

Artificial Intelligence in E-Commerce: Legal Aspects

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ABSTRACT

Nowadays, the massive transition of retail to the Internet and the replacement of such salespeople with artificial intelligence, and the use of artificial intelligence to process large databases of potential buyers, along with engaging chatbots to communicate with buyers of goods, creates many possible ways to violate human rights. Thus, among the violations of the rights and freedoms of citizens in the field of artificial intelligence in e-commerce can be called a violation of the rules of collection and processing of personal data, use of personal information, interference with privacy. The main idea of the article is to find a way to legal regulation of such kind of civil relations. As a result of the study, it is possible to make the following conclusions. Firstly, there is a widespread introduction of artificial intelligence into the e-commerce field. Secondly, the issue of the development of legal regulation on the use of artificial intelligence is addressed both at the international and national levels, both in the private sector and at the level of state and supranational bodies. Finally, the issue of legal regulation of relations related to the use of artificial intelligence in e-commerce in domestic legal doctrine is almost not addressed and there is no proper legal framework (to regulate these relations) in Ukraine.

Keywords: *e-commerce, artificial intelligence, legal regulation, international level, information technology*

1. INTRODUCTION

E-commerce is growing in popularity every month, which in turn leads to increased profits for this sector of the economy and, of course, competition. For example, in the UK, in the first quarter of 2018, 85,000 jobs were lost through the e-commerce retail sector, and about 30,000 retailers reported significant financial difficulties [1]. About 70% of organizations and enterprises in this area reported that their artificial intelligence (hereinafter – AI) projects were successful or very successful. Three-quarters of respondents reported growth in various market indicators at double-digit rates (by more than 10%). Thus, sales, customer satisfaction, and reduced costs have improved [2].

There is now no doubt, that artificial intelligence is the future and systematically it will begin to influence all spheres of human life. The main participants in e-commerce are online platforms that cover a wide range of services available on the Internet, including marketplace services, search engines, social networks, application stores, communication services, and payment systems. And, with the rapid development of information technology and the need to make the sale process cheaper for the owners of such business (for example, the cost of paying salaries to employees, paying taxes for them,

renting premises, etc.), the question of the use of artificial intelligence and its legal regulation arises. For example, chatbots are now common in e-commerce.

However, before implementing artificial intelligence for e-commerce, the cost of creating and customizing the program to suit the needs of the store should also be considered (i.e. payment for IT-professionals), the need for software updates, etc.

All the processes described above require legal regulation at the state and international levels, as unfair competition, violations of rules for the collection and processing of personal data, etc. take place in a virtual environment as well. Data Mining is an example of the process of collecting and sorting big data. From the price of the competitor to the basket of the buyer, the data can be any. This data is then verified and tracked to help identify patterns and relationships to obtain effective information. This effective information can be used to identify market trends or develop marketing strategies to improve sales [3].

Moreover, there is targeted advertising where artificial intelligence selects (based on the data collected) to show the prospective buyer the seller's product that will satisfy its requirements (what colour most attracts the buyer, which price category is more suited to the customer, etc.). The same applies to the dialogue with the client following a preset seller scheme, which artificial intelligence can improve, and adapt over time to the needs of each

customer. In the field of e-commerce, an understanding has already formed that big data can and should be used for business development. Moreover, such data is actively used for advertising.

However, along with this, the negative perception of advertising is growing due to its excessive amount and inappropriateness. Custom targeting no longer works. Only the latest solutions will allow brands to remain competitive. One of these is the introduction of modern artificial intelligence technologies into digital platforms. Thanks to their advanced algorithms, they provide highly accurate personalization of advertising messages and contribute to the growth of the effectiveness of advertising campaigns.

The worldwide problem today is the almost complete absence of normative legal regulation and normative technical regulation of the fundamentals, conditions, and features of development, commissioning, operation and activities, integration into other systems and monitoring the application of artificial intelligence technologies (especially in the field of electronic commerce). Only certain states are gradually beginning to adopt appropriate regulatory legal acts regulating relations in the field of the use of artificial intelligence.

