Digitization of the Management Process within the Institutions in Order to Make Administrative Costs More Efficient

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Abstract: The issues of streamlining the costs of running state-owned enterprises in the context of the "digital economy" and the directions of development for their elimination are considered. There is a need and opportunity to introduce modern digital models in the administrative activity, creation and the development of efficient methods of a system that operates in an efficient economic environment.

Keywords: digital economy; digital management; digital management model of a company; efficiency of administrative costs

JEL Classification: M49; M41

Introduction

The term "digitization" has become one of the most popular in recent years. He points out the key difference between the present and the past, when information technology was used primarily to automate existing industries and business processes. The most commonly used terms are the following terms: digital economy, digital technology, digital transformation, digital enterprise, digital thinking, digital management.

According to some experts, the "digitalization of the economy" is taking place in the following strategic directions:

1. Digitization of vertical and horizontal value chains - production automation and administrative management;

2. Digitization of services;

3. Digital business models.

Therefore, a digital enterprise is an enterprise that uses information technology in all fields of activity: production, marketing, accounting, management of state-owned enterprises, etc. This consequently involves the automation of most processes, including organizational and management processes.

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Results and Discussions

The development of information technology fundamentally changes the production systems of enterprises, creates the opportunity to interact and exchange data with other equipment systems. The digital transformation of the social system consists in the transition to activities in which digital information and communication technologies are widely used which include, inter alia, the automatic collection of data on activities that make the activity more transparent and manageable.

It should be noted that the concepts of "transparency of performance outcomes" and "transparency of activities" need to be clearly separated. In addition, the transparency of the status of the company or department in which the activities are carried out must be assessed (Alford & O'Flynn, 2009, pp. 171-191)

Transparency of performance results does not provide the opportunity to reach the required level of management for most types of modern activities. This is generally one of the most significant problems for businesses- in many companies, due to the insufficient organization of management systems, there is a situation where the activities are already carried out in a new way- due to environmental pressure and the management system.

We can agree with the opinion of some experts that the management of modern enterprises is carried out in conditions of instability of environmental factors and their uncertainty over time, and the effectiveness of such activities and the competitiveness of enterprises are largely achieved through constant monitoring (Alvesson & Karreman, 2000, pp. 1125-1149).

That is, in these systems there is at least one phase variable (system parameter) at any one time, whose rate of change is not equal to zero. The non determinism of the sistem is determined by the fact that, in the general case, due to the activity, we cannot accurately predict the sign of the rate of change of the values of the phase variables of the system.

The use of the term "digital management" in the modern scientific literature is still fragmentary. Sometimes the term "digital management" is used as a general term used to refer to information or, perhaps, it is more correct to say that information technology management uses large amounts of information for prompt and high-quality management decisions. Strictly speaking, we should probably distinguish between information technology and computer technology. In general, information technology can be implemented without the use of computers. But here we do not consider it necessary to discuss this philosophical question in detail.

Digital management is a management process based on information technology to collect and process a large amount of data to make optimal management decisions. In today's world, computers and data collection and processing technologies not only ensure the availability and reliability of information, but they also partially replace a person in making and implementing managerial decisions. And in the future, computers will be quite capable of replacing the manager in the implementation of current management in many activities (Andal-Ancion, Cartwright, & Yip, 2003, pp. 34-41).

Fundamentally, the meaning of the term "management" (management in social systems) changes after the addition of the term digital. Strictly speaking, the principles of control remain the same, meaning that nothing changes in this regard.

But, there are new opportunities to use computers in management activities. The novelty is the widespread use of collection and processing devices of data, the miniaturization of sensors, the development of new algorithms and the emergence of new software that allows the processing of complex data (images, video and audio information, speech recognition and synthesis, technical vision), etc.).

In addition, neural networks and computers, and algorithms appropriate, are already applied in the administrative process. In combination with fast-growing artificial intelligence technologies, such capabilities can play a significant role in the development of enterprise management.

All of this, in turn, creates opportunities that operational managers did not have before. In particular, it is possible to exchange information quickly through individual solutions, the possibility of video communication, the possibility to work collectively on a document in real time and other available technologies change the communication possibilities. But there is, perhaps, an even more problematic aspect - the availability of primary data (on the behavior of customers, employees, etc.) creates the illusion of having information for decision making.

