



Digital Transformation of an Enterprise as a Condition for Ensuring Its Competitiveness in Risk Conditions

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Abstract

The problem of digital transformation of enterprises is explained by the need to ensure long-term sustainable competitiveness of domestic manufacturers of industrial products in the context of digitalization. The transition to digital rails creates an opportunity to reorganize the production process and form effective interaction of all subjects of the digital ecosystem. This necessitates the study of the process and possible directions of digital transformation to ensure an increase in the level of competitiveness of enterprises. The purpose of the article is to present the results of the study of the process and directions of digital transformation of enterprises as a condition for sustainable competitiveness. The research methodology is based on the analysis and idealization of the digital transformation process, the logical substantiation of the essence of this phenomenon and the identification of the main directions of digital transformation. Generalization of data from consulting companies made it possible to formulate the main trends in digital transformation.

Keywords: digital transformation of an enterprise, digital vortex, trends, platform, ecosystem, transformation of enterprise components, competitiveness

1. Introduction

The traditional format of economic system development under the influence of the sixth technological order, accompanied by the fourth and the beginning of the fifth industrial revolution, is moving to a new round of digital transformational way of functioning of public life as a whole. The processes of digitalization and digital transformation are acquiring the essence of mega trends of the future. The digital, being introduced into the established development movement, radically changes the usual paradigms of the structures of economic relations at the global level, and in the context of the state, enterprise. This gives rise to certain questions and tasks that need to be regulated at the legislative level. Thus, this encourages enterprises to adapt and structurally transform the conduct of business activities in general based on digital platforms and technologies. Enterprises aimed at widespread digitalization of business processes strive to ensure high management efficiency and the possibility of endlessly obtaining competitive advantages based on the cultivation of promising development methods. It is digital transformation that transfers business entities to a new highly profitable level of competition (Shelepaeva, 2022). The processes of forming the platformization of the digital transformation of the enterprise are reflected in the works and guidelines of large consulting companies, on the sidelines of various press conferences and briefings, strategic plans for the development of large enterprises, as well as the consolidation of the need to implement such processes at the legislative level. In all the considered definitions, the main idea of the digital transformation of the



enterprise is traced, which is the development and implementation of digital tools and technologies that ensure the reorganization of production processes to form a comprehensive success of the enterprise in the long term. Enterprises striving to meet the requirements and trends of the digital world need to fully rebuild the entire infrastructure to ensure the formation of digital operations. At the same time, the basis on which the "digital" will initially emerge is mobility, the acquisition of digital skills by workers and administrative personnel, conducting an analysis for the possibility of optimizing internal processes, establishing a digital document flow format as one of the main drivers of digital transformation, informatization of financial accounting at the enterprise and business analytics, which allows you to study a large amount of data to obtain broad information on the analysis of customers, current products on the market, interest in the characteristics of the product, i.e. acts as the necessary fuel for the deployment of digital transformation of the enterprise as a whole. On such a basis, it becomes possible to implement more complex, combined and progressive digital tools and technologies that create the basis for acquiring the characteristics of the enterprise as digital, which thereby provides additional opportunities for the formation of an integrated platform that allows creating a new reality in the context of the digital ecosystem (KPMG, n.d.).

Promising areas of digital transformation based on emerging digital technologies the formation and development of digital technologies create key and general trends in the digital transformation of the enterprise. We will present these trends as follows:

1) Digital technologies allow the format of the employee workplace to evolve for a possible increase in productivity, and also allow retaining specialists by providing more flexible work parameters.

2) Digital transformation processes create pressure on the content of innovations, which must be more flexible and have the ability to be structurally composite. Satisfying rapidly growing expectations for organizations is to turn into a full-scale composite business built on the API application software interface. API allows you to quickly exchange information between programs through modularity, which forms an effective orchestration by the enterprise.

3) Revolutionary technological changes lead to colossal tectonic shifts, both in the format of fundamental understanding and in the practical significance of digital transformation. Adaptation of digital processes by IT specialists is not possible due to the lightning-fast use of digital tools in processes. Therefore, it is important in the digital structure of innovative solutions to preserve and accumulate tools for achieving digital business results. Research and consulting company specializing in information technology markets Gartner found that organizations that successfully use the capabilities of business technologists are 2.6 times more likely to accelerate the achievement of digital business results.