Therefore, in the article, the authors emphasize the need to implement legal regulation (at national and international levels) of these aspects of social life related to the use of artificial intelligence in e-commerce.

2. MATERIALS AND METHODS

To write this scientific work, the authors have used several methods of obtaining scientific knowledge.

First of all, we should call the historical method, because the authors of the article have studied the historical aspects of the use of artificial intelligence in the field of e-commerce. Based on the obtained results and using the logical method, theses on the further development of this sphere of social life were made.

Moreover, the authors used the method of analysis when writing this scientific article. Using this method, problems that are already present in society due to the mass introduction of artificial intelligence into the sphere of e-commerce, such as unfair competition, violations of rules for collecting and processing of personal data, use of personal information, interference with privacy, were studied. Then, using the prediction method, the authors attempted to identify possible human rights violations through the introduction of artificial intelligence in most areas of life.

Furthermore, the synthesis method was used to create the fullest possible understanding of the problematic issues of artificial intelligence in e-commerce that require legal regulation at national and international levels.

In addition to these methods, the authors used the method of legal comparison. The authors compared ways to regulate the issues related to the use of artificial intelligence in e-commerce in different parts of the world, at the public (for example, European Civil Law Rules in

Robotics) and private levels (for example, SAP's guiding principles for artificial intelligence, Partnership on AI to Benefit People and Society, etc.).

As for the materials that formed the basis for the authors of this article, the following should be noted. First, the article was based on the scientific works of domestic and foreign scientists and will be discussed in more detail in the next section of the article. In addition to the doctrinal basis, the authors used statistics data, reports of journalists (for example, O. Semenchuk), and media resources (for example, KyivSmartCity.com, News.Samsung.com, Everest.ua, AIconference.com.ua, etc.). Also, attention was paid to existing regulations and arrangements established in the private sector of the economy.

3. ANALYSIS OF RECENT RESEARCH

In this scientific article, the question of expediency of the legal regulation of the relations connected with the use of artificial intelligence in electronic commerce was considered taking into account the scientific literature and the existing legal framework.

Therefore, during the preparation of the study, attention was paid to both domestic and foreign authors, whose works are devoted to various aspects in the field of information technology in general, artificial intelligence, the Internet of things, and e-commerce. Thus, the following scholars have been taken into consideration when considering the legal regulation of relations in the field of artificial intelligence in e-commerce: T.V. Popova, V.A. Lipkan, D. L. Koen, E. Arato, O.A. Baranov, I.M. Gorodiskiy, E. Kharytonov, O. Kharytonova, D.D. Pozov [4], E. L. Risslanda, K. D. Kevin, I.V. Ponkin, A.I. Redkina, and R. P. Louic. Thesis from all scientific works will be given in the text of the article.

In addition, M. N. Gasson, B.-J., Koops [5], and G. Hallevy [6] studied issues of improving approaches to determining criminal and other liability in connection with the development of innovations. R. J. Allen [7], E. Nissan, and A. A. Martino [8] investigated some other issues of using artificial intelligence systems from a legal point of view. H. Saripan [9] in her scientific work considered the prospects of endowing artificial intelligence with a certain degree of legal personality.

Moreover, robotics and artificial intelligence were studied by E. Palmerini, F. Azzarri, F. Battaglia, A. Bertolini, A. Carnevale, J. Carpaneto F. Cavallo, A. Di Carlo, M. Cempini, M. Controzzi, B.-J. Koops, F. Lucivero, N. Mukerji, L. Nocco, A. Pirni, H. Shah, P. Salvini, M. Schellekens and K. Warwick [10].

Meanwhile, the issue of legal regulation of artificial intelligence in the field of e-commerce has not been given sufficient attention, and this issue has remained unresolved. Finding ways to solve the problem of normative regulation of public relations regarding the use of artificial intelligence in the field of e-commerce is the purpose of this scientific article.

