without any crises. The replacement of a person with artificial intelligence in religion requires further study and new possibilities for its resolution.

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