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Digitalization as an Imperative of the Development of Business Processes in the Conditions of the Intensified Global Competitiveness

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ABSTRACT

The article examines the peculiarities of the digital development on a global scale, its impact on the development of business processes in the conditions of the intensified global competitiveness. The number of Internet users in the world was analyzed, which made it possible to outline the main global trends in the development and implementation of digital technologies by country. The systematic approach in research makes it possible to identify regularities and relationships, as well as to obtain the effect of synergy by considering a set of processes and their subordination caused by external causes of influence, including competitive trends of globalization. The opportunities that arise in companies due to the involvement of digital technologies in business processes are outlined. Having singled out the threats of the introduction of digital technologies into business processes, directions for their elimination are proposed. To ensure the digitalization of business processes in the face of the intensified global competitiveness, directions for promoting digitization at the macro level have been identified.

KEYWORDS: Digitization, digital technologies, digital transformation, business processes, competition, global competitiveness.

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La digitalización como imperativo del desarrollo de procesos empresariales en condiciones de intensificación de la competitividad global

RESUMEN

El artículo examina las peculiaridades del desarrollo digital a escala global, su impacto en el desarrollo de procesos de negocios en las condiciones de competitividad global intensificada. Se analizó la cantidad de usuarios de Internet en el mundo, lo que permitió perfilar las principales tendencias globales en el desarrollo e implementación de tecnologías digitales por país. El enfoque sistemático en la investigación permite identificar regularidades y relaciones, así como obtener el efecto de sinergia al considerar un conjunto de procesos y su subordinación causada por causas externas de influencia, incluidas las tendencias competitivas de la globalización. Se reseñan las oportunidades que surgen en las empresas debido a la implicación de las tecnologías digitales en los procesos de negocio. Habiendo señalado las amenazas de la introducción de tecnologías digitales en los procesos comerciales, se proponen direcciones para su eliminación. Para garantizar la digitalización de los procesos comerciales frente a la competitividad global intensificada, se han identificado lineamientos para promover la digitalización a nivel macro.

PALABRAS CLAVE: Digitalización, tecnologías digitales, transformación digital, procesos de negocio, competencia, competitividad global.

Introduction

The main catalyst for the transition of the world's economies to the principles of digitalization was the desire for sustainable development of national economies and ensuring a qualitatively new way of their transformation. Negative phenomena, such as the COVID-19 pandemic, contributed to the accelerated transition to the use of digital business tools and their use in public life. On a global scale, Internet trade has received wider development, which has led to an increase in the use of digital technologies in the business process at various levels. Therefore, today, the digitalization of business processes and their impact on the general economic development of countries in the conditions of the intensified global competitiveness is relevant and important.

The concept of digitalization of the economy appeared and began to rapidly spread into established circulation in the mid-1990s. This was facilitated by the development of the Internet, the emergence of Internet sales sites.

It should be noted that digital technologies are becoming widespread and this affects the digital transformation of business processes in the context of the intensified competitiveness, which requires further research in this area, including in the direction of research into the impact of digitalization processes on the development of business processes.

The purpose of the article is to substantiate the processes of digitalization of business processes in the conditions of the intensified global competitiveness, taking into account the current trends in the spread of digital technologies in the world.

To achieve the goal, the authors set and achieved such goals as: the advantages of digitization for companies on a global scale were highlighted, the advantages of introducing digital technologies into the business processes of companies were outlined, as well as the existing shortcomings of the introduction of digital technologies into business processes were identified; on the basis of the identified shortcomings, propose directions for eliminating the shortcomings of the implementation of digital technologies in business processes; analyze trends in the development of the Internet and its users as a basis for further implementation of digital technologies; directions for ensuring and tools for digitalization of business processes are outlined in the conditions of the intensified global competitiveness at the level of the countries' governments.