4. PRESENTATION OF KEY RESEARCH FINDINGS

The e-commerce market is progressing around the world, and Ukraine is no exception to this list. However, the world community is only beginning to realize the real and potential nuances of the influence of fully automated systems on the vital areas of social relations, on the growth of ethical, social and legal problems associated with this trend.

Electronic commerce is directly related to the purchase and sale operations through remote data transmission, advertising through the Internet, conducting business in electronic form. Nevertheless, there is always the possibility of abuse on the part of sellers and platforms, therefore it is important that fair trading is carried out, the rules of transparency and disclosure of information by the service provider, the possibility of handling complaints online are maintained.

For domestic business, the use of artificial intelligence is also relevant. In Ukrainian practice, for the most part, e-commerce is understood as the interaction of business entities with consumers in the sale of goods and services by the latter, that is, B2C as an element of online retailing. The identification of electronic commerce and commerce itself is not quite correct by international standards, in addition, the law delimits it [11].

Moreover, for example, co-founder of Nova Pochta, spoke about the world of the future, saying that artificial intelligence was conquering the world. "The global robotics market will reach \$ 87 billion in 2025. The artificial intelligence market will reach \$ 59 billion in 2025. Artificial intelligence is the background in which the rest of the technology will be strung in the future," he predicted [12]. Furthermore, according to a rating compiled by Deep Knowledge Analytics, Ukraine ranks in the top three in Eastern Europe in terms of the number of IT-companies working in the field of artificial intelligence [13].

Internet vendors use AI solutions primarily to compile customer preference data, product distribution, and fraud detection.

The issues of legal regulation of artificial intelligence began in the early 1990s. Thus, in 1987, the first International Conference on Artificial Intelligence and Law took place, which has since become a regular and held for two years. Already in 1991, the International Association for Artificial Intelligence and Law was established, and in 1992 the Association began publishing "Artificial Intelligence and Law" [14].

Thus, before you talk about the necessary legal rules that can solve the problems that arise in the society in connection with the introduction of artificial intelligence in the field of e-commerce, you need to understand the basic concepts that will be used in this field. Thus, analyzing the legal literature, we can say that Artificial intelligence is a set of software and hardware methods and tools (computer programs) that implement one or more cognitive functions equivalent to the corresponding cognitive functions of a

person [15]. Artificial intelligence can be decentralized or centralized, can have its own infrastructure of actuators [16].

Moreover, it should be noted that Information society – is a component of a civil society that functions within a single information and communication space, which is dominated by new technological patterns based on the massive use of information technologies, computer technology and telecommunications [17].

In addition, according to scientists D. L. Koen and E. Arato, it should be considered that, we must take into account that modern civil society is created with the help of certain forms of self-constitution and self-mobilization [18]. Moreover, as representatives of the Odesa school of civil law have stated in their article, in civil society, citizens are not the subjects of political-power relations and public law, but private individuals with their interests, subjects of private law, participants in civil-legal relations [19].

Thus, the issue of legal regulation of the use of artificial intelligence in e-commerce is of concern to the whole world community (both governments and private corporations), because the lack of legal rules creates grounds for violation of citizens' rights and freedoms (loss of a large number of jobs, use of personal information, etc.). However, an interesting fact is that 7 out of 10 respondents prefer personalized advertising. At the same time, 46% of respondents are ready to provide their personal data in exchange for receiving personalized content and advertising [20].

4.1. SAP's guiding principles for artificial intelligence

The German IT company SAP (Systems, Applications, and Products in Data Processing) has now developed a code of ethics (SAP's guiding principles for artificial intelligence) to regulate the use of artificial intelligence. Discussing and finding ways to solve complex ethical issues is of great importance to the public good. Ethical problems associated with the use of artificial intelligence in the field of e-commerce usually directly proceed into specific legal problems.

The rules in this code are primarily aimed at protecting the interests of employees, preventing discrimination against citizens (both clients of the company and its employees), preserving jobs, preventing the misuse of personal data and interference with privacy [21].

