

## DEVELOPMENT OF THE DIGITAL ECONOMY IN THE CONTEXT OF THE SANCTIONS WAR

**A. G. Prarouski**

*Ph.D in Economics, Associate Professor, Head of the Department of World Economy, Marketing,  
Investments Brest State Technical University, Brest, Belarus, e-mail: agprorovskij@g.bstu.by*

### Abstract

Consumer behavior has changed significantly at the present time. The paper examines the development of the digital economy in the context of a pandemic and a sanctions war. The digital economy is capable of both accelerating the recovery of the global economy in the post-pandemic period, and neutralizing the consequences of the sanctions war. At the same time, there is a risk of fragmentation of the global digital economy, which will reduce the "economies of scale" and reduce the efficiency of the global economy.

Fragmentation of the global economy is particularly dangerous for small countries: the closure of foreign markets in the face of a small number of domestic consumers leads to a significant increase in products with high conditional fixed costs, including digital products.

**Keywords:** digital economy.

## РАЗВИТИЕ ЦИФРОВОЙ ЭКОНОМИКИ В УСЛОВИЯХ САНКЦИОННОЙ ВОЙНЫ

**А. Г. Проровский**

### Реферат

Поведение потребителей серьезно изменялось в настоящее время. В работе исследовано развитие цифровой экономики в условиях пандемии и санкционной войны. Цифровая экономика способна как ускоренно восстанавливать мировую экономику в постпандемийный период, так и нивелировать последствия санкционной войны. Вместе с тем, есть риск к фрагментированию глобальной цифровой экономики, что приведет к уменьшению «эффекта масштаба» и снизит эффективность мировой экономики.

Фрагментирование мировой экономики особенно опасно для небольших стран: закрытие внешних рынков в условиях небольшого числа потребителей внутри страны приводит к существенному росту продукции с высокими условно-постоянными расходами, в том числе цифровым продуктам.

**Ключевые слова:** цифровая экономика.

### Introduction

The coronavirus pandemic, which began at the end of 2019, and the sanctions war have a significant impact on the behavior of people and businesses. An important factor is the uncertainty of the end of both the pandemic and the sanctions war: forecasts are constantly changing, people and businesses are adapting to new conditions and changing their behavior, including in consumption, forever. In a short period of time, people who are used to living in a highly competitive offer and gradually go through digitalization, getting used to online trading, were restricted in their movement, choice, and many went through quarantine or self-isolation. The sanctions war leads to fragmentation of the digital economy, which negatively affects the supply side.

### Development of the digital economy

Over the past three decades, the development of the digital economy has been characterized by a high level of internationalization, international cooperation, and strong global value chains with expanded outsourcing. In addition to the natural processes of scientific, technological and industrial specialization, the exploitation of competitive advantages (for developed countries - strong competencies, for developing countries of Pacific Asia - cheap labor, etc.) and the sharing of risks and costs, internationalization was fueled by two trends. On the one hand, providing global access to qualified personnel, innovative entrepreneurs, developers, smart capital, established innovation institutions, ecosystems and clusters that determine the competitiveness and development of ICT in the future.

On the other hand, for new digital technologies (Internet solutions, artificial intelligence, big data) - access to primary data as a new strategic resource of the digital economy. In the face of growing competition between the US and China, the value and importance of these resources is increasing, and access to them is really becoming one of the key factors for realizing digital leadership.

Thus, the sanctions war is not an ordinary trade war, "typical" sanctions or other traditional phenomena. This is an element of the systemic

struggle of superpowers in a relatively new global space of critical commercial technologies and technological rents, which are of great importance for strengthening development potentials, structuring international relations, and solving other leadership tasks. Another question is that in this capacity it clearly preserves continuity in relation to the geopolitical and economic conflicts of the past, being rather an evolution of existing approaches and solutions, taking into account the new role and significance of digital technologies in the modern world.

Innovative technologies that significantly change the usual actions in various areas, from industrial production to the organization of everyday life, capture their consumers with increasing speed. Under the pressure of the speed of innovation development, companies are forced to change existing business models, develop new approaches to the products and services they implement, processes and support for business operations.

The speed of bringing new products to the market is constantly increasing. Existing business models and processes become irrelevant, and businesses have to operate in conditions of uncertainty and constant changes. New business models are being developed based on the principles of the "shared consumption economy" and electronic platforms.

There are a number of barriers to business transformation: lack of competencies, inflexible management structures, uncertainty, and so on.

Many companies do not have time to adapt to changes and leave the market. Pressure from consumer demand and the rapid development and spread of technology have increased the importance and complexity of the innovation process in companies, making it more expensive and risky. Companies are developing new models of innovation activity.

Digitalization of communications.

