

The Impact of Digital Transformation on Business and the Business Environment

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Abstract: Today digitalization has a significant and large-scale impact on enterprises of all sizes. Its benefits include optimizing operations, improving customer service, improving employee productivity, and creating new business models. The changes that digitalization brings with it are becoming more and more noticeable.

Keywords: digitalization, business processes, blockchain system, competitiveness, profit.

Main part: The main features of the information and digital economy are its global nature and the operation of intangible benefits: ideas, information and relationships, network principles in the coordination of markets and society. In the digital economy, the world of subtle technologies controls machines, the virtual world changes the behavior of the real one. It is these traits that create new types of market and society.

The technological basis of the digital economy is being created on the basis of the discoveries of the Fourth Industrial Revolution. Among them are artificial intelligence, distributed data, the Internet of things and for things, blockchain, mining centers, big data and cloud storage, digital platforms, 3D and then 4D printing. The technological design of various systems is used to solve specific tasks.

The digital economy, growing on the basis of the information economy, can be defined as its continuation in a new quality after an unprecedented and disruptive technological breakthrough as a result of the fourth industrial revolution. Which is characterized by a nonlinear (exponential) rate of spread of innovations, the depth and scale of penetration of digital technologies, the power of influence of digital complexes and systems? Their application changes a lot in the way of thinking and motivation of decisions, i.e. not only in productivity, but also in economic behavior, in the principles of organization and operation of companies and the entire economic mechanism.

Digitalization has had an impact:

Firstly, on the ways of organizing and running a business, its marketing strategies;

Secondly, on providing business with resources;

Thirdly, on production and transaction costs (organizational, managerial, communication, costs of receiving, processing and storing information), which in the digital sphere are sharply reduced or disappear altogether;

Fourth, the network effect and the scale effect, which are becoming global.

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Customer relationship strategies. The use of digital technologies, including artificial intelligence, and the intensification of competition give rise to trends such as deepening relations with the buyer, communicating with him in the digital environment and responsive to changes in his preferences. The client's problems, their solution, become a source of profit. In the digital economy, work with the buyer is individualized, involvement in his tasks and empathy are practiced. The value of customer experience is growing, which also becomes a source of profit and at the same time an acquired good in the segment of inter-company relations (B2B) [1].

On the basis of individualization of demand satisfaction and deepening of relations with the buyer, the probability of price discrimination increases, which is also, on the one hand, an additional source of profit, and on the other, an additional opportunity for the buyer. Digital technologies, saving transaction costs, and sometimes reducing them to zero, generating new potential, and at the same time new requests and requirements for the market, accelerate business and production. As a result, the life of not only the product, but also the company is shortened.

So, in the Standard&Poor 500 rating, the life span of large corporations has been reduced from 60 years to 18. [4] Business culture, company culture is changing towards the need for leadership and self-perception in the structure of their organization (individual mental embeddedness in the company). Organizational and leadership ability to learn and fundamental changes is needed, the speed of which will only increase. This implies the need for an innovative culture of the company, the ability to create and implement effective projects at high speed. All this leaves no room for routine, administrative costs and stereotypes, the so-called silo of the company. Competition is moving from the sphere of cost reduction to the sphere of creativity. Opportunities are expanding and project financing is accelerating, for example, through the collection of tokens for a creative and well-designed project with transparent efficiency and profitability through the blockchain system.

New conditions in working with customers. Breakthrough results in science and economics are provided by the widespread use of artificial intelligence: from software for the discovery of new medicines to algorithms that identify our cultural interests and predict our behavior. Many similar schemes are built on the basis of information traces that buyers leave in the digital field, for example, while on social networks, browsing company websites or other information. In particular, applications such as, for example, Siri (from Apple) to a powerful artificial intelligence subsystem are already being used [2]. By processing individual information about the users of the sites, they perform the role of intellectual consultants, forming the "surrounding mind". It is an intelligent digital interactive environment that surrounds the user with automated personal consultants. Electronic devices study and predict needs, help to make a choice and realize it, forming a person's personal ecosystem.

By the way, this solves the problem that arose after the third industrial revolution, which consumers faced in the information economy – the difficulty of selecting meaningful information with its abundance. So, being in the digital environment of both the business and the buyer, using artificial intelligence to search and process information helps the business to conduct in-depth work with the client, individualizing marketing.

