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Enterprises' strategies transformation in the real sector of the economy in the context of the COVID-19 pandemic

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Abstract

The article examines the impact of the COVID-19 pandemic on the content of key functional strategies of companies in the real sector of the economy. The purpose of the article is to assess the changes in the economic behaviour of companies in the context of the COVID-19 pandemic, to analyse business practices in adapting functional strategies to new risks, and to determine the directions for transforming functional strategies. An analysis of companies' business practices showed that the pandemic had a significant impact on the economic behaviour of companies, transforming not only their tactics, but also their strategy. The functional strategies of the companies have undergone significant changes - marketing, production, personnel management strategies. The transformation of the marketing sphere is due to new trends in the sphere of consumption that have arisen as a result of the introduction of restrictive measures by states. The changed conditions of production activities necessitated accelerated digitalization and robotization of production, restructuring of supply chains and determined the need for the formation of innovative production strategies that meet the conditions of the Industry 4.0 era. The strategy and tactics of personnel management of companies are adapting to the conditions of the epidemic using a remote work format, digitalization of processes and tasks, and the use of new approaches in management. Based on the results of the study, the authors concluded that the pandemic has highlighted problems in the ability of companies to learn quickly in a rapidly changing environment. Today, the surviving companies are those that have been able to best adapt to unforeseen threats. For them, the coronavirus pandemic is not the cause of the crisis, but a turning point and a unique opportunity to develop in a highly competitive environment.

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1. Introduction

The company's development strategy is always a compromise between internal potential and parameters of the external environment. Modern theory and methodology of strategic management is the result of a long evolution of theoretical concepts and business practices that have adapted to changing business conditions and competition. At the end of XX - beginning of XXI century, a gradual change of paradigms took place in strategic management. Science has moved from the traditional interpretation of strategy as a portfolio of businesses for the founders of strategic management to understanding strategy as a portfolio of relationships (Venkatraman, 2002). Strategy as a portfolio of relationships presupposes the

existence of a fundamentally new source of sustainable competitive advantages for the company - savings from "expertise" based on knowledge, that is, deriving economic benefits from the company's intellectual capital.

The most important modern concept of strategic management is the concept of the dynamic capabilities of companies in the face of increasing volatility of the external environment. Dynamic capabilities, which are the ability of a company to integrate, create and reconfigure internal and external competencies to meet an ever-changing environment, allows it to achieve long-term competitiveness (Chesbro, 2008; Gomes et al., 2020; Teece et al., 1994).

The applicability of the concept of dynamic capabilities in the knowledge economy is explained by the fact that the inter-

pretation of a firm as a bundle of resources does not convincingly explain how firms achieve the best adaptation to changes in the external environment, and also makes it difficult to identify the capabilities and competencies of the firm. Due to the dynamic nature of the environment, it is necessary to consider strategic management in the context of adaptation, integration, reconstruction of organizational forms of behaviour, resources and competencies in a changing environment (Teece et al., 1994). At the same time, a number of authors point out that dynamic abilities should not be a direct or spontaneous reaction of the organization to problems arising in the environment, they should be built into the standards and routine activities of the company (Tcifert et al., 2019; Rosak-Szyrocka and Abbase, 2020; Wolniak, 2020; Tkachenko et al., 2021).

Thus, today, in the theory of strategic management, companies are understood as an institution that forms and develops abilities and competencies through learning processes in the form of evolutionary experimentation. Business practitioners focus on developing proactive strategies, introducing disruptive technologies, and designing the most effective architecture of competencies in a highly turbulent business environment. Unfortunately, as always when introducing new technologies or strategies, people's attitudes are a big barrier (Ingaldi and Klimecka-Tatar, 2020).

Already in the last decade, the operating environment of companies has become complex: a slowdown in economic growth on a global scale and in individual countries, trade wars, an increase in political tensions around the world, technological transformation of economic sectors under the influence of scientific and technological progress, a high density of information flows, the need for accelerated implementation innovation - all of this forced companies to compete in the speed of adaptation and learning. Therefore, the pandemic is rightly compared to a bridge that began to sway even before the COVID-19 virus entered it, which only increased the resonance (Gromyko, 2020; Kwilinski, and Kuzior, 2021).

The COVID-19 pandemic is an extraordinary factor that has a critical and sometimes destructive impact on many areas of business around the world, which found itself in a situation close to the "perfect storm". This caused a sharp surge in the interest of economists in studying new trends and patterns of socio-economic development during a pandemic: the state of the real sector of the economy (Drobot et al., 2020), transformation of the labour market (Drobot, 2020; Sawangchai et al., 2020; Zandi et al., 2020), the emergence of threats to the national interests of the state (Erokhina et al., 2020), an increase in the tension of political processes (Gromyko, 2020), changes in the ecological situation (Torkanovskiy, 2020). Relatively few studies are devoted to the strategic priorities of companies that have changed under the influence of the pandemic, and the transformation of corporate, competitive and functional strategies (Lapshina et al., 2020; publications of leading companies in the management consulting market - Boston Consulting Group, McKinsey). This has determined the relevance of this study.