4) Increased automation processes expand the scale of operational efficiency. The integration of technological platform solutions provides production processes with software robots, which thereby increases the flexibility and focus of the development vector adoption. According to the consulting company Deloitte, 93% of organizational leaders expect to use RPA (technology for the use of software robots) by 2023. MuleSoft found that most organizations are either already using or planning to implement automation initiatives to achieve strategic goals, such as increasing productivity (96%) and operational efficiency (93%), as well as creating a better connected customer experience (93%).

5) The digital space creates a field in which automated systems can potentially be attacked. Therefore, in parallel with the development of software solutions, it is important to pay attention to security processes. Here, the work of business technologists is an integral part in the context of enterprise protection.

6) The digital platform is filled with various multi-cloud environments and the company's management needs to create an individual cloud system that will provide the key to success in progressive transformation and thereby bring the business entity to a higher level of sustainability, providing competitive advantages. In the future, the digital ecosystem should create a multi-cloud strategy that allows you to increase the pace of the digital vortex.



7) Consumers in a large mass of data will try to find information that is informative, accurate, concise and fast enough to search. To form a competitive advantage, business leaders need to create a platform that will be a single source of reliable analytical data. According to the consulting company Accenture, which provides services in the field of business process outsourcing and strategic planning, we have that the annual business growth of truly data-driven organizations exceeds 30%. However, 81% of companies still do not

have a reliable data strategy that allows them to maximize the full potential of data, and the same number do not have a suitable platform to support their goals.

8) The increase in the volume of digital flows and the scale of entities switching to the rails of digital transformation creates a problem of the impossibility of effective work on individual cloud services, therefore this pushes in the future to form complex and integral cloud platforms adapted to the needs of individual industries. Thus, these platforms will form the basis of business platforms on which technological innovations will directly serve as a tool for business innovations.

9) The growth of digital data requires well-coordinated work on its processing and analysis, so service providers began to develop operational platforms that work as an intermediate link between users and auxiliary services. Such platforms create the basis for optimizing work and thereby increasing the speed of delivery of digital data. The main message of this trend is to provide self-service for business units, partners and customers, which in turn leads to increased profitability, reduced production costs, and increased sales.

10) To implement the effective operation of the enterprise production system, there is a need to organize the integration of wireless technologies, which are based on Wi-Fi networks, 4G, 5G mobile data communications. Analysts and speakers from major consulting companies suggest that corporate networks based on wireless technologies will be able to transform into a full-scale platform for implementing digital transformation processes.

11) To build digital connections between different counterparties, there is a need to develop a perfect platform in the context of a super application, which allows on this basis to form several lines of applications with the implementation of various services, thereby aiming at creating an ecosystem with a set of different services. According to research, 50% of the world's population will use several super applications daily by 2027.

12) Digital transformation of an enterprise leads to an increase in the speed of digital products entering the market, while marketing processes do not have time to analyze and evaluate consumer preferences, therefore, in order to keep pace with the evolutionary needs of the customer, there is an urgent need to implement adaptable artificial intelligence that is capable of lightning-fast analysis, studying market trends with subsequent adaptation relative to the specific activities of the enterprise and developing project solutions to optimize business value to improve corporate analytics and work in general.

13) Digital technologies are changing the paradigm of the world, there is a tendency for the digital and physical worlds to converge. This creates opportunities to increase creative interaction between employees of different departments and contractors. At the moment, the initial form of the metaverse is the use of cryptocurrency as a digital payment instrument. This was facilitated by the transition to a new level of Internet development, in which participants can monetize their activities without outsiders and thereby reach a new level of interaction. The metaverse creates the prerequisites for the formation of virtual communities, networks and economies in general, which can acquire the characteristics of quasi-groups in the digital world itself. Spatial computing in the implementation of digital twins will improve the quality of industry. 40% of corporations will use Web3, spatial computing and digital twins by 2027.

14) The development of digital technologies in the future will be based on the principles of ESG, which contain aspects of ecology, social responsibility, corporate governance. Investors will be more strict and demanding in their approach to the issue of directing their investment resources in the context of digital



startups and enterprise technologies, since sustainable development that meets the needs of the future and with the possibility of minimal probable damage to future generations becomes an important point in deciding the vector of cash infusion for them. Therefore, it is necessary to develop digital initiatives aimed at strategic business goals with sustainability, which will directly increase competitiveness in the long term.