1. Literature Review

Scientific studies of domestic and foreign scientists are devoted to the peculiarities of the digital development on a global scale and its impact on the business processes' development in the context of ensuring global competitiveness (Fig. 1). Articles (Djakona A. et al., 2021; Lyeonov S. et al., 2022; Savin S. et al., 2021; Revko A. et al., 2020) are devoted to the development of information technologies and their impact on social and economic development. Such scientists as Grosu V. et al. (2021); Nikiforov P. et al. (2022); Zhavoronok A. et al. (2022); Ivanova N. et al. (2022) devoted their publications to the financial support of the business process, public-private partnership and regulatory policy in this area. When considering the issue of innovative-investment development strategies, it is

Research (Fawad Sharif S. M. et al., 2022) analyzed the role of knowledge linkage and digitization of business processes in supporting innovation through market capitalization flexibility in addition to downsizing strategies. The authors believe that the conducted research establishes a mediating effect between the digitization of business processes and innovation performance during the downsizing phase and offers significant theoretical and practical implications. The authors (Kühne U. et al., 2022) are convinced that digitalization is an important factor in accelerating the development of hydrogen infrastructure for transport and mobility purposes. As the authors of the study note, the project "Modeling the management of business processes in hydrogen technologies" is focused on two main areas: standardization and digitization to facilitate the application process of hydrogen filling stations.

Article (Adomako S. et al., 2021) examines the relationship between the perception of corruption and the degree of internationalization through the digitization of business processes. Scientists have also established a mitigating effect of the age of the company on the correlation between the perception of corruption and the digitization of business processes. As part of the study (Bellalouna F., 2021) of the application of augmented reality in the industrial business environment, the possibilities of digital transformation technology during the product life cycle were analyzed. On the basis of industrial examples, the implementation of two AR applications and their potential for the digitization of product life cycle processes were investigated. According to the authors (Schaarschmidt M. et al., 2020), modern business requires companies to implement new digital processes both internally and externally. Scientists have investigated the conditions under which the intensity of digital business, defined as the level of strategic organizational investments in new and innovative digital technologies, leads to a sense of obligation to the employer and subsequently to a constructive deviation of the process.

Scholars (Zollweg C. et al., 2020) believe that successfully digitized business processes require early, thorough and continuous integration of business users at each stage of the transformation, while ensuring a high level of usability. In the process of research, researchers compare different user research methods suitable for deployment in business process transformations regarding their time costs, required resources, and the significance of their results. In the study (Bergmann M. et al., 2020), the authors analyzed the determinants of the use of business analytics in the budgeting process and its impact on

satisfaction with the budgeting process. The authors found that the use of business intelligence is positively related to satisfaction with the budgeting process, that is, the use of business intelligence can help overcome dissatisfaction with traditional budgeting systems. Research (Sackmann S. et al., 2018) analyzes current digitization efforts by implementing cyber-physical systems that rely on automation and system interoperability. According to the authors, efforts to digitize compliance require bringing together compatible technologies, methods, and business process tools that support this lifecycle in a consolidated manner.

Taking into account the available publications from the indicated direction of research, it should be noted that the issue of digitization as an imperative for the development of business processes in the conditions of the intensified global competitiveness has not been given enough attention, which confirms the relevance of further research.

2. Methodology

In order to substantiate the processes of digitalization of business processes in the conditions of the intensified global competitiveness, taking into account the current trends in the spread of digital technologies in the world, the authors singled out a systematic approach as the basis of the study. This is explained by the fact that business processes represent a certain set of processes that are interconnected with a large number of influencing factors, including digitalization and global competitiveness. It is the systematic approach in research that makes it possible to identify regularities and relationships, as well as to obtain the effect of synergy by considering the set of processes and their subordination caused by external causes of influence, including globalization competitive trends.

3. Results

Today, digitization is an integral part of all business processes, which increases their efficiency and helps strengthen the competitive position of companies on the global market. Digitization has significantly affected global competitiveness by changing the competitive landscape. Digital technologies enable business structures to expand their sales markets, attract new customers and suppliers, compete not only on the domestic market, but also on the global market. Digitalization tools such as cloud computing, the development of e-commerce and other digital technologies give companies the opportunity (Fig. 2):

- enter new markets with minimal initial costs;
- ensure quick adaptation to changing operating conditions;
- increase the speed and quality of customer service;
- make more informed decisions based on the collection and processing of information on pricing and marketing strategies;
- to simplify and establish interaction between partners and suppliers;
- to obtain competitive advantages due to the creation of new goods and services, etc.