Info communication technologies are changing the models of communication between people, as well as between people and organizations (government agencies, small and large businesses, retail, and social organizations). Establishing and maintaining contacts is becoming easier, and instant interaction with each other is possible at any distance.

The spread of digital technologies allows for a more even distribution of income. Individuals get the tools to interact directly, bypassing intermediaries. Online migration takes place in areas that were previously only available offline, such as public services and education.

People around the world are becoming addicted to smart devices such as mobile phones and tablet computers. You can use them to perform a variety of tasks anywhere and anytime—from socializing, shopping in the store, entertainment, and checking email, to bank payments, education, and GPS navigation.

There is an evolution of user behavior: 10 years ago, Facebook revealed the profile of people, changing their lives. Then Instagram and Twitter called for sharing information about themselves every second. Today, the era of tracking has arrived: what time did we wake up, how long did we walk, how did we walk the dog, etc. Consumers spend almost all their free time with gadgets that speed up their already fast life and make information exchange instant.

Omni-channel is actively developing: the ability to make purchases in different modes: at the point of sale, via a mobile phone, or via a computer with the possibility of seamless transition.

Opinion leaders in social networks become one of the most important channels of promotion. 60% of consumers say they listen to recommendations.

Social transformation. Society is in constant motion. The main vectors of global demographic shifts are: a steady decline in the birth rate and death rate of the population with economic development and urbanization, an increase in the world's population, an increase in life expectancy, and accelerated migration of the population from less developed to more developed countries.

Attitudes towards aging are changing, and gender roles and the concept of family are shifting. The proportion of older people is increasing. The consumption habits of older people differ from those of younger people. The increasing availability of training and the increasing participation of women in business have a profound impact on changes in the social infrastructure. The role of women in society is changing, gender equality is developing, which has shaken the position of men as the first breadwinner in the family. One of the main facts defining the society of the future is the change of generations. Generation X will be replaced by Generations Y and Z, which have a different set of values.

Technologies and innovations. One of the most important factors influencing modern consumer behavior is the rapid development of technology.

On the one hand, technology expands the possibilities of consumption, opening up access to a wide range of goods and services.

On the other hand, the development of technology complicates our lives and changes it. Sometimes we stop coping with the pace of development and complexity of technologies and even become dependent on them. Therefore, the so-called usability – convenience and intuitive ease of use of technologies-becomes the most important consumer requirement.

Current technologies contain great potential for business development. In the future, technologies will become more accessible, including to consumers. Technologies are perceived as an object of increasing efficiency, but they also allow you to create consumer experiences and new sources of income.

Internet of Things: technology is no longer just objects. Today, the refrigerator, kettle, and vacuum cleaner can be sources of information.

Today, no high-tech business sees itself without cloud technologies. You can pay for your purchases by phone. Apple Pay, Android Pay and LG Pay technologies have made life easier for consumers and made transactions based on magnetic switching technology accessible to everyone.

According to the GlobalWebIndex report: Since the beginning of 2020, people have spent significantly more time on devices that have Internet access (Figure 1). Today, the Internet is used by 4.95 billion people worldwide, which is more than 60 % of the world's total population and has grown by 4% over the year (Figure 2). The number of unique mobile users continues to grow. The number of mobile device users was 5.31 billion. Internet-connected devices are growing in popularity due to quarantine restrictions, and they will continue to show growth even if restrictions are eased.

At the same time, the sanctions war restricts the opportunities of both consumers and advertisers in the Russian Federation and the Republic of Belarus.

GlobalWebIndex's latest research on the impact of the coronavirus on Internet users shows that all segments are growing, but social networks are growing at a faster pace.