2. Transformation of functional strategies: analysis of management practices

The traditional approach to the formation of the company's strategy involves the development of 3 levels of strategic priorities:

- corporate strategies,
- competitive strategies,
- functional strategies.

For successful implementation, the strategy as a tool for long-term goal-setting must be transferred to the operational level, that is, the strategy must be embodied in the appropriate tactics. In the event of a crisis, the conditions for which the company's strategy was developed change, determining the need to adjust the strategic goals and the main ways to achieve them. This reveals one of the most important functions of strategic management - the function of adaptation to the external environment.

In connection with the 2020 crisis caused by the COVID-19 pandemic, business is faced not only with high uncertainty in the implementation of strategic (long-term) goals, but also with the need to take urgent anti-crisis measures, adjusting both tactics and strategy on the horizon of the next year. According to many experts, long-term measures have been replaced by short- and medium-term imperatives associated with defeating the epidemic and returning the economy to growth, as well as shaping the contours of the world after the pandemic and adapting to it (Lesser et al., 2020). There is no doubt that the world after the pandemic will not become the same, but there will be a "new norm" in the conditions of which the world social and economic development will take place.

3. Research area

The importance of the real sector of the economy, is crucial and should be highlighted. The state of real sector of the economy inform about the economic performance - the real sector of the economy is important for GDP development.

Companies in the real sector of the economy are placed in very difficult conditions to which they will have to adapt. The complexity of strategic management tasks in the post-like era is determined by the fact that companies must lay the sources of survival, as well as future growth and prosperity in an "economic coma" (Lesser et al., 2020). To gain access to new opportunities in the long term, business leaders must respond appropriately to the new environment. In the process, they often find that a rapidly changing situation defies traditional corrective action. By the time a response is prepared, the situation is changing, and the scale, speed and impact of the problems are suddenly amplified. Thus, the forecast background of the decision-making process is highly uncertain, there are no reliable scenarios for the development of events.

To survive and remain competitive in the new environment, new strategies and methods are required. In the paper are presented the examples and business practices that illustrate the directions of transformation of the three main functional strategies of a company:

- marketing strategies,
- production strategies,
- human resource management strategies.

The purpose of this study is to assess changes in the economic behaviour of companies in the real sector of the economy in the context of the COVID-19 pandemic, to analyse business practices in adapting functional strategies to new risks, and to identify promising directions for transforming functional strategies.

3. Results and discussion

3.1. Transformation of marketing strategy

The marketing strategy of a company in general is a set of strategic decisions that orient all elements of the marketing mix (marketing mix) to achieve strategic development goals.

When forming a company's marketing strategy during a crisis, it should be borne in mind that socio-economic crises have a serious impact on the development of the economy and civilization, change the policy of consumption of goods, both in the short term and radically change consumer behaviour (Baryshnikova et al., 2020; Nakat and Bou-Mitri, 2021). And there are many examples of this in the history of mankind (Reeves et al., 2020):

- the Black Death plague pandemic, which prevailed in the XIV century and initiated the introduction of quarantine and isolation, claimed many lives and dramatically reduced the need for food. However, the pandemic has spurred technological innovation to fill labour shortages. In some industries, manual labour was rapidly replaced by machine labour, which changed consumer requirements for the quality of goods produced.
- The Spanish flu epidemic in the 20th century led, according to some economists, to a decrease in the volume of world trade from 40 to 70%, the volume of world GDP by 6.6%. Only pharmacies increased their sales.
- The Second World War contributed to changes in the composition of the workforce, shifting the focus to female labour. After the war, this alignment continued to persist.
- September 11, 2001 changed the whole world, leading to the strengthening of the security policy of citizens in their own interests.
- The 2003 SARS outbreak in China had the biggest impact on the transition to online retail. This crisis marked the beginning of the active development of e-commerce and gave rise to such large platforms as Alibaba, eBay, Amazon and others. The structure of purchases began to change sharply towards an increase in Internet sales of groceries and pharmacy products, their purchases grew by more than 50% compared to the pre-crisis level. On the other hand, it has led to lower travel, entertainment and clothing costs (Ingaldi and Ulewicz, 2019).

The new COVID-19 pandemic and government policies to contain and control it have intensified the trend towards the use of remote sensing technologies (Reeves et al., 2020).

Currently, two trends in the development of companies are clearly visible. First, the growth of digital technologies, the introduction of which is necessary in almost every company (Klimecka-Tatar and Ingaldi, 2020; Kowalik, 2020; Niciejewska and Kiriliuk, 2020; Ritter and Pedersen, 2020). Second, and more importantly, the need to modify the marketing strategies of companies in order to return the pre-crisis level of demand. A numerous consumers have reduced or minimized air travel, visits to cafes, restaurants, shops, concert halls, theaters, cinemas, etc. (Lesser et al., 2020; Pantano et al., 2020; Tkachenko et al., 2021; Wawrowski and Otol, 2020).