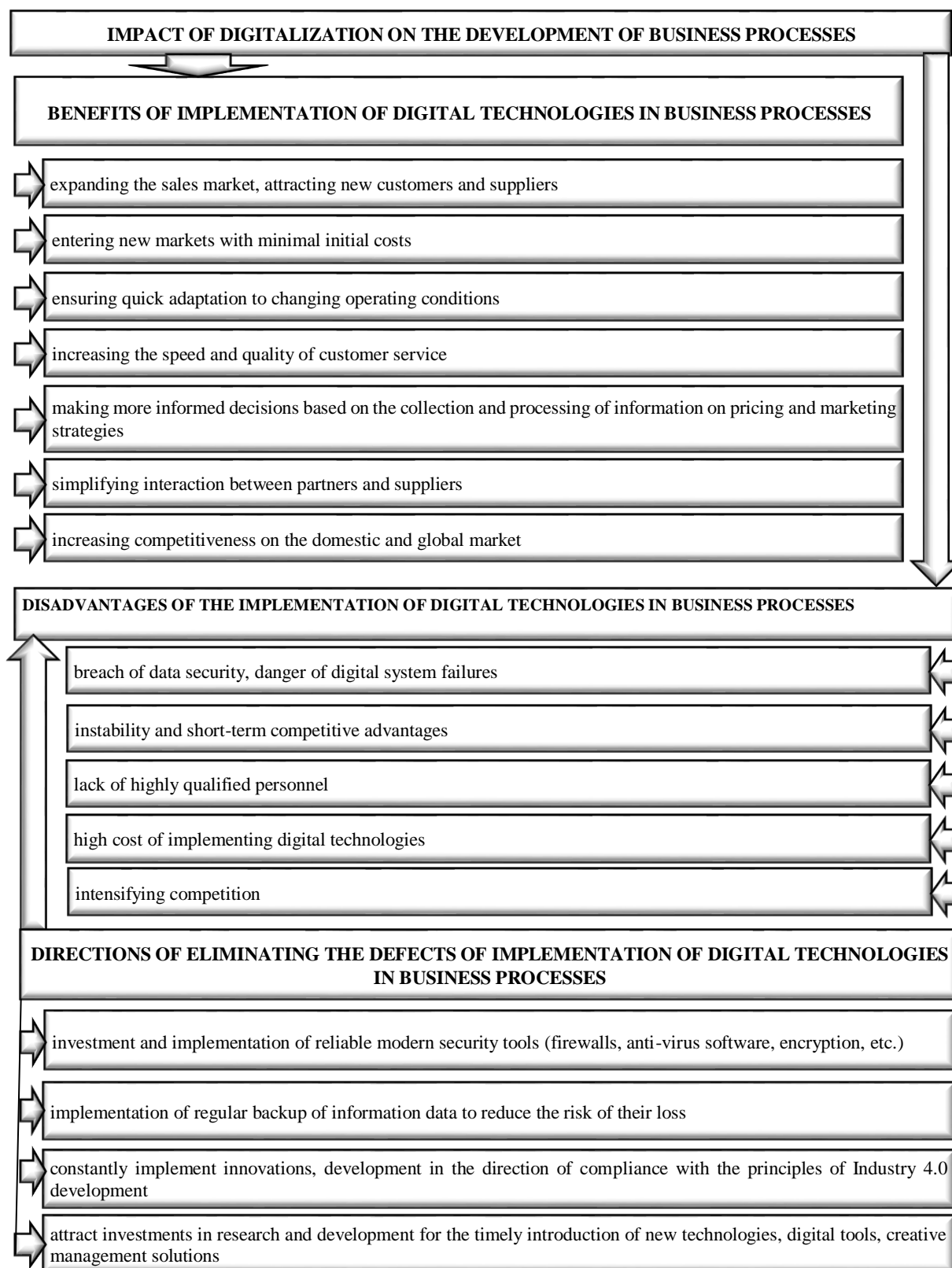
Also, digital technologies increase the efficiency of business processes because they provide an opportunity to simplify communication between the company and customers by providing customers with fast and accurate information using such digital tools as chatbots, which generally increases customer satisfaction. Other digital technologies, such as video conferencing, online platforms, increase the efficiency of employees' work, as well as their interaction with partners and suppliers, providing the opportunity to work and make decisions in real time. Digital technologies make it possible to automate everyday work in the company by digitally managing documents, production processes, stocks, while reducing the number of possible errors, increasing the accuracy of operations and decision-making, saving time and reducing costs.