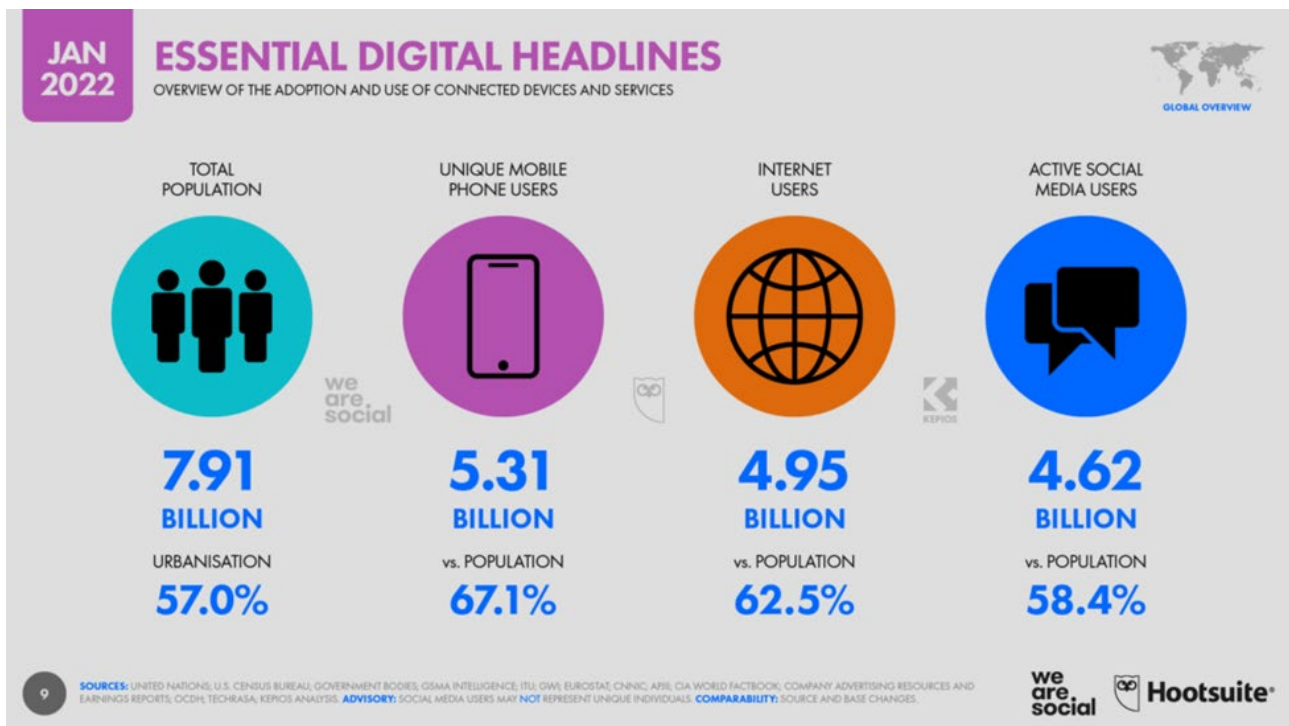


Figure 1 – Statistics on the growth dynamics of device usage during the pandemic [1]

In total, despite the many potential harms that can be caused by excessive use of devices connected to the Internet, you need to realize that these same technologies can improve the quality of life of people.

Let's look at how consumer behavior has changed during the pandemic in search engines and display advertising. In search engines, people are beginning to actively use voice search and image search.

The development of voice technologies is an important reason for changing search habits, and the growing popularity of voice commands is no longer news. The reason for the sharp increase was also the popularity of this type of search in fast-growing markets, which have a significant

impact on overall performance. Thus, in India, China and Indonesia, this is more than half of Internet users.

The growth rate of Internet users is decreasing from 10% in 2011-2016 to 6% in 2017-2021 (Figure 3).

The number of users of social networks is growing at a faster pace (Figure 4). This trend is especially noticeable in the youth segment of the Internet, where the number of users of social networks has tripled in 10 years.

