# ANALYTICAL NOTES

## DIGITAL ETHICS IN THE APPLICATION OF HIGH TECHNOLOGY IN BUSINESS

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What can't we imagine a modern office without? It is quite obvious that among all the variety of office space types that come to mind, there will be a lot in common: from the typical layout of premises and their functions to the general principles of visual design and brand positioning. However, it is the computer that determines the pivot and the way of arranging the workspace. And by and large even the office itself is no longer an integral part of a business and is often replaced, both theoretically and practically, by a set of networked computers. The events of 2020 confirmed this trend.

Digitalization is one of the buzzwords of our time, which largely hides the widespread use of digitized data and digital processes to optimize the work of organizations.

With the introduction of digital technologies in the business environment, we witness many new opportunities in the collection and processing of data, as well as the effective management of the business itself. At the same time, the awareness and understanding of these changes and their importance raise serious questions.

As an example of such a technology, let's take the sensational artificial intelligence (AI). Thanks to the use of artificial intelligence, the possibilities for automating and optimizing business processes are considerably expanding. AI-powered data analytics can identify trends and patterns, forecast demand, optimize inventories, and predict customer behavior. Such capabilities help make more informed and effective decisions at the company level. Artificial intelligence is also used in production automation, quality control, and preventive service of equipment. All this allows companies to achieve maximum efficiency, reduce costs and improve the quality of their products.

Digital technology is also bringing big changes to the marketing landscape. With the development of the Internet and social networks, we see new channels of communication with consumers. Thanks to digital platforms and tools, companies are able to establish a more direct connection with their target audience, analyze their preferences and needs and work out personalized advertising campaigns. This allows reducing marketing costs and ensures higher returns from advertising. According to a survey of foreign marketers held in 2022, almost half of the 2,000 respondents use bots for direct communication in chats [1].

Along with the development of technology, the concept of "digital ethics" is becoming increasingly relevant, which is a set of rules, norms and values regulating the use of digital technologies and behavior in the digital

## STATE OF THE RUSSIAN VENTURE MARKET

In Russia, according to the analytical company Dsight, the number of startups remains stably at the same level - about 13,000 [4].

The Russian venture capital market, both in terms of the number of startups, transactions, checks, and the number of investors, has never been among the world leaders. For instance, compared to such countries as Israel and the United States, Russia is significantly inferior in this respect.

An equally indisputable fact is that the number of transactions and the volume of investment in the Russian market have declined considerably over the recent years. This trend started in 2014 and intensified in 2022 and 2023, with the exception of 2021 when, after the pandemic, there was an incredible rise in investment worldwide up to $2.5 billion due to the intensification of all economic activities, including investment [5].

The Russian state can rightfully be considered one of the most advanced in digitalization. Where else can you conclude real estate deals online using a unique digital signature? For instance, in Germany, still one of the world economic leaders, digital services are far less developed and resolving private issues requires a lot of time and a very large number of papers that must be certified at the post office with the presentation of a passport for identification. It is telling that the German government has just now announced a course towards digitalization and red tape reduction in interaction with business and the public. In the private consumer sector, the picture in Germany is not so sad but also leaves much to be desired. While in the daily consumer segment the market level is comparable to that of Russia, of course, taking into account the specifics, the level of digital services of the banking sector in Germany is lagging behind the Russian one by at least 5 years. This can be explained not only by the fact that banks in Germany are, in principle, very conservative and are not very keen to introduce new technologies, but also by the fact that Russian banks started to develop their own ecosystems through digitalization, expanding the list of services and areas of activity. SBER ecosystem alone says a lot.

This paradoxical picture is explained by three facts:

1. The structure of player-investors on the Russian market.
2. Limited growth potential for startups on the Russian domestic market.
3. Limited amount of investment funds.

The structure of player-investors on the Russian venture capital market is widely known, and we do not deviate much from it. In Russia, it is as follows:

- Corporate funds.
- Government funds.
- Private foundations.
- Ecosystems and laboratories.
- Private investor clubs.
- Business angels.
- State innovation support centers and clusters.

Let’s try to understand a little about the trends, market features, and the roles of different types of investors.

Using the analytical material of Dsight and the Skolkovo Foundation for 2023, it is possible to see a rapid decline in investment: it decreased five-fold, and the share of foreign investment reached its minimum - only 3 transactions worth $2.6 million. At the same time the number of transactions in 2022-2023 even rose by 23% from 137 to 180 [6].

environment [2].

In this regard, over the recent years the ethical aspects of digitalization have caused a noticeable public reaction and led to the development of many international and Russian documents that call for compliance with ethical principles and norms in the new digital environment. At the end of 2021, around twenty large Russian companies and organizations signed the first Russian "Code of Ethics in Artificial Intelligence". This code states that when using artificial intelligence, responsibility must always lie with humans. The development of this code is stipulated in the National Strategy for the Development of Artificial Intelligence till 2030 and the federal project "Artificial Intelligence" [3]. As of today, compliance with the standards specified in this document is voluntary. Similar codes also exist in many other countries. Already 35 large companies around the world have developed their own codes, and in Russia Sberbank and Yandex have done the same.