Digitalization has provided new opportunities for developing strategies for attracting customers based on the personalization of their services through the use of a large amount of information, statistical data, the involvement of social media platforms, etc.

So, it can be noted that today digital technologies are used in all types of business processes of companies, namely in the main, auxiliary and managerial business processes. Basic business processes include processes that are directly related to the production and sale of products or services. Such basic business processes include logistics, procurement, sales and service.

Supporting business processes include ensuring the infrastructure and security of the functioning of companies, legal and financial support, that is, processes aimed at ensuring the functioning of the main processes. Management business processes include operations that ensure management in the current period and further strategic development, namely marketing, personnel management, innovation, sales, finance, security and other processes in the company to ensure its development.

Figure 2. Impact of digitalization on the development of business processes



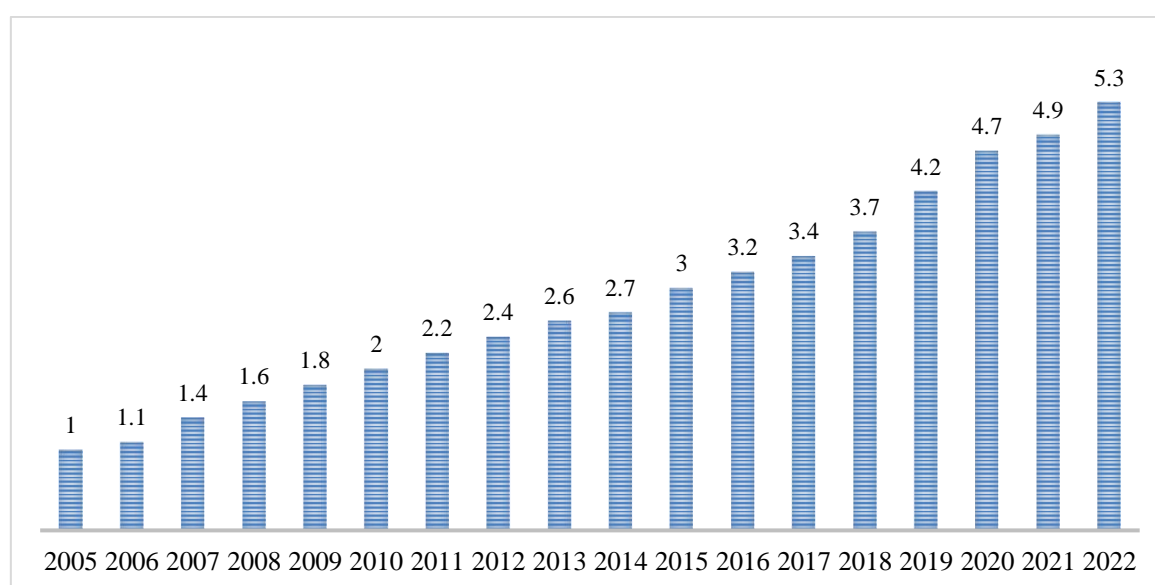
Source: created by the authors.

But, at the same time, the introduction of digital technologies is intensifying competitive global relations. Thus, digital technologies have provided new opportunities for

gathering and processing information about competitors, which increases competitive pressure between competing companies on a global scale.

Digital technologies are actively developing in all countries of the world and are increasing the level of implementation of digitalization in business processes. The introduction of digitization is taking place at an active pace not only in the economy, but also in social life. Thus, the number of Internet users in the world increased more than fivefold during the period 2005-2022 (Fig. 3).

Figure 3. The number of Internet users in the world, 2005-2022 (%)



Source: summarized by the authors based on [International Union of Telecommunication]

In different countries, different rates of growth of Internet users and introduction of digital technologies into business processes are observed. Lower rates of bandwidth development are observed in the USA and Canada, as digital technologies are quite developed in these countries for this period, and therefore the rate of bandwidth growth in them will be lower. As part of the development of economic systems, the African market today is a dynamic, developed structure with the involvement of digital technologies, in which funds are invested in various sectors of the economy. The increase in global Internet traffic in the period starting from 2019 is explained by the spread of the COVID-19 pandemic, which led to the need to physically isolate people while preserving industrial relations as much as possible. Such restrictions had both negative and positive consequences. Thus, the

development of communications during this period was also carried out as much as possible with the help of digital technologies, which contributed to the development of business processes of a new digital format. Taking into account the fact that the majority of trade operations were carried out precisely with the help of Internet technologies, this also had a certain positive effect for business structures, as it allowed to reduce the costs of renting premises and their operation.