When developing marketing strategies, businesses began to pay more and more attention to working out possible options for diversifying their activities and issues of anti-crisis marketing. At the very beginning of the pandemic in many countries, a list of industries that need government support was identified - restaurant business, tourism. Later, museums, zoos, trade in cars, clothes and shoes were included in the list of areas affected by the crisis. The restructuring of marketing strategy is of particular relevance for these industries.

Market experts note that most companies, especially large ones, will change their communication strategies in the near future and will pay more attention to values and situational marketing. Overall, it's fair to say that marketing strategies continue to play a significant role in the development of companies, even despite COVID-19.

The importance of developing marketing strategies for the company is evidenced by a recent study by the consulting company Nielsen, whose data show that the consumer has changed. The consumer is experiencing fear, panic, and declining income. So most of the citizens are now worried about health, in second place are prices for goods and services. According to Nielsen research, 64% of respondents, fearing for their health, began to wash their hands more often, 33 to use sanitizers, 26% to clean the house more often, and 15 to wash their clothes. Following the change in consumer preferences, companies are changing their marketing strategies for the product. Thus, there was an increase in sales and promotion of washing powders, cleaning products, dishwashing and floor washing. Marketers expect continued demand for these types of goods after the end of the pandemic. In addition, according to the agency Nielsen, the transition to online has become an important trend, from shopping online to reading books online.

During the pandemic, consumers actively purchased online food, health products, baby products, and household goods. The audience of online trading has grown significantly: for example, in just 11 months of 2020, the number of Wildberries buyers increased by 16.5 million buyers, to 38.5 million. The pandemic has led to another trend - saving money, saving, and spending less. According to marketers, it is necessary to pay attention to the quality, usefulness, safety of goods and services, to provide for their promotion of promotions.

In these conditions, various tactical actions of companies in the field of marketing are possible. Thus, Maria Kukushkina,

head of marketing at Z & G. Branding, offers a transformation of product, for example, instead of providing nail services, an entrepreneur can sell manicure kits and instructions for its implementation, increase the offer of antiseptics and skin care cosmetics. In terms of promotion, an entrepreneur can offer delivery by their employees.

Major global companies are making a great contribution to the fight against COVID-19 and are using these actions, among other things, to strengthen their reputation. So, international companies, Unilever, Louis Vuitton, Zara provide free soap, disinfectants, free sanitizers, and medical masks. Other, local companies are exhibiting similar behaviour.

Those types of economic activities and companies that prior to the pandemic focused only on the offline sphere were hit hardest. Thus, they did not survive the restrictions and closed up to 20% of restaurant business establishments, and both large chain restaurants from the expensive segment and small cafes suffered. Institutions that changed their marketing strategy by moving their business partially online were able to retain some of their profits (Bove and Benoit, 2020). The companies organized websites, uploaded photos of dishes to them, and organized the delivery of dishes to consumers on their own. According to experts' forecasts, visitors will not return to cafes and restaurants in full until 2022, and profit recovery is expected only in 2023.

Thus, active changes in marketing strategies will allow companies to recover faster.

3.2. Transformation of production strategy

Changes in consumption patterns, consumer preferences for certain products, as well as the need to comply with anti-epidemic measures have required companies to reconsider their priorities in production.

As a result, companies adjusted both production tactics and production strategy – according to the novel trends (Ingaldi and Ulewicz, 2020; Pietraszek et al., 2020). Tactical decisions were focused on the production of new types of products, the demand for which increased (and in a number of countries became feverish) during the COVID-19 pandemic. According to Forbes, the demand for goods for disinfection and sterilization increased (compared to last year). This growth was driven by the hype around hand and surface disinfectants, which were largely out of demand last year. A similar surge in demand has been observed for medical and reusable masks, which have become mandatory in public places everywhere.

In response to this, companies, even those who had not previously specialized in the production of sanitizers and masks, quickly launched their production. Thus, in March 2020, the LVMH concern began using its perfume production lines for the production of hand sanitizers. Sanitizer production is concentrated in three factories producing perfumes for the brands Christian Dior, Givenchy and Guerlain. A striking example is also Procter & Gamble, which in the spring of 2020 put into operation lines for the production of sanitizers and medical masks. The European part of Procter & Gamble channelled aid in the form of personal care products, household goods, disin-

fectants and financial support to non-profit organizations totalling \$10 million to provide medical care to those in need, procure medical supplies and hygiene education for the population in the regions where the virus is spreading. The Japanese company Uniqlo launched the production of reusable masks and donated more than 10 million masks to medical institutions in Japan and abroad. There are examples of restructuring production activities in Russia. Thus, during the pandemic, the well-known manufacturer and exporter of dance shoes, clothing and accessories Grishko began to produce personal protective equipment, medical gowns, masks and shoe covers (Lapshina, 2020).