So, for example, a company gives its employees the opportunity to retrain and find a new position if the employee's functions are performed by artificial intelligence.

4.2. Partnership on AI to Benefit People and Society

In addition to SAP, the issue of regulating the use of artificial intelligence in e-commerce has received attention from such well-known companies as Amazon, DeepMind, Facebook, IBM, and Microsoft. Therefore, the following companies have been created by Partnerships on AI to Benefit People and Society (hereinafter – PAI) to settle, discuss, and resolve issues related to artificial intelligence [22]. The named partnership was created back in 2016, was then joined by other large companies, and now has about 70 international scientific, social and business organizations [23].

Now, PAI has working groups on six key areas of research: Safety-Critical Artificial Intelligence; Fair, Transparent, and Accountable Artificial Intelligence; Artificial Intelligence, Labour, and the Economy; Collaborations between People and Artificial Intelligence Systems; Social and Societal Influences of Artificial Intelligence; and Artificial Intelligence and Social Good [24].

Thus, the fifth section states that Artificial intelligent will influence on privacy, democracy, criminal justice, and human rights. For example, while technologies that personalize information and that assist people with recommendations can provide people with valuable assistance, they could also inadvertently or deliberately manipulate people and influence opinions [25].

4.3. European Civil Law Rules in Robotics

When referring to regulations and legal doctrine, it would be advisable to pay attention to international instruments. In particular, acts of the European Parliament are of particular importance within the framework of European integration processes in Ukraine.

Recently, the European Parliament (exact date – February 16, 2017) adopted Resolution 2015/2103 (INL) on the regulation of robotics with recommendations for the European Commission ("Rules of Civil Law on Robotics"). This document consists of provisions on various aspects of artificial intelligence.

Analyzing the content of the document, it identifies several major issues that are related to artificial intelligence, including:

- major social, economic, ethical and legal issues and challenges that need to be addressed concerning the development of artificial intelligence;
- issues of regulation of the development and use of artificial intelligence; issues of control over decision making during the use of artificial intelligence technologies;
- the creation of an institutionalized control system in the field of artificial intelligence;
- issues of civil liability concerning the development and use of artificial intelligence;

- ensuring the protection of personal data during the use of artificial intelligence technologies [26].

Given the course for European integration of our country, it is clear that EU standards in this area will be the basis for the relevant norms of Ukrainian legislation in the future. For example, the task of artificial intelligence, when brought to legal responsibility, is to correct its actions and behaviour, that is, to correct and demonstrate such correction [27].

At the same time, many legal issues that may arise in connection with the development and use of artificial intelligence in this resolution are raised only superficially or not regulated at all.

Although the European Parliament resolution in the system of sources of EU law does not belong to binding acts, the provisions contained therein give an idea of what we can expect from legal regulation in this area in the near future [28].

Moreover, the resolution is one of the first real steps towards legislatively establishing standards for the development and use of artificial intelligence. Although it is purely advisory, its provisions make it possible to form an idea of what will underlie the norms that will regulate the activity in the near term.

The development of certain European legal standards for artificial intelligence will promote the development of the relevant field and ensure respect for human rights in the formation of new social relations with the participation of artificial intelligence.

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4.4. Other Legal Acts on Regulation the Use of Artificial Intelligence

In addition to European Civil Law Rules in Robotics, it would be advisable to refer to other regulations developed by countries around the world. It should also be noted that the leading countries in the field of legal regulation of relations in the field of artificial intelligence are the United States, China, Japan, and Korea.

- Intelligent Robots Development and Distribution Promotion Act in South Korea;
- Japan New Robot Strategy;
- Korean Master Plan on Robotics Development;
- Chinese Robotics Industry Development Plan;
- Chinese guidance on Promotion of Robot Industry Development;
- American National Robotics Initiative;
- Industrial restructuring and upgrading of Guangdong Province for three years Action Plan;
- The Horizon 2020 program created by the European Commission, which includes the Robotics 2020 Multi-Annual Roadmap [29].