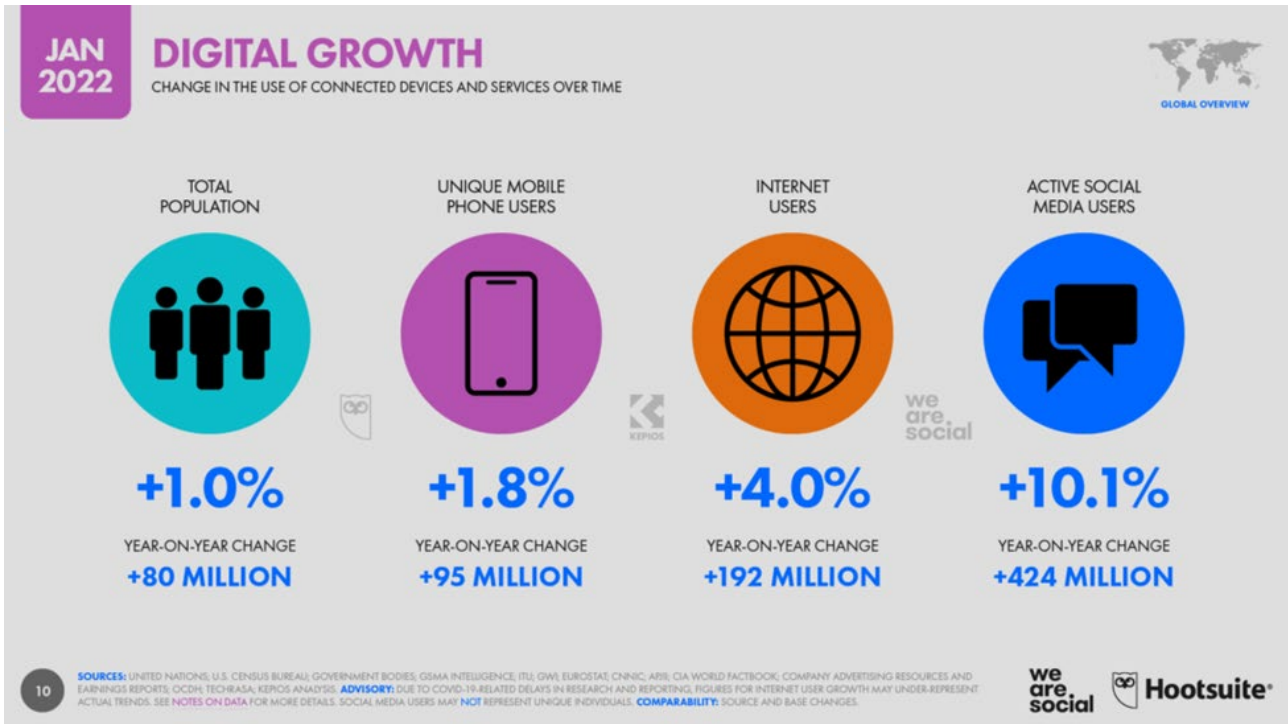


Figure 2 – Growth of Internet users during the pandemic [1]

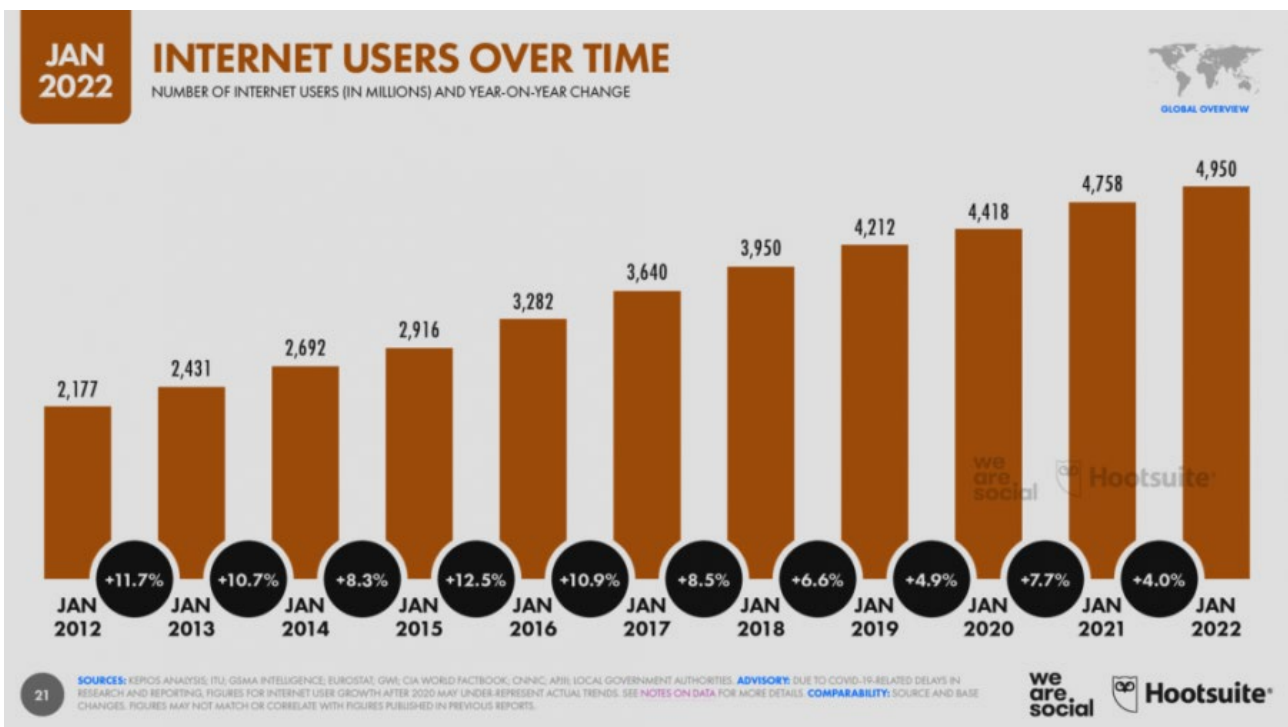


Figure 3 – Number of Internet users in the world [1]