The transformation of production strategies in many companies today is associated with accelerated digitalization and robotization, the introduction of various forms of "unmanned production". Implementation of these strategic priorities improves the stability of the company and its ability to withstand crises and is relevant for companies of all sizes. Despite the fact that, according to some experts, large business turned out to be much more resilient and suffered significantly less damage during the epidemic (Zimovets, 2020), the introduction of scientific and technological advances will create sustainable competitive advantages of a high order. It is the sustainability of the company and its ability to learn quickly that should be put at the forefront of strategy formation.

With the opinion of McKinsey experts, the rapid diffusion of digital technologies, accelerated many times over by the COVID-19 pandemic, will continue during the recovery of national economies (Baig et al., 2020). Over the course of several months of 2020, companies across all industries and regions facing mobility constraints as a result of the COVID-19 crisis have fundamentally changed the way they do business and have leapt into digitalization years ahead in just 2-3 months. Companies have implemented temporary solutions to adapt to the new environment, according to McKinsey's global executive survey, with respondents expecting most of these changes to be long-term and already investing heavily in them.

3.3. Transformation of human resource management strategy

The role of human resource management (HRM) strategy in a modern company has grown significantly in recent years. This is due to the fact that in the knowledge economy, the most important resource of a company is human capital, the level, quality and efficiency of which can be one of the sources of competitive advantage. Understanding the strategy as a portfolio of relationships, which was mentioned above, implies the use of the company's intellectual capital to obtain economic benefits, and this, in turn, requires the correct selection of personnel responsible for the implementation of the strategic and tactical goals of the company, the definition of those employee competencies that are necessary for transformation and business development.

According to the Banki.ru portal, in Russia in 2020, a fifth of existing businesses closed, namely 1.54 million legal entities, individual entrepreneurs and farms. This became a record for the last 6 years.

The decline in production and the liquidation of business resulted in an increase in unemployment, which became a strong shock for the labour market. According to Rosstat, the unemployment rate in the United States in 2020 increased by 4.2 percentage points compared to 2019 (from 3.7 to 7.9% of the total labour force), in Canada - by 3.3 percentage points. (from 5.7 to 9%). However, according to EUROSTAT data, in the September Eurostat ranking the highest unemployment rates were recorded in Spain (increased by 16.5%), Lithuania (9.8%) and Italy (9.6%), while the lowest - in the Czech Republic (2.8%), Poland (3.1%), Malta (4%) and the Netherlands (4.4%).

The structure of the labour supply has also changed: couriers are becoming the most demanded workers in many countries, and representatives of other professions are no longer needed. According to Artem Kumpel, Managing Director of Avito Rabota, the number of vacancies posted on the portal from March 1 to 25 in tourism and catering decreased by 38.9%, in the field of art and entertainment - by 27.7%, in the beauty industry and fitness - 19.5%. The number of responses to courier vacancies increased by 25% over the week compared to the same period last year.

In these conditions, companies are trying to adapt to the situation as much as possible, adjusting the tactics of personnel management to anti-epidemic restrictions. From an economic point of view, companies implemented programs to reduce staff, and this was most pronounced in industries that were harder hit by the pandemic - tourism, the entertainment industry, and the restaurant business. It is worth noting that the labour market has traditionally been adapting to the crisis by reducing employment (rising unemployment) and increase in latent unemployment. Latent forms of unemployment are becoming more widespread, when employers introduce part-time work, cut wages, and send employees on unpaid leave while maintaining employment.

In addition to the rise in unemployment in 2020, the organization of the work of personnel has transformed. Employees of many companies were transferred to a remote work format, which required the adaptation of almost all business processes to the conditions of remote work, as well as accelerated digitalization of work tasks and processes (Moyo, N., 2020). The organizations faced difficulties in organizing such work, problems related to technical support, as well as problems of a legal nature. Indeed, teleworking was initially not regulated by the state. In many countries, only now government has begun to take the first steps to amend labour legislation.

A number of measures taken by companies in the field of personnel management were of a pronounced anti-epidemic nature. Since March 2020, some of the companies have been implementing a large-scale program to counter the spread of COVID-19 in production, which includes PCR testing before employees arrive at temporary accommodation centres, compliance with all established anti-epidemic measures in shift camps, and a vaccination campaign among personnel in the 1st quarter 2021 year. Changes (restrictions) have also been introduced in the free movement between departments in the building. It also focused on minimizing the number of trips between cities and countries. The situation was complicated

by the scale of its activities – some of the company's enterprises and offices are located in different regions and employ over thousand people. The company has organized remote access for employees who have switched to remote work, and IT services are gradually providing employees with opportunities for uninterrupted work. Safe business trips are organized for employees whose presence in the office is required. Measures such as daily temperature measurement, disinfection, and a ban on long-distance and international movement began to operate in some company from the end of March 2020. The companies have to build a system for informing employees about the situation and the measures taken, which was also aimed at advising personnel in the transition to remote work. These actions were initially tactical in nature, and all changes were perceived by companies as a temporary phenomenon. However, gradually remote work from a temporary form of work organization began to turn into an element of personnel management strategy. Companies realized that many tasks of current activities can be solved without the presence of employees in the office; moreover, employees, teams and entire staffs have demonstrated excellent performance in different locations. In academia and business, it is believed that telework is the future of mental work, especially in the face of widespread digitalization (Chudhuri, 2020).