Automatically processed targeted advertising information, personalized through artificial intelligence, in the digital field acts as an offer to a specific buyer, taking into account his individual preferences and capabilities. The information can be improved until the offer becomes interesting to the client and gets to the point. Individualized market segments can be created on the basis of automated information processing. Moreover, the seller pays an incomparably low price for these compared to traditional methods. The larger the number of buyers, the lower its unit (average)

transaction and digital costs. Thus, the conditions of sale of many goods on the web are approaching perfect price discrimination.

Similarly, opportunities for a lot of market price discrimination are expanding. Here, the increased individualism of the user in the digital environment, an in-depth approach to solving his problems, becomes a reliable protection against the buyer's transition to other market segments. At the same time, the principle of justice and social efficiency is not violated.

Changes in competition. During the transition to the digital economy, there are changes in the conditions of competition. For example, competitors can become partners by combining on the basis of digital platforms and sharing. At the same time, the opposite phenomenon appears – competitive undermining. This is an unexpected appearance of competitive advantages for a beginner, for example, due to a startup or access to global digital platforms for research, development, marketing, fast sales and distribution. Such companies overtake reputable old-timers in terms of speed, cost and quality of delivery of goods or services.

Another source of competitive disruption that digital technologies provide is the ability to cross industry boundaries. This makes it possible to use customer bases, infrastructure and technologies at the intersectoral level. You can imagine how the efficiency of the company increases, how costs are sharply reduced. An example is the introduction of telecommunications companies in the automotive and healthcare industries. The size of the company can also become a competitive advantage, provided efficiency. All these are shifts on the supply side. Disrupting competitors in business can also be influenced by changes in market demand. Digital technologies create transparency, new models of consumer behavior based on access to mobile networks and data. In response, companies adapt the methods of development, marketing and delivery, are forced to create new products and services.

New sources of profit and factors of competitiveness. In the digital economy, data-enhanced products become such. A business can have a big impact on the quality of the product, increasing its value and the quality of service by applying digital improvements to its products. By receiving complete information about the operating mode and wear, the business can monitor the continuous improvement of quality without replacing the goods. Technological innovations are transforming the perception and asset management of companies. For example, remote software updates and connectivity increase the value of an already used car instead of its depreciation depreciation. The point is that not only new materials, but also digital processing of data on the operation and condition of the product prolong its high-quality use. This is very important not only for automotive, but also for aviation equipment. Constant monitoring of benchmarks using sensors and algorithms helps to anticipate and eliminate the causes of failures and breakdowns in advance [3].

Thus, maintenance acquires a new quality, special monitoring centers begin to deal with it. On the basis of remote forecasting of the functioning of products, not only remote monitoring centers are created, but also new business models. For example, outsourcing of production facilities that are not strategically significant or specialized. In them, the company can extend the period of uninterrupted operation of machinery and equipment, the functionality of which is determined using analytics. Thus, digital capital becomes a new source of profit and a factor of business competitiveness. Researchers of the digital and information economy observe a "deepening of capital" and an increase in its contribution to the creation of a new product relative to the share of labor, which is confirmed by statistical data. An important factor in the development and competitiveness of companies working with information and communication technologies is the creativity of employees. In the conditions of digital transformation and the digital economy, it is no longer enough to improve

human capital to make super profits. An important factor is the formation of creative capital, the possession of which brings a stream of superprofits in the implementation of creative ideas.

There are also many ready-made digital network infrastructures on the market.

Before a company starts a full-scale implementation of a ready-to-digitalize network infrastructure, it needs to take into account several important criteria.

In a modern company, the most important resource is data that is constantly moving, so security systems built into the network infrastructure are mandatory. The network infrastructure should be built on an infrastructure protected from unauthorized access, equipped with industry-leading security systems.

There are two ways to build a network infrastructure: the first is to combine individual products selected based on cost or quality concepts, the second is to use an approach based on the network architecture. Although the initial costs for individual products may be lower, this approach carries certain problems, including the lack of integration between devices, separate management interfaces, difficulties in applying management and security policies across the network infrastructure, and poor performance due to the use of "sufficiently good quality" components. The architecture is a single integrated system that has functional consistency, security and reliability from the endpoint device to the cloud and can scale as the business grows [2].