15) To attract more consumers of any product, digital marketing continuously offers its digital product from a variety of channels, but the modern consumer does not want to delve into a large array of data to select the desired content. Therefore, there is a need to use artificial intelligence in order to increase the collection of incoming information from social networks and other digital sources to form personalized marketing processes. Thus, this will greatly increase the attractiveness of digital products for a specific consumer.

16) The formation of super applications based on broad platform solutions will increase the number of clients using certain services several times. This trend, in turn, encourages domestic manufacturers to move to social commerce, thanks to which it is possible to quickly track trends, customer preferences and effectively interact with customers directly through specific applications, which will further increase the profitability and cost effectiveness of the organization.

17) The transition of real processes to the virtual world suggests a new era of digital transformation. A high level of symbiotic network between people and computers is expected. Artificial intelligence studies people and begins to understand them more accurately, offers those services that, in the opinion of robots, a person needs at the moment. Thus, this will lead to an increase in sales of devices for a possible transition to virtual reality. All this suggests that digital technologies will enrich the physical world with digital knowledge for successful progressive development.

Currently, the Internet of Things is understood as a set of electronic objects that exchange data with each other using special algorithms in order to inform users about the progress of a technological process or automate a response to a certain action of external factors.

In 2019-2023, no more than 13% of all surveyed organizations were focused on the use of this type of digital technology. RFID technologies and industrial robotics were used in their activities by no more than 5% of the number of surveyed enterprises in 2019-2023; the use of these types of technologies is mainly due to the specifics of the enterprises' activities and the industry.

When forming a marketing strategy in accordance with the basic concept of "4P", enterprises must take into account the processes of increasing the informatization of society and adapt the marketing strategy in accordance with this trend. In the area of product policy, enterprises are increasingly focused on the quality of products, the possibility of their quick shipment and transportation to customers without losing consumer properties, while the issues of attractiveness of packaging and the appearance of containers are relegated to the background. The most significant changes occur in the marketing strategy in the area of bringing products to the consumer and advertising them.

The development of online commerce, the growing popularity of electronic payment for purchases lead to the transformation and reduction of standard retail outlets almost everywhere, especially in large cities. Most enterprises engaged in the production of goods are currently focused either on opening online stores or on trading through special retail outlets. It can be assumed that in the next 10-20 years, retail space will be significantly reduced and traditional trade will be a rare occurrence in the life of a city dweller. Shopping malls will perform not so much the function of bringing goods to the consumer, but rather leisure and entertainment. The area of warehouses and the area occupied by the exposition of goods will gradually decrease. Electronic advertising is gradually replacing outdoor advertising and POS advertising. Electronic advertising is characterized by the fact that it is distributed regardless of time, in addition, mobile applications allow monitoring the situation with delivering advertising to specific consumers, thus, targeted advertising is actively developing. Enterprises are trying to actively use Social Media technologies for



advertising, using all possible means to deliver information to the consumer, including websites, blogs, social networks, instant messengers. In the field of forming a pricing strategy, enterprises should take into account the possibility of potential buyers monitoring prices, this often becomes a determining factor when deciding on a purchase, so it is advisable for sellers to use a flexible pricing policy with the possibility of using a discount system.

The algorithm of marketing management of interaction of companies in industrial markets, the consistent implementation of the stages of which increases the efficiency of marketing activities, is presented in Figure 1. The formation and development of the industrial market is based on effective rivalry based on fair competition.