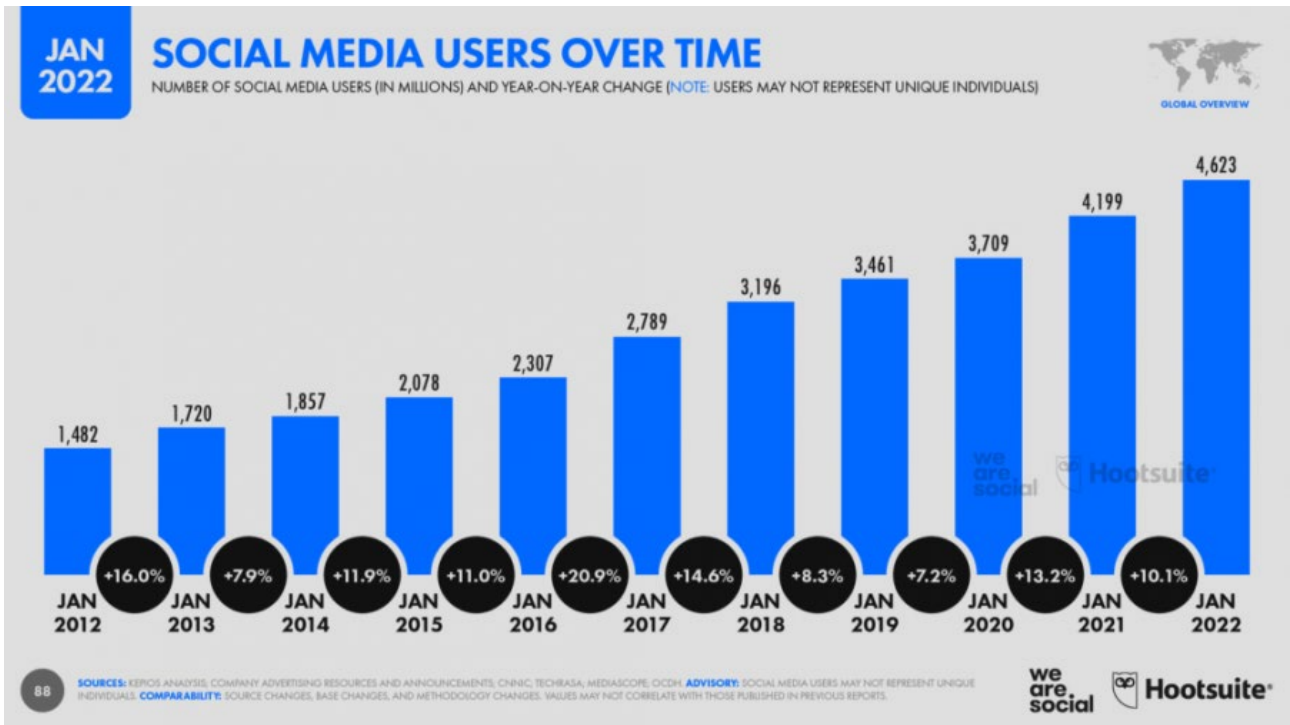


Figure 4 – Users of social networks [1]

The gap between search engines and social networks has been narrowing recently, which indicates ongoing changes in the way people search for information about products they want to buy. Moreover, among Internet users aged 16 to 24, social networks are now the main source of brand information. Even search engines take a back seat, because young women are much more likely to turn to social networks for information.

According to the META advertising tools, brands will be able to reach more than 1 billion people with targeted advertising on Instagram. Instagram's advertising reach during the pandemic increased by 111 million new users in the quarter alone, indicating quarterly growth of more than

10%. This means that Instagram's advertising audience is now growing at a rate of more than 1 million new users per day. As a result, the number of users in Russia (due to the blocking of the social network) decreased by 50%.

The number of registered LinkedIn users has also passed a milestone of sorts — 700 million users worldwide.

TikTok had a very successful year in 2020, with the platform showing impressive growth in the number of users worldwide. However, banning the app in India could negatively impact the platform's future growth trajectory.