Total cost of ownership. Take into account not only the initial purchase costs. Low initial costs may look convincing, but do not forget about other aspects, such as manual operations and the functional completeness of the solution. Think also about how much time you can spend setting up the hardware to compensate for the lack of scaling. In the long run, the costs may be high.

Before installing a ready-made digital infrastructure on an enterprise, there are a number of recommendations:

Estimate purchase costs based on the long-term total cost of ownership, and not just based on capital acquisition costs. Accounting only for initial expenses without attention to long-term prospects is an old trap for the stingy who pay twice. If you start cutting costs at the very beginning, then most likely you will spend a lot more in the future. Therefore, analyze the long-term total cost of ownership for all the solutions you are considering buying, and make a choice based on calculations over several years, not months. Consider every aspect of the purchase, including equipment maintenance, management, labor costs, downtime, and upgrades.

Use an intent-based network solution. A network infrastructure ready for digitalization understands the purpose of traffic and the context of data, constantly learns and adapts. The intention-based network system will become a flexible platform that will allow innovation to be introduced into the most important business processes. The intent-based network is designed to meet the requirements of digitalization.

Automate everything. Performing tasks manually should be a thing of the past. Strive to automate any tasks related to the network infrastructure. This will free up resources and focus on other important business priorities.

Analyze everything. Thoroughly analyze and study every aspect of your network infrastructure and business, including user behavior, application and client device usage, and everything related to network infrastructure. The goal is to optimize operations and ensure performance that meets expectations. Don't miss anything important.

Choose a supplier offering a full range of services throughout the entire product lifecycle. Managing a digitalization-ready network requires new skills and processes that differ from those required for a traditional network. The services of a network equipment supplier will be a useful addition to the skills of your network engineers. Services should be provided at every stage of the network infrastructure lifecycle, including preparation for implementation, deployment and subsequent maintenance. Thanks to such services, deployment can be carried out quickly and successfully. It will not be delayed for the period of adaptation of IT personnel to new technical requirements.

Beware of cheap offers. Many network equipment suppliers claim that network infrastructure has become a common commodity, and offer network equipment at low prices. However, the strategic value of the network infrastructure continues to grow, and it is far from becoming a mass commodity. You always get only what you pay for, and the lack of necessary functions can cause long-term damage to the business.

Consider the network infrastructure as a platform for digitalization. If you transform your business digitally, a digitalization-ready network will become a fulcrum for the entire company. Therefore, it is extremely important to make the right choice regarding network equipment. If you make a mistake, you can stop the development of the company for many years, which will lead to the loss of market positions, income and jobs (perhaps even yours). If you are aiming for long-term success, make the right choice. Choose a network equipment supplier that will help your business grow and provide the necessary flexibility to achieve strategic goals.

A new business organizational structure is developing in the digital economy – the blockchain system. Its strong point is decentralization, thanks to which payments move in the global space instantly and transparently. Therefore, there is no need to open many offices and create legal entities with all the administrative costs inherent in them [2].

In the latter, the business environment is changing largely thanks to the blockchain, going into digital codes and cloud computing. In addition to replacing the functions of banks and traditional financial organizations, freeing projects from being tied to the refinancing rate, blockchain in the future will be able to replace courts, lawyers, implementing labor law instead of contracts. Cloud organizations and cloud courts also carry new qualitative characteristics of the business environment becoming digital.

Legal regulation is carried out by the blockchain itself. The smart contract is the guardian of order. In addition, the existence of cloud arbitration is possible: the program itself selects jurors from the blockchain community. They study the documentation and the content of the conflict. The blocked disputed amount, depending on the verdict, either remains on the company's account or is transferred to the employee's account.

Thus, moving into the digital space, many institutions, including courts, are changing their organizational form. Problems are solved quickly and at a high expert level. The electronic code is not subject to bribery or lobbying. The regime of property rights becomes transparent and guaranteed, all other things being equal. Specialists are improving protection against cybercrime. However, this task is now facing the States of the whole world and must be solved at the global level. Blockchain will also help in this area. So, the business environment will be improved when companies switch to digital business technologies and connect them with production. Their use and distribution facilitates work, primarily reducing transaction costs. This means that additional sources of profit and competitive advantages are created.

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