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## DIGITAL TRANSFORMATION AS AN ORGANIZATIONAL CHANGE OF THE BUSINESS MODEL

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**Abstract.** The knowledge-based economy is increasingly identified with the concepts of data and connectivity. It makes issues related to digital technologies and the changes occurring in business relations and the socio-cultural environment extremely important and topical. The goal is to explore the essence of digital transformation and the different approaches to implementing this process. The main question is: When and how the use of information and communication technologies leads to a digital transformation of the business model? The reasons and conditions inducing this change are analyzed in the context of internal company resources, the market environment and the opportunities provided by new digital technologies. The author's understanding that this change has a systemic and continuous nature and is related to the strategy, leadership, human factor, structural-functional and organizational culture of the company is argued. The key role of the human factor is clarified, as the cognitive competencies, professional skills and personal qualities necessary for flexible and effective management in the implementation of the digital transformation are described. The main components associated with this change are analyzed.

**Keywords:** digitalization; digital transformation; management in a digital environment.

**JEL:** M21; O32

### **Introduction. Research questions, goals and methods**

Digital technologies today are a reality not only in the business environment, they are the modern communication channels in society as a whole. These are expert systems, blockchain technologies, big databases, cloud technologies, neural networks, virtual engineering and high-speed digital networks. Even organizations without a particular affinity for digital technologies are forced by push factors to change because consumers are already digitized, and the same applies to investors, suppliers and counterparties. The digital transformation of business models and society is an objective and inevitable process, the study and knowledge of which leads to an adequate implementation of this change in practice.

Brennen & Kreiss (2014) consider digital transformation as a fundamental change of international business as well as a change of communication infrastructure and channels in many areas of social life. Issues related to digital transformation as an organizational change caused by the

application of digital technologies in all spheres, as a desire to improve the work or scope of the company, as a program for integrated digital marketing and placement is described and analyzed in the works of Marchand and Wade (2014); Westerman, Bonnet, McAfee (2014); Davis (2013); Solis (2014); Slavova (2016); Orehov (2020) and others. The components and approaches for implementing digital transformation are researched and theoretically described by consulting companies, institutes and authors such as Ernst and Young, IMD (International Institute for Management Development), SAP (2016), Slavova (2016), Lazarov (2020), etc. The strategic decisions that are necessary and associated with the use of cloud technology, big data computing, artificial intelligence and other information and communication technologies (ICT) are the subject of interest and research by Chaffey (2015); Wade (2015); Kane, et al. (2015).

The object of research in this article is the process of digital transformation of business as a serious structural-functional organizational change, and the subject of this research are companies and their participation in this process. The goal is to determine the essence of digital transformation process and the approaches to its implementation. The main author's thesis is that this complex change is a systematic, continuous, staged process, requiring a serious audit of the company's capabilities to implement digital technologies in production activities, marketing, forecasting, communication with consumers and business partners. The presence of a strategy and plan for the implementation of such a change requires the application of a systematic, scientific approach, as well as the use of foreign experience. This, in the language of modeling and optimization, is a complex, multi-objective optimization task, where the correct assessment of the degree of importance of each of the objectives is extremely important in the search for an optimal solution.

The topicality of the research derives from the concept of a single digital market and internationalization of business. These issues are important and disturbing for Bulgaria in the context of the unsatisfactory results and performance of the country in The Digital Economy and Society Index (DESI 2022). The main research question is: When, to what extent and how the use of information and communication technologies leads to the implementation of digital transformation of the business model. The following theoretical research methods were used: Analysis, Synthesis, Comparison, Concretizing, Generalization, Deduction, Analogy and Modeling.

## **Results and Discussion**

### **Essence of the digital transformation. Reasons and conditions for implementation**

Digital transformation, in essence, means a serious change that aims through information and communication technologies, to disrupt the market equilibrium, to respond adequately to the rapidly changing conditions, the poor positioning in the market environment and to respond effectively to the attitudes, preferences and demands of the digital partners and consumers. The purpose of this change is to increase the competitiveness of the company and to achieve a greater market percentage share, additional income, implementation of new products, services and preparation of new business solutions. Changes in company policy leading to better consumer value are also imperative. According to SAP (2016), digitalization is increasingly important for the economy and society as a whole. Digital transformation, according to them, can be well described by the following five key elements – people, cloud, business, data and things. Companies that implement digital computing technologies perform better in terms of revenue, profitability and market capitalization. In addition, technology has become an integral part of everyone's daily life and companies have strong relationship with customers and many customer touch-points i.e. web, mobile, mail, face to face. Digitalization enables information to become the basis of operational excellence. Thus, companies become more flexible, get new opportunities for coordination and integration with new business partners. Digital modeling is defined as an ability to analyze and design how an organization creates value based on computer technology. Digital transformation according to Orehov (2020) covers many processes, interactions, operations and technological improvements. This fact is important because although there are common goals, objectives and characteristics, there are also specific differences for individual industries, regions and enterprises.