The clear advantages of telecommuting for employers are the reduction in rental and maintenance costs of buildings, the use of highly qualified foreign specialists, and an increase in labour productivity due to greater flexibility and labour intensity. Workers gain geographic flexibility and the ability to self-organize their work. Today, the lines between freelancers, outsourcers and out-staffers are gradually blurring due to the increasing number of aggregator sites that allow the customer and the professional to meet, which also contributes to the widespread use of remote work.

Of course, certain difficulties and problems are associated with the remote work format - organizational problems, difficulties in coordination and control of personnel, problems with communication, provision of equipment and maintenance of remote workplaces, risks associated with the psychological state of employees due to the new work format, etc. But we believe that the potential benefits outweigh, and telecommuting will become a strategic priority for many companies in the not too distant future. Such intentions have already been announced by Twitter, Facebook, Shopify, Siemens and the State Bank of India.

3.4. General transformation of the companies' functional strategies

World Health Organization Director General Tedros Ghebreyesus, in a video message timed to coincide with the International Day of Anti-Epidemic Preparedness, said that the COVID-19 epidemic will not be the last. Moreover, in the modern world, epidemics are not the only factor in crises. Natural disasters, man-made accidents and environmental disasters, global threats of a geopolitical and socio-economic nature arise more and more often and cause the instability of the entire world system. This means that companies need not only to

recover and adapt to the world after the coronavirus, but also to learn to live in a new environment: to be faster, more flexible, and learnable.

Therefore, in Table 1 the general recommendation for marketing, production and human resource strategies in the context of preventing the undesirable consequences of the crisis caused by the COVID-19 pandemic have been presented.

Table 1. General recommendation for marketing, production and human resource strategies in the context of preventing the undesirable consequences of the crisis caused by the COVID-19 pandemic

Transformed area	Method and practices	Recommendations
MARKETING	Transformation of the marketing sphere is due to new trends in the sphere of consumption that have arisen as a result of the introduction of restrictive measures by states. Marketing activities (marketing strategies) are based on the introduction of new services and products that enable reaching the customer. This is about reaching a regular customer (who temporarily stopped using the company's services and products due to the pandemic) and acquiring new ones. Marketing strategies are also based on the introduction of information and promotional campaigns - the introduction of add-ons and freebies that attract customers.	<ul style="list-style-type: none"> - take care of customers' sense of security - inform the public about changes in the business strategy - support activities ensuring safety - introduce new promotional campaigns - focus on promoting customer safety - adjust the marketing strategy to the trends
PRODUCTION	The changed conditions of production activities necessitated accelerated digitalization and robotization of production, restructuring of supply chains and determined the need for the formation of innovative production strategies that meet the conditions of the Industry 4.0 era. Manufacturing companies, which planned to gradually introduce the assumptions of industry 4.0 before the pandemic, accelerated their activities. Their priority was the introduction of process automation and robotization. The companies also verified the product range and the ability to manufacture products for which demand increased dramatically.	<ul style="list-style-type: none"> - introduce process automation - invest in robotization (if possible) - take a risk and invest in IT systems supporting production - take care of rotation of employee changes - ensure safe working conditions - introduce the rules of a flexible process - verify the assortment - produce the necessary products - make a market forecast - observe trends
HUMAN RERSOURCE	The strategy and tactics of personnel management of companies are adapting to the conditions of the epidemic using a remote work format, digitalization of processes and tasks, and the use of new approaches in management. Many companies have completely changed the way they work. Employees were delegated to work remotely. It was possible due to the transition to work and information flow in the Internet sphere.	<ul style="list-style-type: none"> - introduce shift work rotation - minimize contact between employees from different departments - support the electronic flow of information - create remote work opportunities - introduce regulations governing the conditions of remote work - enter flexible working time - introduce an employee engagement monitoring system - propose a task payment (not hourly)
Generally: You have to change strategy, don't wait for the crisis to pass. Learn to operate in a new turbulent environment.		

What are the promising areas of transformation of the functional strategies of companies?:

1. The pandemic has shown the limited ability of many companies to make the right decisions and take quick action in a rapidly changing environment. As a result, strategic analysis and the development of advanced forecasting skills are of particular importance to distinguish between short-term changes caused by the COVID-19 pandemic and long-term trends in the exter-

nal environment. The company should clearly understand the key strategic, technological, consumer trends and use them when developing strategy.