 Often people do not understand the difference between the terms "data" and "information". As a result, significant resources are being spent on the data collection process, in the company appear large amounts of data, with which no one knows what to do. Today we can get information about what employees have said or written, when and where they are going. You can track every step of the way, the look of the customer in the store - this is not a technical issue.

Operational management has goals related to reducing the company's costs without losing the speed of business processes and the quality of operations results. In fact, operations management aims to effectively manage key business processes and operations that matter to gain added value, as well as to effectively support key business processes through the proper organization of ancillary business processes.

Input for operational management is the result of strategic management work, because when you build internal business processes, you need to understand in which market segment the company will operate and what target parameters of business processes must be achieved to obtain certain competitive advantages.

Despite the fact that operational management is scattered among the various departments of the organization, it is often necessary not only to optimize the business processes that take place within the departments, but also to optimize the end-to-end business processes that "penetrate" through = more departments. , because it is precisely at the junctions between departments that inefficiency appears.

Operational management is a tool for improving the operational efficiency of activities, which is ensured by the optimal conduct of each operation and, therefore, in the context of operational management, it is necessary not only to appoint an operational or executive director, but also the integration of business participants in a system of continuous improvement of activities.

By the nature of the control actions, the management in a cultural and leisure institution must be considered as a process in which the administrative management is carried out by separate acts and fragments of activity and is reduced to maintaining communication between them or changing them in the right direction. This type of management also includes issues of organization and change of

technological processes, financial policy and the creation of a business service (Bannister & Connolly, 2014, pp. 119-128).

The process of introducing innovative management technologies in the activities of cultural and leisure institutions is the central and decisive link in adapting it to market relations. In management technology, the act of leadership is the adoption of management decisions (individual and collective) and control over the degree and nature of the implementation of these decisions. In this respect, the decision and the control shall be presumed and mutually complementary. The decision, which is not supported by control, does not make real practical sense.

Management of digital operations - Departments involved. In fact, any head of an organizational unit should have operational management skills, as he must not only build the efficient execution of operations within his unit, but also the interaction with neighboring units, both in business processes and projects, and even tasks. Very often, the initiators of the use of operational management tools are the top owners and managers of the organization, who understand that the company needs to adapt to the changing situation in the markets, and therefore make it more efficient.

An operational management tool implementation tool can be a process office that can accompany projects to improve operational efficiency by modeling the organization's key business processes, as well as the application of various methods of analysis and optimization of business processes.

There are examples when the head of the process office, with an excellent understanding of the organization's business processes, is appointed operational director, thus gaining strength over key functional units to increase operational efficiency.

In the financial sector, in view of the level of automation, a technical manager may be appointed as operational manager, as many business processes in the financial sector have already been digitized, and further growth in the level of digitization is becoming a key factor. If no operational manager is appointed, then all operational management tasks are at the level of the CEO, which should address operational efficiency improvements.

Operations management - state of the art. Given that most markets in the world are declining, Many business owners consolidate their knowledge of management teams in the field of operational management, as competition is growing, so the company must produce a product or provide services at the lowest possible cost, fast and with the right quality.

Now you can see many projects for the implementation of digital technologies in the manufacturing companies, projects for the analysis and optimization of business processes in the banking and insurance sector. In fact, there is not a single industry left in which owners and top management are not perplexed by the increase in operational efficiency by introducing operational management technologies.

In some progressive organizations, operations management has adopted the technology of digital reorganization of the organization, introducing new business processes, with minimal involvement of people as common executors of business processes. Technologies such as artificial intelligence, robotic process automation, augmented and virtual reality are being introduced into existing business processes, enabling operational management not only to reduce staff costs but also to create scalable business models whose business processes allow work on many different markets, including international.

Operational management training is practiced in all top business schools. Now this discipline is facing a renaissance due to the active use of information technology, which requires managers not only process-oriented thinking, but also to understand the tools needed to automate business processes and control and analyze them, using the Business Intelligence class. There are many examples on the market for the application of certain operational management tools in practice, the main thing is to realize that the organization needs it, and then start implementing best practices in your companies.

An example of increasing operational efficiency is the emergence of a huge number of companies based on an internet-based business model, where not only customers are searched on the Internet, but also business process performance is recruited, internal business processes are automated, partners are attracted and suppliers. Moreover, operational management becomes the center of expertise of the organization in organizing "digital" business processes, considering the possibilities of social networks, crowdsourcing, freelancers and innovative technologies.