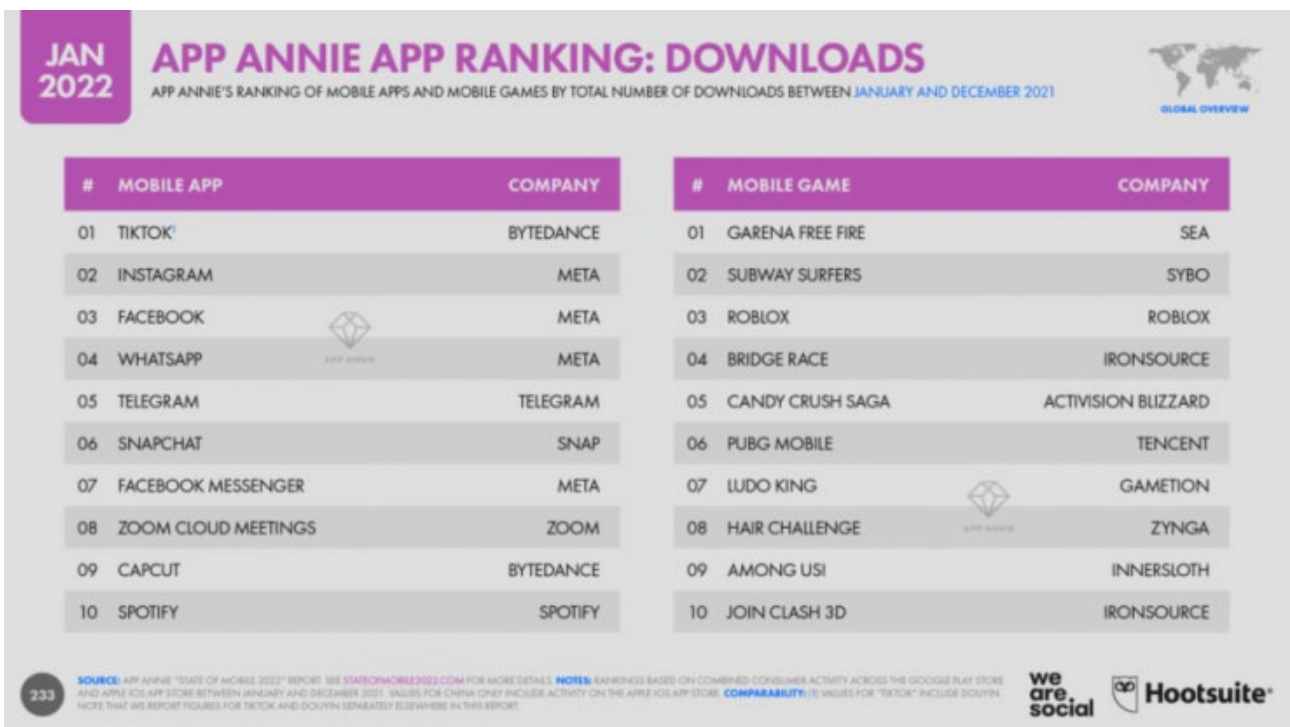


Figure 5 – Rating of downloaded apps and games [1]



It is important to note that users were influenced by the "infodemia", which is a very large amount of news, information, memes, etc., which leads to fatigue from the topic. Here are 5 main points that consumers expect from the brand right now:

- customer care (less information about the pandemic. It is considered appropriate to tell us about prevention measures in offline outlets, additional services, such as contactless delivery, etc.);
- challenges from bloggers (well-known bloggers launch a challenge with simple movements and rules, which gains viral coverage and instantly spreads across the network, attracting more and more attention to the original message and the brand itself).
- live broadcasts (live broadcasts as a broadcast channel, where even TV formats are adapted to the mobile version).
- advertising with opinion leaders (the more time people spend online, the more trust they have in their chosen bloggers and influencers).
- home content (organizing photo content at home instead of in the studio; Zara's experience shows that such methods are usually well received by the audience).

There is no universal recipe for communication in a pandemic. Changes occur dynamically and can affect the consumer in a variety of ways, so one of the most important points is to constantly monitor trends, the situation in the world and the country, as well as learn from the experience of other brands.

Finally, I would like to note that the boom in e-commerce that occurred during periods of quarantine and self-isolation is not a short-term surge, but a long-term trend with a lower growth rate (Figure 6). This is due to the fact that earlier people experienced fear and apprehension in shopping online, and in connection with the pandemic, many people had a need to use online stores. This experience will help some of the previously "warm" audience to remove doubts, which will ensure an increase in the number of online purchases in monetary terms.

The sanctions war hinders the development of trade, but e-business tools in some cases allow you to circumvent a sanctions regime, which eliminates the decline in competitive supply to consumers.

The coronavirus pandemic has made its own changes in the projected trends of Internet marketing. The pandemic has led to active internalization and the transition of both consumers and manufacturers to online. Many business representatives were forced to radically change their communication strategy and refocus on Internet marketing.

Currently, urgent measures are needed to establish rules for the functioning of the digital economy on a global scale:

1. International technical coordination is necessary to avoid further fragmentation of the Internet and digital space infrastructure. Global

- data management is playing an increasingly important role due to the introduction of the fifth generation of mobile communications (5G) and the Internet of Things, as well as the acceleration of digitalization spurred by the COVID-19 pandemic. These trends are expanding the ability to collect and monetize data on a global scale. Without a coherent system of international governance necessary to build confidence, this can lead to a setback in data exchange. It also has the potential to reinforce existing concerns about the lack of transparency in the data value chain and the uneven distribution of data benefits.
2. The adoption by States of an increasing number of laws on international data flows creates uncertainty and increases the cost of compliance, which can be particularly disastrous for micro and small enterprises, especially in developing countries. The interconnected nature and high degree of global interdependence in the digital data economy means that in this area, the legislation of some States has an impact on other countries.
  3. In the absence of international governance of digital platforms, self-regulation has led to the formation of market structures that are determined by platforms mainly in their own interests, which has a variety of implications for development and policy. The increasingly global reach of large platforms and the impact that they have make it even more difficult to address relevant policy issues for any given country.
  4. A global approach to data management is needed to prevent the long-standing inequality experienced by developing countries from growing in the digital data space. It is important to ensure that their local knowledge, interests and views are properly represented in the international global policy dialogue