In the digital revolution, one of the most important characteristics is the speed of its implementation. This causes professional and psychological stress, which must be quickly overcome, because unlike the innovations in the past, the life cycle of digital innovations is short, which requires adequate changes in company behavior. The speed of processes constantly creates new opportunities, but also problematic situations for the companies. The paradigm shift requires adequate changes in company business philosophy, perception and decision-making. It is important, taking into account the company's capabilities, strengths and weaknesses, and the risks of the external environment, to define what is aimed at with digitalization - improving production activities, increasing the efficiency of processes or creating a concept for maximum and large-scale use of the capabilities of new technologies, i.e. business model change. Digital transformation, like any

organizational innovation solution, requires going through all stages - from the idea, internal and external audit, through planning, taking actions for implementation and finally arriving at analysis, evaluation of results and decisions for future actions. Digital transformation is a complex, objective and inevitable process that is triggered by a number of push and pull factors that make it irreplaceable. These are the aggressive competitive environment, dynamic markets, the need to work with large databases and their analysis, demographics and the lack of well-prepared quality personnel.

To define this change only as an internal company initiative is just as wrong as to see this process only as imposed by factors of the external environment. Usually, company motivation is related to both pull and push factors that influence it. By analogy with entrepreneurship, one can talk about opportunity digitalization and necessity and forced digitization. Obviously, companies with greater capabilities and an affinity for innovation will prioritize the first type of digitization, and other companies the second type. The use of digital technologies in manufacturing does not mean digital transformation. Quantitative accumulations must be made that lead to qualitative and substantial changes in the organization of the business in order to talk about changing the business model. External changes are undoubtedly essential generators and reasons for internal structural-functional transformation. The level and extent of these changes on strategy, company behavior, culture and communication with customers and partners determine whether the digital transformation is actually carried out, which is not a final but a continuous process over time. The dialectical nature of the "firm-market" relationship determines the dual nature of the reasons for the origin and genesis of this process of change. The analyzes of Burke and Litwin (1992) define changes in the environment as the main reason for the changes, which does not exclude the strategies, leadership, organizational structure and culture of the company as a reason. There are many different authorial understandings of emphasis, priority, and importance related to these issues. In our opinion, the implementation of change as an internal company initiative is related to the capabilities, resources, attitudes, motivation, leadership, culture and strategy of the company and is conditioned and dependent on the human factor. We refer to his cognitive competences, professional skills and personal qualities, i.e. the person as an individual, resource and capital in the process of realizing added value. Successful transformation is a function of the so-called "new age", which is well-educated, ready to step out of the professional and personal comfort zone, break stereotypes, generate new ideas and/or accept and apply foreign innovation experience. As for the external factor that we can tentatively define as a pusher, it is the new digital technologies with their broad-spectrum capabilities and variability of use. Obviously, personal changes and transformation of relations in the "business-partners-clients" triad are required.

Moreover, the roles of subject and object in this dialectical relationship are constantly and alternately reversed, with the subject becoming the object and vice versa.

### **Stages and approaches for digital change**

The choice of approach depends on the goals set and many other factors. Solutions related to digital transformation that work effectively in one market segment may not lead to positive results in other areas. It is important to take into account the company's attitudes, the capabilities and the capacity of the available personnel for innovation activity. It is necessary to prepare a financially profitable incentive system, create conditions for flexible working hours, refine the selection of personnel and ensure their qualification and retraining. The specificity of the company's business is important in order to assess the degree of change and the internal company activities for which it is necessary and applicable. Another starting point is the ability of partners and consumers to be connected to the intended company transformation. This necessitates the application of an individual approach and the principles of phasing and systematicity.

Digital transformation as a significant organizational change affects the management model as well. Hierarchical-administrative organizational structures, with their strict subordination, are not appropriate and do not guarantee an efficiently working professional environment. A network organizational structure often proves to work better in many sectors. By its nature, it is flexible, variable, decentralized and gives greater opportunities for initiative, partnerships, teamwork and outsourcing. The network structure provides new opportunities for effective solutions in a dynamic environment, improved conditions for exchange, information sharing and use of good practices, staff motivation, as well as effective interaction with partners.