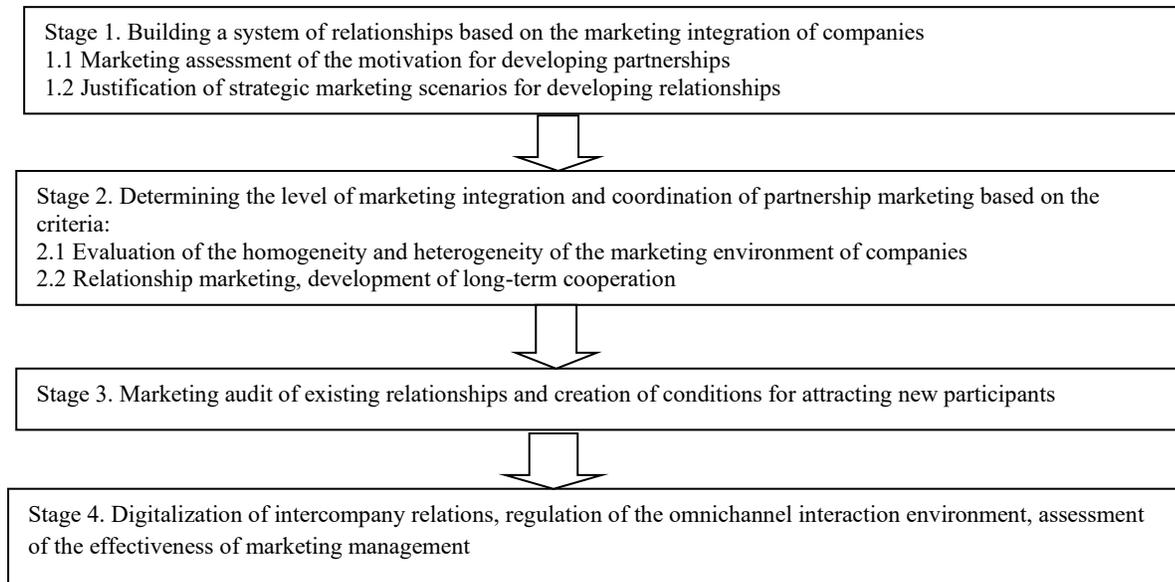


Figure 1. Algorithm of marketing management of interaction of companies in industrial markets

The world is developing rapidly, and the use of digital technologies in industry is becoming a necessity. The implementation of modern solutions increases the efficiency of enterprises and improves their competitiveness through the digitalization of business processes. Today, there is a digital transformation of all industries. Effective functioning of modern enterprises in the context of digital transformation of the economy is possible only with the use of digital technologies and tools in all its divisions, including marketing. There are several key areas in the process of digitalization of an industrial enterprise: accelerating the launch of new products on the market, enhancing the safety and reliability of production, increasing the flexibility of production, increasing the quality of manufactured goods, and overall increasing production efficiency. At the same time, digitalization is dual in nature, since the introduction of innovative technologies opens up vast opportunities for the activities of the enterprise, but at the same time carries many potential risks in the face of uncertainty and trends in the constant acceleration of scientific and technological progress. In the context of digital transformation, industrial enterprises are subject to significant loads of operational risks, since they are more characteristic of this process.

Digitalization increases the speed of decision-making, minimizes the impact of the human factor, and helps make production operations more "flexible". This helps increase labor productivity, allows you to predict work results and improve the quality of products, which together leads to improved competitiveness and increased profits of the enterprise.

Digitalization helps the enterprise to develop in a highly competitive environment. It solves the following business problems:



- improves product quality and increases its safety;
- protects the enterprise's IT infrastructure from hacker attacks that can disrupt the stability of business processes and lead to leakage, including confidential data;
- increases the flexibility of production operations and accelerates the launch of new products on the market;
- contributes to the labor protection and health of employees by optimizing the production process.

Today, the digitalization of industry remains a priority investment area for many enterprises. Thus, despite the sanctions, in 2022, almost 2/3 of domestic companies did not reduce investments in digitalization, and 16% of them even increased them. It is obvious that businesses realize that the introduction of new technological solutions contributes to their development.

The use of digital marketing tools significantly increases the efficiency of the company's functioning and development, reduces costs and increases recognition. However, the transition to digital rails is impossible without increasing the level of digitalization of the population, so further development of the digital marketing era involves the development of digitalization of the economy as a whole and the improvement of marketing tools. The goal of marketing activities is to satisfy the needs of customers as much as possible, an individual approach to the client is unlikely to give way to any other option of work any time soon. Internet marketing tools are developing and improving at a rapid pace, these tools open up huge technical opportunities for enterprises, but without their correct use, without building work around the target audience and its needs, they simply will not be effective.