Now let's turn to the practical side of the matter. In 2023, V.Gerasimenko, Doctor of Economics at Moscow State University named after M.Lomonosov, conducted a scientific study aimed at studying the attitude of Russian entrepreneurs to the introduction of AI.

As part of the survey, representatives of large companies were asked questions related to the integration of artificial intelligence technologies and the importance of digital ethics. The main focus was on analyzing why Russian businesses rarely use artificial intelligence as of today. During the discussion several answer options were given, and the managers could choose no more than two:

- high expectations that are not met by reality;
- issues of ethics and mistrust in AI;
- lack of qualified personnel to use AI;
- low quality of source data and high cost of processing.

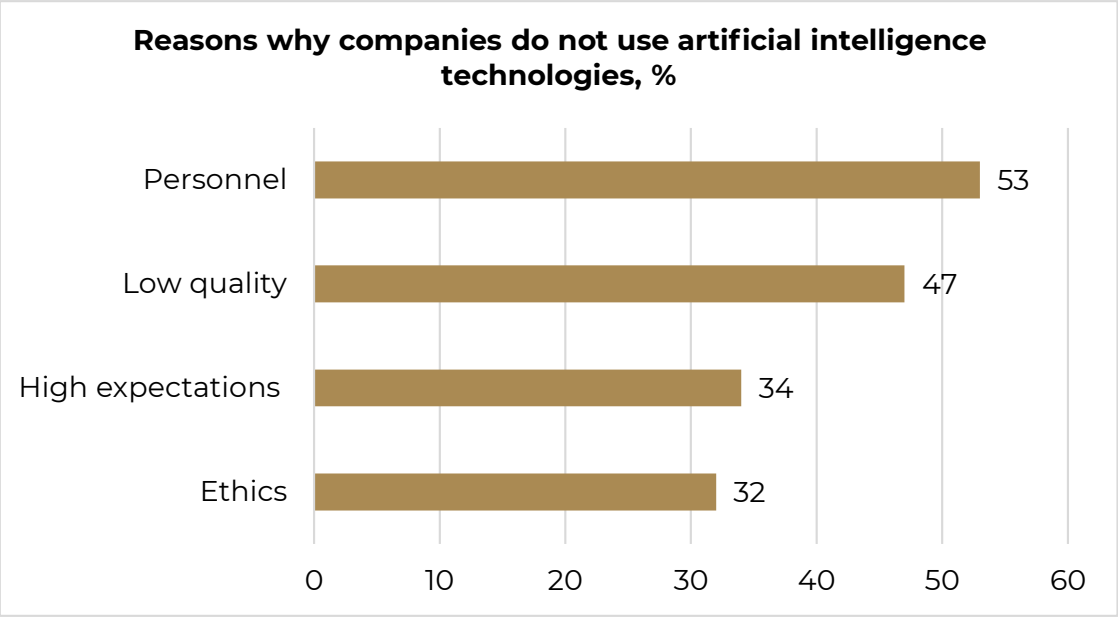


**Fig. 1. Reasons why companies do not use artificial intelligence technologies, %.**
**Source: compiled by the author based on V.Gerasimenko. Digital ethics of using artificial intelligence in business: awareness of new opportunities and risks // Scientific research of the Faculty of Economics. Electronic journal. 2023. No. 1(47). P. 7-54.**

It was revealed that at the moment, for Russian business, the key factors for not using AI everywhere are still economic, not ethical, aspects.

Next, respondents were asked to answer a question related to digital marketing. At the moment, there is growing interest in the use of electronic

bots among the manufacturers to influence the consumers. Therefore, entrepreneurs are actively discussing whether companies should intensify the use of chatbots to manage customer behavior. To evaluate this matter from an ethical standpoint, two alternatives have been proposed:

- the chatbot must constantly monitor and record all actions of website users;
- a chatbot can be intrusive to a company's client.

Some believe that the ethically correct solution is to give the website user the third option: the choice of whether to call the bot or not. Therefore, the question followed: "Should companies constantly use bots in communication with customers?" As it turned out, most of the respondents were inclined towards the third option.