The existential question "where do we come from, who are we, why are we here and where are we going" formulated by former successful stockbroker Paul Gauguin perfectly describes the algorithmic steps a company takes when deciding to implement a digital transformation. When deciding on a digital transformation, the pros, cons, opportunities and risks must be analyzed. Internal attitudes and possible resistance must be taken into account, opinion leaders must be won over, priorities and stages of change must be defined, teams must be created to implement the strategic goals and the important projects in the priority areas must be determined. According to Lazarov (2020), the successful digital transformation of industrial enterprises goes through the following stages: determination of a basic reference point; informing and involving staff; determination of priority directions for digital transformation; team selection and organizational structure improvement; preparation and

implementation of road maps for key projects in priority areas. The author proposes the implementation of five key projects, one for each direction.

The essence of the digital transformation category defined by the IMD (Institute for Management Development) in 2015 is still relevant today and gives directions for implementing the change. IMD's Global Center for Digital Business Transformation believes that once the motivation for change is clarified, after the question of "why" come the questions of what and how to transform. According to them, the digital transformation plan includes seven main components: Business Model (how you make money); Structure (how you are organized); People (the people who work for you); Processes (how you do things); IT Capability (how you collect and manage information); Offerings (your products and services); Engagement Model (how you engage with customers, suppliers, etc.) (Wade 2015). The guiding questions formulated by Wade (2015) are an opportunity for each company to describe its more detailed digital transformation algorithm.

An opinion of the company Ernst and Young, cited by Slavova (2016, p.146-147) draws attention to the need not to complicate the digitization process, but to focus on several main areas. A more direct approach is proposed in accordance with the attitudes, the possibilities for change and the company's priorities in the context of communication with consumers, suppliers, partners and investors. The analysis will have to show how digitalization will change the company culture and how effectively the change is managed in the organization.

The broad applicability of modern digital technologies makes finding the right answers related to their use extremely important. Technological changes give a wide field for entrepreneurs to operate easily with a huge amount of data and to make adequately informed decisions (Zlateva 2021, p. 519). Serious expertise is required in the selection of technological tools and detailed knowledge of the specifics and field of application in order to account for the positives, risks and negatives of their use. Knowing the nature and characteristics of digital technologies contributes to business modernization (Kyurova, Zlateva, Koyundzhiyska-Davidkova, Vladov & Mierlus-Mazilu 2023). A possible solution is to use a consulting and venture approach in solving this problem, taking into account, however, the risks that are well known in their use.

### **The role of the human factor in modern management**

Management in modern conditions requires a wide range of cognitive competences, professional skills and personal qualities of the leader. His knowledge must exceed the specific knowledge related to the nature of the company's business, he must determine the sources of uncertainty and define the group of acceptable, permissible and unavoidable risks. He must predict

which of them are within the innovation process, which are in the implementation and commercialization of the innovation, which arise from the external environment – customers, competitors in the market and unexpected events unfavorable to the business. The nature of the risk must also be foreseen - legislation and regulations, production, technological, personnel. The analysis must include probabilistic assessments of the occurrence of events and indicators of different types - expected minimum and maximum number of new customers, number and magnitude of approval, disapproval, satisfaction, growth of expenses, income and profit.

The scale of digitalization and the speed with which it is taking place creates risks for companies. The manager must have a plan to limit and minimize damage and loss, as well as implement management that is based on scientifically sound procedures. It is necessary to provide resources to secure the project in case of additional situations; to prepare a plan for preliminary testing of the chosen innovation; to study foreign experience in this direction and its results; to evaluate whether to carry out the project independently or in collaboration with other companies. In other words, it is necessary to clarify which risks can be avoided, to discuss and draw up a plan for risk prevention and reduction of consequences, to carry out constant monitoring and control of the risk.