2. Formation of strategic development priorities corresponding to the contours of the new era of Industry 4.0, implementation of programs for digital transformation of business processes and the achievement of greater adaptability and efficiency on this basis. In the post-COVID-19 world, digital strategies must become an integral part of corporate and functional strategies of

companies, and the digital environment must create new opportunities for communication in various fields.

3. Neutralization of threats associated with the combined impact on strategic personnel management of the new technological challenges of Industry 4.0 and the COVID-19 pandemic. The introduction of new technologies, artificial intelligence, robotization of production are replacing living labour and are already creating problems in the labour market. Therefore, the creation of jobs of the future, the automation of routine work tasks, personnel training, the optimal combination of teleworking and traditional forms of employment (the so-called hybrid work format), put forward as the company's strategic goals, will increase its resilience to emergencies of various kinds.
4. Orientation of the strategic priorities of companies towards the development of the dynamic and learning abilities of companies, which underlie high adaptability in an unprecedented level of uncertainty in the external environment. Only a company that can learn can respond to external threats faster and better than its competitors.

4. Summary and conclusion

It can be noted that any crisis is a test that forces companies to reconsider their priorities and restructure their business models. In conditions of high turbulence in the external environment, management tasks arise rapidly and unexpectedly; many of these challenges cannot be addressed based on previous experience. The speed of decision-making has become the most important factor determining not only the sustainability of operations, but also the very survival of the company.

During the COVID-19 pandemic, companies were caught in a "perfect storm" and learned an important lesson from the fragility of vital systems and realized how limited their ability to influence the situation is. Thus, companies were able to form a new management paradigm, adequate to the conditions of a turbulent environment. The pandemic has exacerbated the need to transform the main functional strategies: digitalization of production and management, the development of online marketing, and the use of new approaches to human resource management. Today, the surviving companies are those that have understood this and have been able to best adapt to unforeseen threats. For them, the coronavirus pandemic is not the cause of the crisis, but a turning point and a unique opportunity to develop in a highly competitive environment.