The governments of many countries, predicting such changes in the development of digital technologies, seek to promote the development of the digital economy in order to use its advantages, which will allow them to adapt to the challenges of the environment and ensure their competitiveness. Accordingly, this is also what business representatives strive for, since one of the areas of ensuring competitiveness in the conditions of the intensified global competitiveness is ensuring the digitization of business processes.

In modern strategies for the development of the economy at any level in the conditions of the intensified global competitiveness, the priority is innovative development based on compliance with Industry 4.0. one of the concepts of which is precisely the development of the digital economy. To ensure the digitalization of business processes in the face of the intensified global competitiveness, the governments of countries should implement the following measures to promote the digitalization of economic systems:

- to ensure the development of infrastructure, which is the basis for the formation of new business models;
- to contribute to the reduction of barriers in the functioning of the digital economy;
- increase the level of ownership of digital technologies among the population;
- provide training and advanced training of personnel in the direction of improving digital skills;
- to ensure the development of the digital security system;
- to stimulate the general development of the digital sector of the economy.

Therefore, the directions of the digital economy transformation should include incentives from the authorities to promote the digitalization of business, the development of digital infrastructure, and the renewal of projects based on the principles of Industry 4.0. Rational tools for ensuring such a transformation include:

- digital technologies (analytics of large amounts of information);
- m2m communication;

- artificial Intelligence;
- robotics;
- creation of own digital platforms;
- development of high-tech industries.

The implementation of such measures will allow for faster development of electronic interaction between business and government, ensure cyber security, promote greater openness of data, create an ecosystem, and increase competitiveness on the global market.

The digital economy includes the innovative technologies development, the implementation of digitization in industrial development and business processes. The development of digitalization is carried out in two directions: the development and improvement of the efficiency of the innovative development of the electronic industry and the stimulation of the companies' development that provide digital technology services. In the first case, it can be the production of microchips, telecommunications devices, electronics, etc., as well as the stimulation of scientific and innovative activities in the direction of the development and production of new digital tools.

In the second case, it is the ability to use and organize digital information, perform data analysis, store and manage a large amount of digital information. The importance of the implementation of the digital economy is explained by global trends in this direction, which are aimed at the implementation of large-scale projects for the economic sectors' digitalization, promoting the creation of digital jobs in these areas, and increasing the level of competitiveness of the electronic industry.

Digitization, like any phenomenon, regardless of its advantages, has disadvantages for conducting business processes. Among the threats posed by digitalization for the development of business processes and the company as a whole can be attributed:

- data security, using digital technologies the company carries out storage, accumulation and management using digital technologies, while violations of the security of storage or working with data can lead to the loss of this data and the company's reputation;
- the danger of digital system failures, which may be caused by power outages, hardware and software malfunctions, cyber attacks, etc.

Also, the use of digital technologies in business processes can cause other problems, for example, there may be a shortage of highly qualified personnel, the high cost of

implementing digital technologies, instability and short-term competitive advantages in the market as a result of the introduction of digital technologies, etc.

For a more reasonable implementation of digital technologies, companies need to carry out certain work in the following sequence:

firstly, collection of information about business processes, its modeling under the conditions of implementation of digital technologies;

secondly, identifying the places of origin, processing and use of information;

thirdly, modeling the use of information flows within the company's business processes;

fourthly, creation of automated information systems using hardware and software tools;

fifthly, control of business processes in which new digital technologies were used for the company.

When digitizing business processes, it is very important to understand the essence of this process and the company's readiness for such steps. Digitization of the company's business processes requires complexity, which involves achieving the set goal and performing the tasks necessary for this, which must be accompanied by the necessary resources.

To ensure data security, companies need to invest in reliable modern security tools such as firewalls, anti-virus software, encryption and other information protection tools. Carry out regular backup of information data to reduce the risk of their loss.