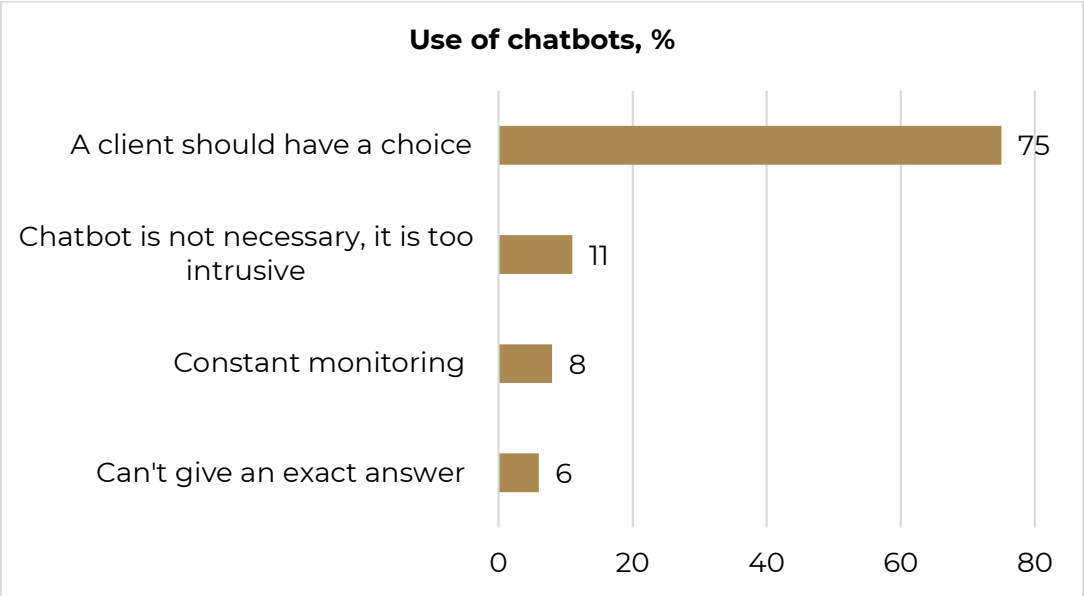


**Fig. 2. Use of chatbots, %.**
**Source: compiled by the author based on V.V. Gerasimenko. Digital ethics of using artificial intelligence in business: awareness of new opportunities and risks // Scientific research of the Faculty of Economics. Electronic journal. 2023. No. 1(47). P. 7-54.**

The final stage of the survey was aimed at looking into the awareness of managers about existing ethical issues in business, as well as the prospects for the further development of AI, which are actively discussed by business representatives and researchers. This topic covers the following aspects:

- information warfare and cyber attacks;
- reliability of information and the spread of fake news;
- violation of privacy;
- destruction of cultural identity and traditions of consumer behavior.

In this regard, it was proposed to assess the key ethical issues associated with the digitalization of markets.

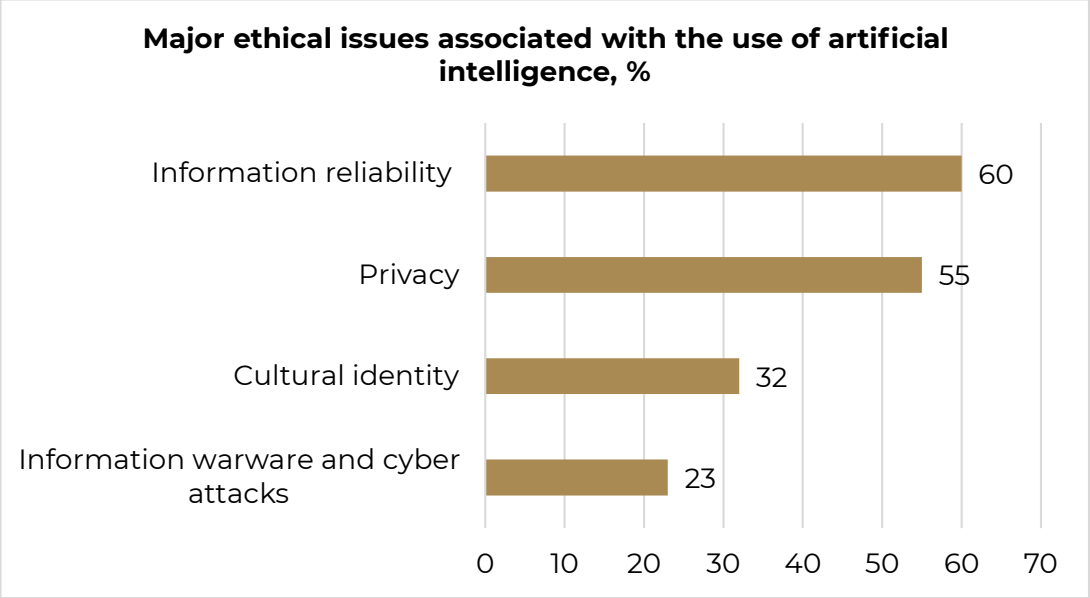


**Fig. 3. Major ethical issues associated with the use of artificial intelligence, %.**
**Source: compiled by the author based on V.V. Gerasimenko. Digital ethics of using artificial intelligence in business: awareness of new opportunities and risks // Scientific research of the Faculty of Economics. Electronic journal. 2023. No. 1(47). P. 7-54.**

Thus, it can be concluded that currently awareness and understanding of ethical issues related to digital technologies among business leaders vary. Most of the respondents agree that the use of artificial intelligence in business is not yet widespread enough and point to the lack of qualified personnel and the low quality of source data as the main reasons for it.