2. Results obtained

The digital transformation of an enterprise is preceded by processes to change the industrial paradigm, namely the main areas (components) that ensure the stable functioning of the enterprise as a whole. The implementation of the transformation of individual elements will allow in the future to provide a higher level of competitiveness of the enterprise, and if its management makes an attempt to create and subsequently implement a full-scale unified digital platform on this digital base, this will lead to tremendous success in strategic development. Digital changes in the financial component form the cost vector of transformation. It is from the correct management of financial and investment flows that high-quality work will be formed to determine the value of these resources, which will reduce operating costs, identify new niches of income sources, thereby in the future this will make it possible to increase profit volumes (Belyatsky & Podupeyko, 2019). Another component of the structural model of the enterprise can be noted as a technical and technological one. Production processes are radically changing in their form. Digital technologies bring the degree of integration of different elements of work to a new level so as to determine the timely readjustment of a production line or introduce the production of a new type of product. Digital technologies collect information, control and measuring devices calibrate solutions at individual nodes of production processes, and in case of a high risk of negative trends, they visualize the adopted work concept. Subsequently, the equipment park of the enterprise is transferred to a common information platform, in which artificial intelligence, using statistical capabilities, produces a comprehensive interpretation of the studied information to form flexible and accurate management decisions on the functioning of the enterprise as a whole. The intellectual and personnel sphere of the enterprise's functioning is also important in the context of digital transformation, since the success of the development of any economic entity depends on the possible potential of human capital in the context of creating additional value for manufactured products. It is from the level of use of digital technologies in the personnel management system that the transformation from a traditional to a technological organization will take place, which will thereby ensure the growth of the competitiveness of the enterprise. A definitely urgent task for organizations is to form an in-depth network interaction between various structural divisions based on platformization processes. Information flows are complicated by their essence by acquiring digital value from each digitalized



employee. The power component plays an important role in the functioning of the enterprise. Despite the fact that digital transformation involves the transition from reality to a virtual environment, it is important for the management of the enterprise not to forget about the protective measures of the organization, as a whole, as a physical object. It is necessary to use digital technologies in line with security, which will allow to form a kind of dome of protection from encroachment from the outside, and within the enterprise itself. This will contribute to biometric accounting of working time, as well as continuous monitoring of the movement of people throughout the working day.

3. Conclusions

Digital reformation and transformation gives impetus to rethinking the paradigms of enterprise functioning and brings out the information component as one of the most acute issues in safe development. Information flows lead to market modification, new attitudes towards customers and manufactured products. Platformization creates a trend for restructuring brains to transfer the "locomotive" to digital rails thanks to artificial intelligence, which allows you to provide yourself with competitive advantages in this area. Digital transformation affects the problems of environmental issues in industry, which are the most pressing. Digital platforms allow you to conduct a point and systemic analysis of trends in current indicators to develop solutions to increase the efficiency of equipment, and in the event of deviations from the specified parameters of the process equipment, record the facts of incorrect operation and present a full stage of work to eliminate a potential emergency situation.

The use of digital solutions in the field of environmental protection will directly affect the interests of various counterparties, as well as inverters who want to increase the competitiveness of the enterprise in the context of their interests. Changes are also taking place in the legal sphere, as digital technologies require the development of fundamental legal solutions aimed at high-quality regulation in the context of their direct use in production. The formation of standardization processes simplifies the transfer of knowledge and promotes the further development of digital solutions. Standards act as certain indicators of the effectiveness of the implementation of technological shifts. Conclusion In the course of the studied approaches, it can be summarized that digital transformation is today a determining factor in the progressive development of an enterprise, based on the competent investment of financial resources in order to optimize production processes, improve the channels of interaction between various structural divisions, change work models, which thereby causes a full-scale fundamental rethinking of all personnel to achieve and acquire new innovative technological explosions that ensure conditions for sustainable competitive struggle in the long term.

Platformization processes shape the development of a business model of an isolated ecosystem of a specific economic entity. The management of the enterprise must understand the problem of rapid change of digital processes for retaining objects and entities in the digital ecosystem in order to ensure continuous work on correlating individual elements of business models, as well as, if necessary, to fully reconstruct the ecosystem as a whole (Kotlyarov, 2020). On this basis, it is possible to ensure stable and progressive evolution in cases of entry of new digital counterparties or technological innovations, which will thereby ensure a higher level of competitiveness of the enterprise.



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