The cognitive competencies of the modern manager far exceed the knowledge of economics, knowledge of econometrics, statistics, theory of decisions in conflict situations, psychology, etc. is necessary. In the dynamically changing digital environment and the networked organizational structure, the professional skills and personal qualities of the leaders are extremely important. The manager, knowing the company's traditions and priorities, must know clearly which of them are of a strategic nature and determine the priority tasks by drawing up an operational tactical plan for implementation. In order to achieve maximum integrity between the strategy and the existing company culture, the manager must: have strategic and analytical thinking; to define the stages and teams for implementation; to have flair, imagination and affinity for the new and to influence and direct others to innovative solutions; be an "internal company influencer" for team leaders and teams to follow; to know well the personal qualities, professional skills and competencies of the team leaders and the teams they lead, in order to be able to successfully assign and distribute tasks to each of them; to know the leaders of the disaffected in order to parry and quell possible resistance; to show patience and provide a calm working environment, to have mental and physical condition; to be a motivator and "psychoanalyst" in failures and setbacks; to be balanced, sociable and communicative, with good verbal and written culture, to be a respectful professional authority, but at the same time to be one of the team. In the digital environment, the manager, more than ever, must be



a mentor, a guide who helps and encourages to achieve positive results. Therefore, he must be a facilitator who unites the aforementioned functions and by using appropriate techniques (facilitation) to provoke and organize discussions in order to clarify the ultimate goal and reach agreement in the group of interested parties. And this means reaching agreement on terms, goals and ways of implementation, while at the same time giving the opportunity to those who disagree to rethink and possibly convince them of the unsustainability of their opinion. The manager must derive benefits and positives from knowing the internal company skepticism, problems and risks and believe that this is the winning, successful strategy to achieve success. In other words, step by step, with patience and persuasion to win a sufficient number of adherents supporting the innovation project.

No less important is the role of the rest of the company's staff. The necessary competences that must be possessed by the personnel in enterprises aimed at sustainable development are digital, communication, technical and technological skills, innovative and analytical thinking, management and project work skills and use of social media (Filipova & Yuleva-Chuchulayna 2021). Data from the National Statistical Institute, Eurostat and other organizations related to demographics, the number of researchers, costs and personnel for scientific research and development (R&D) are worrying for Bulgaria. It has been established that there is a lack of suitable personnel with serious knowledge, skills and competencies for the new requirements. Education is slowly adapting to new requirements, the relationship "education-business" is developing slowly and with difficulty. According to Dimitrova (2023), continuing professional training is not a priority for many companies. Bulgaria is among the countries that allocate less than 1% of GDP to R&D, while the average European share is close to 3%. There is a lack of staff with an affinity for innovation, with creative thinking and empathy for company projects. There is a lack of flexibility in decision-making, for the organization of the salary, a clear regulation for the payment of overtime and additional incentives, as well as a fair evaluation system for personnel growth. Digitalization, the networked company structure, the new company and corporate culture require flexibility and change in communication channels. Some companies focus on the consulting approach, on the use of freelancers and venture services, which, of course, should not come at the expense of loyalty to the staff and their identification with the company and its goals. The person should now be seen not only as an individual, but also as capital, providing competitive advantages to the company and added value. But that's why an adequate company policy is needed, which, of course, starts with the use of modern personnel selection systems.



## Conclusion

The following main conclusions can be drawn. Digital transformation is a large-scale organizational change associated with a new structural-functional company model, which often does not have a tree-like, administrative-hierarchical structure, but a network-functional scheme. This inherently innovative process takes place within the company's internal environment, but is often induced by the external environment – new technologies, digital customers, suppliers and partners. It must be carried out smoothly over time, after a serious analysis of those structures and processes that provide opportunities for effective change. It is better for company policy to be driven by pull factors rather than imposed by push factors. The variability of possible solutions when using ICT makes the choice difficult and decisive for their successful implementation. Digitalization and mobility are increasingly universal and affect people, their lives, businesses, data and communication channels. Digitalization changes not only some aspects of companies' activities, it implies serious changes in the infrastructure, functionality and methods of communication. Digital transformation takes place systematically and continuously over time, increasing the role of man as an individual and human capital carrying added value. The role of the manager undergoes a significant change, which turns him more and more into a facilitator and requires him to acquire new cognitive competencies in many areas, flexible professional skills and personal qualities. Recruitment approaches, continuing professional learning, investment in education and research and development are becoming increasingly important. Digital transformation is an objective, inevitable process directly related to sustainable development and the circular economy, i.e. with economic, social and environmental aspects of the human future. The Digital Economy and Society index (DESI, 2022) ranks Bulgaria 26th in the EU. Each of the four main analytical and evaluation indicators - human capital, connectivity, integration of digital technologies and digital public services are directly related to the digital transformation and show a serious backwardness of our country. At the same time, the lag is not only from the leading countries, but also from the average European values of these indicators. Rapid and adequate changes at company and national level are required to overcome the backlog.

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