4.5. Legal Regulation

Talking about the legal aspect of the need for the legal regulation of the use of artificial intelligence in the field of e-commerce, the following data should be provided.

Due to the high relevance of the issue of developing effective legislation in the field of the use and development of artificial intelligence, at present at the level of international organizations, both governmental and private, as well as in the scientific community, many proposals are being made regarding the main features and potentially necessary accents of such legislation. The issue of the development of legal regulation on the use of artificial intelligence is addressed both at the international and national levels, both in the private sector and at the level of state and supranational bodies.

First of all, referring to the domestic legal doctrine, it is possible to say that the views of scientists on the regulatory framework for regulating the use of artificial intelligence in the field of e-commerce are somewhat divided.

Thus, there are three ways to solve this problem.

The first way comes from the fact that the use of new technologies in the implementation of public relations leads to the need to create new legal rules.

In addition, the second solution to the problem – when using new technologies, there may be a small number of "new" types of social relations (which until then were not) along with traditional social relations. In this case, it is advisable only to modify, improve, and supplement the already existing legal norms.

5. CONCLUSION

As a result of the study, it is possible to draw the following conclusions.

Firstly, there is a widespread introduction of artificial intelligence into the e-commerce field. Nevertheless, even though the issue of the use of artificial intelligence in the field of e-commerce has emerged in recent years, at present the views on the possibility of artificial intelligence differ.

The last way is to try to settle new social relations related to the use of artificial intelligence in the field of e-commerce by the legal norms already existing at the national and international levels. At the same time, it is essential that it is necessary to strike a balance between the interests of society and individuals, including security and the need to develop innovation in the public interest.

Moreover, the formation of legislation on artificial intelligence necessitates, in addition to legal study, also a philosophical analysis, since it is not just about the machine, but about the creation of intelligence, a self-aware mind, not a person, but, nevertheless, reflecting in a certain degree the real world [30].

In this case, in our opinion, the existent legislation applies. The main question is only whether there are enough current rules that establish a general legal regime, or should they be changed taking into account the features of artificial intelligence.

It should be noted, that many countries, like Australia, Korea, China, Kazakhstan, Belarus, are regulated by electronic trading platforms as part of e-commerce legislation.

Some countries, for example, Korea, in addition to fixing the concept of an electronic trading platform in the general law governing electronic commerce, are introducing the concept of an electronic trading platform in the law on consumer protection, to strengthen consumer protection.

For example, if we talk about the regulation of the activities of platforms for sale on the Internet, it is necessary to focus on the following aspects: determining the status of platforms, protecting the economic interests of users of online platforms, creating online platforms for dispute resolution. These measures will improve market transparency and protect consumers from illegal platform actions.

In addition, it should be mentioned that there is a widespread opinion that enterprises today do not use AI, but use automation or machine learning. The latter includes a set of computational methods by which machines figure out how to gradually improve their results. Machine learning builds patterns and trends by analyzing data and concludes. This technology requires machines that are based on their own "discoveries", use logic to solve problems and are constantly improving [31].

Secondly, the issue of the development of legal regulation on the use of artificial intelligence is addressed both at the international and national levels, both in the private sector and at the level of state and supranational bodies.

Currently, there are several regulation acts in the world governing the use of artificial intelligence. For example, Rules of Civil Law on Robotics; Intelligent Robots Development and Distribution Promotion Act in South Korea; Japan New Robot Strategy; Korean Master Plan on Robotics Development; Chinese guidance on Promotion of Robot Industry Development; Industrial restructuring and upgrading of Guangdong Province for three years Action Plan; etc.

The issue of legal regulation of relations on the use of artificial intelligence in e-commerce in domestic legal doctrine is almost not studied and there is no proper legal framework (to regulate these relations) Ukraine. However, in Ukraine (and the almost whole world) the e-commerce market is growing, so we see the necessary implementation of relevant legal rules in our country. At the same time, it is essential that it is necessary to strike a balance between the interests of society and individual individuals, including security and the need to develop innovation in the public interest.

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