The same trends in the development of the digital economy are observed in the Republic of Belarus as in the whole world: a sharp increase in Internet trade and the growth of remote forms of work. In 2021, the volume of online sales in Belarusian online stores increased by 40%, and the share in the retail turnover of the country amounted to 4.5%. The number of clothing orders for the year increased by 39%. The demand for goods for construction (+38%), repairs (+33%), the category "gifts, hobbies and books" (+32%) also increased. Electronic steam generators became the most popular product: they were bought 6.5 times more often than in 2020, and the demand for anti-stress toys increased 20.7 times. At the same time, the TOP 5 popular categories remained unchanged: household and garden goods, appliances and electronics, beauty and health products, children's goods and auto and motorcycle goods. According to Belstat data (Figure 7), indicators of the development of the digital economy in the Republic of Belarus tend to increase. Which has a positive effect on the entire economy of the Republic of Belarus.

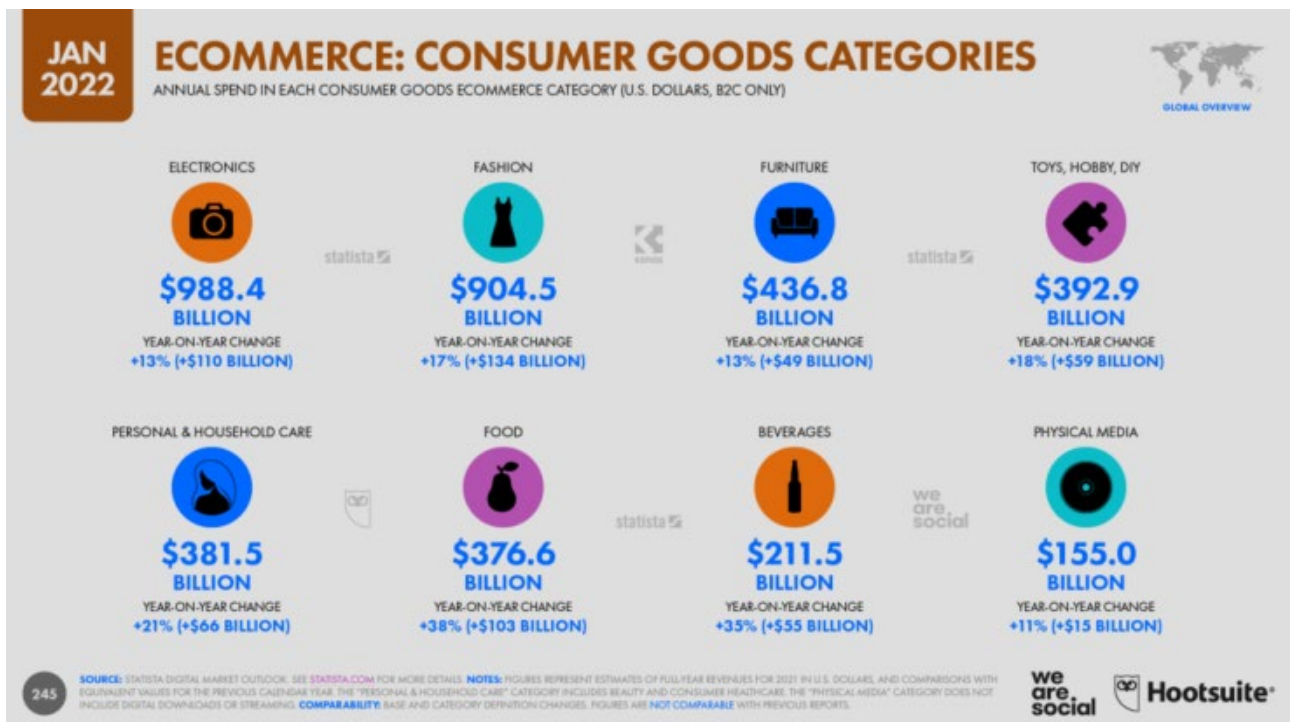
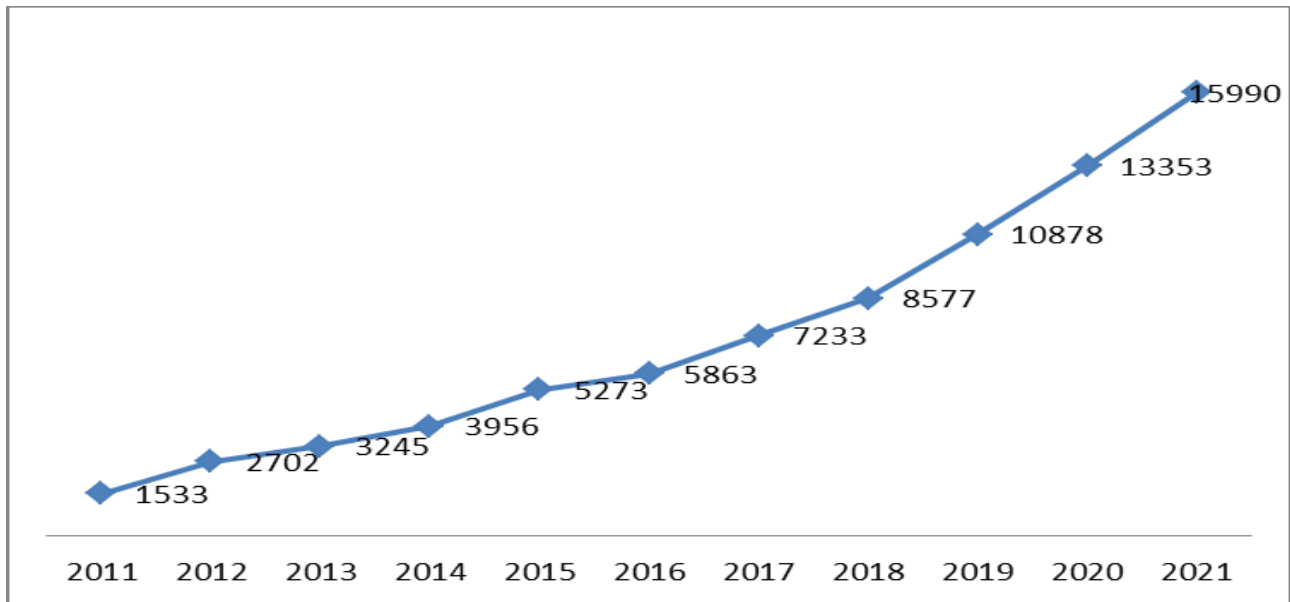