Companies acquire the properties of ecosystems where there are no rigid organizational boundaries, only business processes around the world, in which not only full-time employees of the company participate, but also freelancers, as well as services that do all the routine work. Through the use of artificial intelligence technologies. And it seems that operational management, as a science discipline, should absorb all the innovative technologies.

The relevance of the above problems, their theoretical, technological and practical significance have determined the content and direction of the research.

But only to a small extent this can be really used in the activities of managers, in their management decisions. But the presence of large amounts of data, as already mentioned, is misleading, creates the illusion of awareness, and the company's specialists are inspired by unrealistic hopes for the use of this data.

But because, in most cases, managers do not use the necessary digital methods and do not have the right models to reflect the dynamics of the system, such decisions, if taken, are largely intuitive. This is generally very dangerous for business - there is an illusion of vigorous activity, awareness, reliability, which misleads both managers and other participants (owners, for example) (Cordella & Paletti, 2018, pp. 1-17). The prevalence and relative availability of a "business process management system" again creates the illusion of transparency and process control.

But the "standard" approaches, common products, do not allow fixing the transition of processes to the parametric level.

In addition, processes involving a less creative participation of a person are not "transparent" through standard solutions.

To ensure the transparency of processes and their management in automatic or semi-automatic mode, two conditions must be met:

1. The digital system must be able to calculate the deviation from the normal course of the process at the content level - at the level of the parameters (phase variables) of the process and the social system.
2. The digital system must be able to form a control action that restores the process to a normal path.

If the second condition is not met, but the first condition is met, then it is possible to implement the process in a semi-automatic manner. If the first condition is not met, then the process is completely dependent on humans and cannot be automated.

The complexity of implementing the digital management concept is largely due to the fact that deterministic processes are well automated (technological processes, material production processes, preferably without human participation), but as soon as human participation in the process is necessary, the process is no longer deterministic and difficult to automate with modern technologies, means. Common approaches (ERR, CRM, BPM, etc.) do not ensure adequate automation of enterprise management processes and only allow the implementation of fragmented solutions.

Results and discussions. In the practical results, the basis of the implementation of digitalization is the responsibility in the process of management activities. Management needs to be calculated. This applies to the entire set of management activities, but especially to decision-making processes.

Responsibility in relation to the activities in general and the activities of a manager are:

- knowledge and use of the necessary and sufficient set of parameters that uniquely determine the state of the object,

- a formalized assessment (not in the formal sense) of the activities of an individual and of the teams;

- effective calculation of managerial influences, including calculation of management documents.

Responsibility will not appear by itself; a lot of preliminary theoretical, methodological and organizational work is needed to improve the management system.

All this requires new skills on the part of managers. In particular, the following competencies are needed:

- Modeling corporate systems, using decision-making models, obtaining information about an object (firm, division, person as a functional unit, market).

- Determining the target state of the firm in a parametric form.

Experts are telling us about the need to digitize the lens. This is usually a digitalization of the result. But the result is a result of the company's interaction with the environment.

Therefore, it is necessary to determine not only the purpose but also the target state of the company, which ensures that the desired result is obtained in "that" environment (ie in the future environment).

- Determining the development paths of the situation, the company.

- Calculation of strategy, activity plan (calculation of activity).

Calculating management influences. Including documents and promotional materials.

- Assessment of human activity after activity. Evaluate the team's activities based on the total activity of the participants.

- Evaluation of the coefficient of functional stability (systemic) of the company.

This is certainly not an exhaustive list of managers' skills in the "digital economy" - only those we can now clearly define, but even this list allows us to see the need for a significant restructuring of manager training processes.

Scientific and educational organizations can and in theory should play an important role.

The parametric model of a social system operating in an active environment involves setting the phase variables (parameters) of the system and the operating environment, which makes it possible to clearly determine the state and, consequently, to track the dynamics of the system. And the computing technologies and electronic devices that exist today make it possible to ensure the reception and processing of data to assess changes in the system in real time (Gil-Garcia, Dawes, & Pardo, 2018, pp. 633-646).

This, in turn, makes it possible to create software that can be used by managers to calculate management actions, system dynamics, information planning, and therefore to solve many business problems.

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