Executives are neutral on the potential for artificial intelligence to directly communicate with customers and manage the customer experience. The results of the study indicate that the vast majority of executives express concerns about the capabilities of chatbots and more than 70% of them view chatbots only as a tool, the use of which should entirely depend on the consumer.

However, leaders in various functional areas are already aware of the relevance of digital ethics issues and recognize that the main problems are false news, involving falsification of information about market participants, as well as the pressure of personalized marketing, limiting freedom and distorting the motives of consumer choice.

Nevertheless, it should not be claimed that companies are totally afraid of using new technologies. Apart form advanced ecosystems represented by Sberbank and Yandex, companies representing key sectors of the national economy are actively introducing technologies, for instance, JSC Russian Railways, PJSC Gazprom and PJSC MTS.

The results of the study held by the consulting agency Gartner in 2021 show that the Russian Railways company has achieved digital maturity at the level of 3.94 points out of 5 possible. This indicator increased by 0.1 points compared to the previous year, suggesting gradual progress [7]. Successful progress in this area is ensured by the systematic work of Russian Railways to introduce digital technologies into internal processes, as well as participation in government and inter-industry projects.

One of the company's important achievements was the system of data exchange among companies introduced through the data mart it created in the National Data Management System. Thanks to interaction with the Social Fund of Russia, it was possible to process almost 108 thousand requests in

the Far North [8]. Moreover, the company is actively implementing a Digital Transformation Strategy aimed at developing domestic software and digital services for employees and clients.

An important factor in the development of digitalization is the rise in the share of electronic tickets for long-distance trains. Last year, more than 74% of passengers issued tickets electronically, which is 11% higher compared to 2021 [9]. However, it is necessary to take into account the ethical aspects of this process, since not all people can use e-tickets for various reasons. Therefore, it is important to provide for purchasing tickets in cash through the counter.

Apart from that, the company is focused on supporting its employees as they adapt to working in a digital environment. Instead of immediately shifting to a completely digital ecosystem, the company is focused on training employees, eliminating their fears of technology and effectively using digital tools in their work processes. All employees are involved in systematic work on digital training, supported by department heads, digital technology specialists, business analysts and product teams. A distance learning system has been arranged, with more than 700 courses available, including IT. An important component of the company is the Digital Competence Center, which is located in the Industry Center for the Development and Introduction of Information Systems of JSC Russian Railways in Sochi. This center offers training and retraining for IT specialists.

Another example is PJSC Gazprom. The company has developed a special digital strategy till 2026. Its essence lies in improving the management system, increasing protection measures, and the efficiency of production processes. The major goal is to create a unique model integrated with the national data management system. To successfully achieve this goal, it is necessary to use digital platforms that will combine various IT solutions and services. Such platforms will ensure the effective interaction of various IT systems and help simplify the processes of data exchange among them. Moreover, the use of digital platforms will reduce the costs of developing and supporting IT systems, since they will be based on uniform regulatory and reference information, which will reduce data duplication and improve their quality.

One of the ultimate goals of this strategy will be to create a platform for interaction with national information systems. Gazprom is actively participating in a pilot project of the Federal Tax Agency of Russia aimed at combining the information systems of tax monitoring participants with the key information system of the tax agency, known as AMS “Nalog-3”.

Another example is the MTS company. MTS and Ultima Tech signed an agreement on mutually beneficial cooperation. Its main idea is that in digitalization of Russian industry companies should provide financial and technological support in promoting their products.

MTS occupies a leading position in Russia by the number of installed special technological networks. At the moment, the number of companies preferring the universal Private LTE technology developed by MTS is increasing. This technology is used to update information technology systems in the production and sale of various digital services. MTS has significant expertise in deploying specialized networks, especially in mining industry. And cooperation with such a large integrator as Ultima Tech will expand the range of digital products. They have already launched four projects in the mining industry totally worth of about 500 million rubles. They are planned to be completed within two years [11].

Thus, current changes in high technologies contribute to the emergence of a new philosophical discourse. Application and analysis of existing knowledge in business ethics in the modern business community can serve as a catalyst for the development of new concepts and principles of digital ethics. Achieving this goal requires ongoing academic research and constructive discussions

on moralization and social responsibility, which have the potential to become both voluntary and mandatory for businesses at the national and international levels. Conducting additional research in this area will contribute to a deep understanding and pragmatic application of the basic principles of digital ethics in the Russian business community.

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