Figure 6 – Changes in e-commerce [1]



**Figure 7** – The volume of production of products (works, services) of ICT sector Republic of Belarus organizations in actual prices (million rubles) [3]

To date, the Republic of Belarus has made significant progress in the digital sphere. A developed and world-standard data transmission network, reliable data storage and processing centers, identification mechanisms, online payment systems, modern electronic services and information security tools have been created.

The digital economy is developing in accordance with the following trends:

- expansion of the functionality of the Internet of Things (in areas such as analytics, peripheral computing and 5 G technologies);
- wide development and dissemination of blockchain technologies;
- the development of artificial intelligence is not as a new, but as a defining trend.

Modern supply chains are changing rapidly under the influence of digital innovations. Robots, 3D printing, Big Data, cloud computing, the Internet of Things, and the growth of "platform companies" (for example, Alibaba, Alphabet, Amazon.com, Apple, Facebook) transform the sources of value added in all industries. This poses certain threats to developing countries, as there is a fear that industrialization based on labor-intensive exports can no longer be a viable model for emerging market countries.

The digital economy, being a driver of high-quality economic development, is able to solve two problems at once

1. Accelerate the global economic recovery in the post-pandemic period,
2. Neutralize the consequences of the sanctions war.

At the same time, there is a risk of fragmentation of the global digital economy, which will reduce the "economies of scale" and reduce the efficiency of the global economy.

The fragmentation of the global economy is particularly dangerous for developing countries: the closure of foreign markets in the face of a small number of domestic consumers leads to a significant increase in goods with high conditionally fixed costs, including digital products.

### Conclusion

Currently, measures are needed to establish rules for the functioning of the digital economy on a global scale: international technical coordination, harmonization of laws on international data flows, international regulation of digital platforms, and a proper division of labor in global value chains in the digital economy.

The digital economy is capable of both accelerating the recovery of the global economy in the post-pandemic period, and neutralizing the consequences of the sanctions war. At the same time, there is a risk of fragmentation of the global digital economy, which will reduce the "economies of scale" and reduce the efficiency of the global economy.

Fragmentation of the global economy is particularly dangerous for small countries: the closure of foreign markets in the face of a small number of domestic consumers leads to a significant increase in products with high conditional fixed costs, including digital products.

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