References

- Baig, A., Hall, B., Jenkins, P., Lamarre, E., McCarthy, B., 2020. The COVID-19 recovery will be digital: A plan for the first 90 days, <https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/the-covid-19-recovery-will-be-digital-a-plan-for-the-first-90-days> (access 20.12.2020)
- Baryshnikova, N., Kiriliuk, O., Klimecka-Tatar, D., 2020. Management approach on food export expansion in the conditions of limited demand, *Polish Journal of Management Studies*, 21(2), 101–114. DOI: 10.17512/pjms.2020.21.2.08
- Bove, L.L., Benoit, S., 2020. Restrict, clean and protect: signaling consumer safety during the pandemic and beyond, *Journal of Service Management*, 31(6), 1185-1202, DOI: 10.1108/JOSM-05-2020-0157
- Chesbro, G., 2008. Otkrytye biznes-modeli [Open business models], (in Russian), Pokolenie, Moscow, Russia.
- Chudhuri, P., 2020. Budushchee udalenoj raboty [The future of remote work] (in Russian), *Harvard Business Review Russia* <https://hbr-russia.ru/management/korporativnyy-opyt/847699>, (access: 02.12.2020).
- Drobot, E.V., 2020. The impact of the pandemic covid-19 on the us labour market], *Russian Journal of Labor Economics*, (7). 577-588, (in Russian), DOI: 10.18334/et.7.7.110715.
- Drobot, E.V., Makarov, I.N., Nazarenko, V.S., Manasyan, S.M., 2020. The impact of the pandemic covid-19 on the real economy, *Economics, Entrepreneurship and Law*, 10(8) 2135-2150, (in Russian), DOI: 10.18334/epp.10.8.110790
- Erokhina, E.V., Dzhergeniya, Yu.B., 2020. Threats to the national interests of the Russian Federation in the post-pandemic period, *Ekonomicheskaya bezopasnost*, 3, (in Russian), DOI: 10.18334/ecsec.3.3.110681
- Gomes, J.G.C., Okano, M.T., Otol, I. 2020. Creation of indicators for classification of business models and business strategies in production systems, *Polish Journal of Management Studies*, 22(2), 142-157. DOI: 10.17512/pjms.2020.22.2.10
- Grigoriev, L.M., Pavlyushina, V.A., Muzychenko, E.E., 2020. Padenie v mirovuyu recessiyu 2020, [The fall into 2020 Recession...], *Voprosy Ekonomiki*, 5, (in Russian), DOI: 10.32609/0042-8736-2020-5-5-24
- Gromyko, A.A., 2020. Koronavirus kak faktor mirovoj politiki [Coronavirus as a factor in world politics], *Nauchno-analiticheskij vestnik Instituta Evropy RAN*, 2(14), 5-13, (in Russian), DOI: 10.15211/vestnikieran22020413
- https://rosstat.gov.ru/bgd/free/B04_03/IssWWW.exe/Stg/d02/216.htm
- <https://trends.rbc.ru/trends/innovation/cmm/5e81eb199a7947bd84a79b8d>
- <https://www.banki.ru/news/lenta/?id=10940474>
- <https://www.forbes.ru/tehnologii/398955-rost-na-21000-kakie-tovary-stalipokupat-rossiyane-vo-vremya-pandemii>
- <https://www.nielsen.com/ch/en/insights/article/2020/nielsen-investigation-pandemic-pantries-pressure-supply-chain-amid-covid-19-fears/>
- <https://www.normickel.ru/sustainability/covid-19/>
- https://www.uniql.com/ru/estore/ru_RU/uniqlo_initiative_covid19.html
- Ingaldi, M., Klimecka-Tatar, D., 2020. People's Attitude to Energy from Hydrogen - From the Point of View of Modern Energy Technologies and Social Responsibility, *Energies*, 13, 6495, DOI: 10.3390/en13246495
- Ingaldi, M., Ulewicz, R., 2020. Problems with the Implementation of Industry 4.0 in Enterprises from the SME Sector, *Sustainability*, 12, 217.
- Ingaldi, M., Ulewicz, R., 2019. How to Make E-Commerce More Successful by Use of Kano's Model to Assess Customer Satisfaction in Terms of Sustainable Development, *Sustainability* 11, 4830. DOI: 10.3390/su11184830
- International Day for Epidemic Preparedness: WHO Director-General Dr Tedros Adhanom Ghebreyesus, <https://youtu.be/sMnhWcPtYp8> (access 23.12.2020)
- Klimecka-Tatar, D., Ingaldi, M., 2020. Service quality management in term of IHRM concept and the employee internationalization, *International Journal for Quality Research*, in publish, DOI: 10.24874/IJQR15.03-05
- Kowalik, K., 2020. The role of safety in service quality in the opinion of traditional and digital customers of postal service, *Production Engineering Archives*, 26(1), 1-4, DOI: 10.30657/pea.2020.26.01
- Kwilinski, A., Kuzior, A. 2020 Cognitive Technologies in the Management and Formation of Directions of the Priority Development of Industrial Enterprises, *Management Systems in Production Engineering*, 28(2), 133-138, DOI: 10.2478/mspe-2020-0020
- Lapshina, A.M., Anohina, M.E., 2020. The Strategies of Business Transformation in conditions of COVID-19, *Strategii biznesa*, 8(9), (in Russian), DOI: 10.17747/2311-7184-2020-9-242-245
- Lesser, R., Reeves, M., 2020. Kak upravlyat' kompaniej v usloviyah pandemii [How to manage a company in conditions of pandemic], <https://media-publications.bcg.com/Leading-Out-of-Adversity-RUS.pdf> (access 23.12.2020)
- Moyo, N., 2020. Antecedents of employee disengagement amid COVID-19 pandemic, *Polish Journal of Management Studies*, 22(1), 323–334. DOI: 10.17512/pjms.2020.22.1.21
- Nakat, Z., Bou-Mitri, C., 2021. Covid-19 and the food industry: Readiness assessment, *Food Control*, 121, 107661, DOI: 10.1016/j.foodcont.2020.107661