Factors influencing the digitalization of business processes:

- initiative, important for the digitization of business processes is understanding the degree of necessity of implementing digital technologies, as well as making the necessary management decisions regarding the digital technologies' implementation, taking into account the possible risks of this process. When initiating the implementation of digitalization to improve the efficiency of business processes, it is important to define each task to obtain the overall optimal result of digitalization, i.e., the use of the so-called cascade strategy for making managerial decisions regarding the digitalization of business processes, which makes it possible to reduce the risks of the digitalization project as a result of the completion of previously set tasks ;

- control is very important for any activities and solving tasks, but with the digitalization of business processes, it becomes especially important due to the speed of technology changes. It is important to build a horizontal system of hierarchy in informing about the implementation of digitalization and ensuring full control with monitoring of possible lag for making operational decisions;

- innovativeness - is a necessity in the digital transformation of the company's business processes, since it is the prevalence of innovative forms, methods, means, processes, technologies, the use of a creative approach that enables the company to gain competitive advantages on the market due to digitalization, as well as to achieve a certain balance between innovative implementations and their creativity in relation to the traditional business model;

- financial support – the implementation of digital technologies requires financial investments, which can become an obstacle for their implementation, for example, for small enterprises. It is important for the company to provide financial support for digital transformation without significant asymmetry in the company's profit. Time breaks in the financing of business processes' digitization nullify previous investments and changes, which is connected with the speed of changes of digital technologies and their improvement.

The effect of digitalization of business processes is manifested in the transformation of the company's activities in accordance with the trends and challenges of the global environment and provides an opportunity to ensure the competitiveness of companies. In today's conditions of the intensified global competitiveness, those companies that apply the advantages of digitalization of business processes and coordinate their activities in unison with the new ideology of digitalization of social relations will win.

4. Discussion

Agreeing with the opinion of scientists (Leyh C. et al., 2016), it should be noted that for many decades business process models have created a basis for economically successful participation in the market. That is why digitization processes have significant potential for automating process discovery.

We consider research (Bischoff I. et al., 2021; Rice M. D. et al., 2020) devoted to the development of joint business parks to be relevant. The authors paid the main attention to the role of intra-regional competition. Scholars measure the intensity of competition using

local tax rates and find evidence that supports the likelihood of the formation of intercity business parks due to the intensification of intraregional competition.

Supporting research (Gonzalez L., 2022), we would like to point out that synergy and timing alignment between research and business plan competitions can enhance the learning process by creating more opportunities to demonstrate knowledge and receive feedback. The authors of the article demonstrate the option of interaction between scientific research and entrepreneurship competitions to support more inclusive development of students.

We confirm the relevance of research (Cant M. C., 2016) that business plan competitions are a powerful learning tool that can stimulate creativity, but more importantly prepare participants for the real world of entrepreneurship. According to the authors, there is a huge increase in encouraging entrepreneurship and innovation. The Business Plan Competition provides a platform where aspiring entrepreneurs are exposed to emerging business ideas and organizations.

Studying the research (Liu C. et al., 2020), we agree that the competitive advantages of travel agencies are realized when the business maintains good relations with competitors and adopts an orientation towards digital development and learning, or deploys an appropriate business competitive strategy and entrepreneurial intentions to allow offering new services to customers compared to competitors

Conclusion

The conducted research proves the growth of Internet users in the world and the introduction of digitization in social relations. Digitization, as a process of developing and implementing digital technologies to create new opportunities, increases the efficiency of business processes and the activities of companies as a whole due to the optimization of a large number of disparate processes, saving time and reducing costs. It enables the company to conduct a more flexible development policy, to adapt to changes in the market environment, customer requirements and preferences by quickly responding to various processes affecting business functioning.

Digitalization has had a significant impact on global competition, on the one hand by making it easier for companies to access markets, and on the other hand by creating a more intense competitive environment. This forces companies to constantly innovate, to move in the direction of compliance with the principles of Industry 4.0 development, to increase

investment activity for the development and implementation of new technologies, digital tools, creative management solutions to adapt to the intensified global competitiveness.

In order to increase competitiveness in the conditions of the intensified global competitiveness, companies need to attract investments in research and development in order to own the latest technological achievements, produce new products and services.

The issue of developing measures and strategies for the development of digital technologies to increase the efficiency of the companies' functioning in the conditions of the intensified global competitiveness requires further research.

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