- Niciejewska, M., Kiriliuk, O. 2020. Occupational health and safety management in "small size" enterprises, with particular emphasis on hazards identification, *Production Engineering Archives*, 26/ 4, 195-201. DOI: 10.30657/pea.2020.26.34
- P&G has developed a strategy for the period of the epidemic of Covid-19. (in Russian), <https://retail-loyalty.org/news/p-g-razrabotala-strategiyu-na-period-epidemii-covid-19/> (access – 23.12.2020)
- Pantano, E., Pizzi, G., Scarpi, D., Dennis, C., 2020. Competing during a pandemic? Retailers' ups and downs during the COVID-19 outbreak, *Journal of Business Research*, 116, 209-213. DOI: 10.1016/j.jbusres.2020.05.036
- Pietraszek, J., Radek, N., Goroshko, A.V., 2020. Challenges for the DOE methodology related to the introduction of Industry 4.0, *Production Engineering Archives*, 26(4), 190-194, DOI: 10.30657/pea.2020.26.33
- Reeves, M., Carlsson-Szlezak, Ph., Whitaker, K., Abraham, M. Sensing and Shaping the Post-COVID Era, <https://bcghendersoninstitute.com/sensing-and-shaping-the-post-covid-era-c282cd227a4f> (20.12.2020).
- Ritter, T., Pedersen, C. L., 2020. Analyzing the impact of the coronavirus crisis on business models, *Industrial Marketing Management*, 88, 214-224, DOI: 10.1016/j.indmarman.2020.05.014
- Rosak-Szyrocka, J., Abbase, A. A., 2020. Quality management and safety of food in HACCP system aspect, *Production Engineering Archives*, 26(2), 50-53. DOI: 10.30657/pea.2020.26.11
- Sawangchai, A., Prasarnkarn, H., Kasuma, J., Polyakova, A.G., Qasim, S. 2020. Effects of Covid-19 on Digital Learning of Entrepreneurs, *Polish Journal of Management Studies*, 22 (2), 502-517. DOI: 10.17512/pjms.2020.22.2.33
- Sensing and Shaping the Post-COVID Era By Martin Reeves, Philipp Carlsson-Szlezak, Kevin Whitaker, and Mark Abraham <https://bcghendersoninstitute.com/sensing-and-shaping-the-post-covid-era-c282cd227a4f> (access: 20.12.2020).
- Tcifert, Sh., Kshakevich, K., 2019. Resursy v formirovanii effektivnosti dinamicheskikh sposobnostej pol'skikh predpriyatij [Resources in the formation of the efficiency of the dynamic capabilities of Polish enterprises], *Management*, (3). 21-29, (in Russian), DOI: 10.26425/2309-3633-2019-3-21-29
- Teece, D.J., Pisano, G., 1994. The Dynamic Capabilities of Firms: an Introduction/*Industrial and Corporate Change*, 3(3), 537-556.
- The consumer after the quarantine: new missions and shopping features (in Russian), <https://www.nielsen.com/ru/ru/insights/article/2020/potrebitel-posle-karantina-novye-missii-i-osobennosti-shopinga/> (access 20.12.2020).
- Tkachenko, V., Klymchuk, M., Tkachenko, I., 2021. Recursive and convergence methodology of the investment management of the enterprise digitalization processes, *Management Systems in Production Engineering*, 29(1), 14-19, DOI: 10.2478/mspe-2021-0002
- Torkanovskiy, E.P., 2020. Avtarkiya 2.0: globalnaya ekologicheskaya povestka, pandemiya COVID-19 i novaya normalnost [Autarky 2.0: the global environmental agenda, pandemic COVID-19 and the new normal], *Journal of International Economic Affairs*, 3. (in Russian), DOI: 10.18334/eo.10.3.110600.
- Venkatraman, N., 2002. Theorizing the Future of Strategy: Questions for Shaping Strategy Research in the Knowledge Economy / N. Venkatraman, M. Subramaniam // *Handbook of Strategy and Management*, Eds. A. Pettigrew, H. Thomas, R. Whittington, Sage Publications, London.
- Wawrowski, B., Otola, I., 2020. Social media marketing in creative industries: How to use social media marketing to promote computer games?. *Information (Switzerland)*, 11(5), 697, DOI:10.3390/info11050242
- Wolniak, R., 2020. Main functions of operation management. *Production Engineering Archives*, 26(1), 11-14, DOI: 10.30657/pea.2020.26.03
- Zandi, G., Shahzad, I., Farrukh, M., Kot, S. 2020. Supporting role of society and firms to COVID-19 management among medical practitioners, *International Journal of Environmental Research and Public Health*, 17(21), DOI: 10.3390/ijerph17217961
- Zimovets, A.V., Sorokina, Yu.V., Khanina, A.V., 2020. Analiz vliyaniya pandemii COVID-19 na razvitiye predpriyatij v Rossiyskoy Federatsii [Analysis of the impact of the COVID-19 pandemic on the development of enterprises in the Russian Federation], *Ekonomika, predprinimatelstvo i parvo*, 10(5), 1337-1350, DOI: 10.18334/epp.10.5.110126

在COVID-19大流行的背景下，企业在实体经济领域的战略转型

关键词

战略转型 新冠肺炎 产业转型 管理策略 2020年危机

摘要

本文探讨了COVID-19大流行对实体经济中公司关键职能战略内容的影响。本文的目的是评估在COVID-19大流行情况下公司经济行为的变化，分析使功能策略适应新风险的业务实践，并确定转换功能策略的方向。对公司业务实践的分析表明，大流行对公司的经济行为产生了重大影响，不仅改变了他们的策略，而且改变了他们的策略。公司的功能策略已经发生了重大变化—营销，生产，人员管理策略。营销领域的转变是由于国家采取限制性措施而在消费领域出现的新趋势。生产活动条件的变化需要加快生产的数字化和机器人化，对供应链进行重组，并确定了形成符合工业4.0时代条件的创新生产策略的必要性。公司的人事管理策略和策略通过远程工作格式，流程和任务的数字化以及在管理中使用新的方法来适应流行病的状况。根据研究结果，作者得出结论，该流行病突出了公司在快速变化的环境中快速学习的能力方面的问题。如今，幸存下来的公司就是那些能够最有效地应对不可预见的威胁的公司。对他们而言，冠状病毒大流行不是危机的原因，而是转折点和在高度竞争的环境中发展的独特机会。
