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PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.3228453>Available online at: <http://www.iajps.com>**Research Article****EFFICIENCY DIGITAL TRANSFORMATION OF ENTERPRISE****Mira Kantemirova¹, Zara Alikova¹, Zaur Dzakojev², Tamara Alikova¹,
Margarita Bolatova³**¹North Ossetian State Medical Academy, Vladikavkaz, Russia, ²North Ossetian State University, Vladikavkaz, Russia, ³Gorsky State Agrarian University, Vladikavkaz, Russia.**Article Received:** March 2019**Accepted:** April 2019**Published:** May 2019**Abstract:**

Issues related to the need to determine the effectiveness of measures for the digital transformation of enterprises, which is based on the concept of Industry 4.0, the digital economy platform and information and communication technologies, are considered. The goal and multidimensionality of efficiency assessment are shown, the classification of its types is given.

Keywords: *digital economy, Industry 4.0, digital transformation, enterprises, efficiency, indicators.*

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INTRODUCTION:

Currently, one of the strategic objectives of increasing state competitiveness is the increasing use of digital technologies in all sectors of economic activity [1, p. 25].

In the Russian Federation, the digital economy is understood as: "economic activity in which the key factor in production is digital data, processing large volumes and using the results of analyzing them in comparison with traditional forms of management can significantly improve the efficiency of various types of production, technology, equipment, storage, sales, delivery of goods and services "[2].

Such an economy involves the implementation of digital transformation of a large number of enterprises based on the development and implementation of digital technologies in their main business processes [3].

Directions of digital transformation may include equipping enterprises with appropriate equipment, technologies and software, conducting radical modernization changes in the management system, organization, labor of workers, their communications, connections and relations.

The digital transformation of enterprises is based on the concept of Industry 4.0, the Digital Economy platform and information and communication technologies.

Industry 4.0 is considered as a predictable event, including the massive use of cyber-physical systems in the production and maintenance of various human needs [4].

MATERIAL AND METHODS:

The Digital Economy Platform is a software and hardware complex that creates a digital environment that implements fundamentally new opportunities for direct interaction between producers and consumers.

During the digital transformation of enterprises, the following areas and technologies related to: additive technologies, 3d printing, modeling and visualization, systems integration, Internet of things, cybersecurity, cloud services, augmented reality, virtual reality, autonomous robots and robotization, planning can be used. and online analysis, artificial intelligence, energy efficient technologies, alternative energy, big data (Big Data) and analytics, remote maintenance.

However, business owners need to implement digital transformation and business processes not by

themselves, but to improve performance and capitalization. Therefore, it is important for them to know what the cost of resources for its implementation and what benefits they will receive after the introduction of changes.

RESULTS AND DISCUSSION:

Entrepreneurs who successfully use digital technologies and solutions create digital enterprises that are able to provide a profit increase above the market average while reducing costs [5].

In the context of the fact that the digital transformation of enterprises can potentially improve the results of their activities, but requires significant financial costs, it is expedient to determine the effectiveness of measures taken to substantiate and make management decisions. Meanwhile, the analysis shows that often digitalization of enterprises is reduced to their technical and technological re-equipment or organizational reorganization, often without taking into account the level of efficiency. The review of the literature shows a broad discussion of the sociocultural implications of the digital revolution, the use of information and communication technology, the emergence of human-user problems in the digital economy, etc. [for example, 6], in the actual absence of publications on the issue of evaluating the effectiveness of digital transformation of enterprises and the search for approaches to solving this problem.

The difficulty of determining the effectiveness of measures for the digital transformation of enterprises is due to a number of reasons.

Firstly, there is no uniform methodology for determining the effectiveness of measures related to the use of digital technologies. In addition, the system of enterprise indicators, which is changed under the influence of the digitalization factor and affects the final results of its activities, requires clarification.

Secondly, it is necessary to solve the issue of contingency of indicators of elements of an enterprise that have not been transformed, with indicators of its elements (divisions, activities) using digital technologies.

Thirdly, most enterprises do not have sufficient accounting data to determine the impact of digital technologies on business performance.

Evaluation of the effectiveness of digital transformation of the enterprise, considered for the purpose of improving its management, must

necessarily be comprehensive. Specific manifestations of the integrated assessment of efficiency include its multidimensionality, interconnectedness of the elements and the conclusions contained therein, multivariate and multicriteriality of construction. The multidimensionality of the assessment means that the various aspects of the enterprise's economic activity are evaluated in aggregate: economic, technical, social, etc. The leading aspect is the economic aspect due to the results and costs.

The multivariate evaluation of the effectiveness of digital transformation of an enterprise implies the use of various comparison bases (plans, business plans, projects, norms, competitors, etc.) in its formation.

The multi-criteria evaluation follows from the need to determine the results: national economic, sectoral, regional, individual enterprises and divisions.

A comprehensive assessment of the effectiveness of a digital transformation of an enterprise can be defined as a characteristic obtained through a comprehensive study that means a simultaneous and consistent study of a system of indicators that takes into account all aspects of production and business processes, containing summary conclusions about the company's final results, as well as qualitative and quantitative differences compared to with the base of comparison.

The purpose of the complex effectiveness of the digital transformation of an enterprise is to obtain a

conclusion (in the form of calculated and valid data and indicators) on the results of its use to substantiate the management decisions made. This conclusion allows us to assess the state and possibilities of further development of the object of evaluation, which in modern conditions is of particular importance.

An integral part of determining the effectiveness of digital transformation of an enterprise is the evaluation of the results of its implementation, which characterizes the composition, types and volumes of activity.

Evaluation of the results of improvement based on digital technologies should be based on comparing the state of the enterprise not in traditional terms "better" or "worse", but "how much better" or "how much worse". Therefore, an important feature of the evaluation of efficiency is its quantitative certainty, which is achieved on the basis of analysis of indicators in comparison with plans, projects and standards, indicators of previous periods, results of activities of other production facilities, in comparison with alternative development options.

The complex efficiency of digital transformation of an enterprise integrates various types of it, which reflect the features of the implementation of measures in the areas of the introduced changes. In this regard, it is necessary to classify the types of efficiency of digital transformation of an enterprise according to various criteria (Table 1).

Table 1: Efficiency types classification the digital transformation of enterprise

Classification feature	Kinds of efficiency
Hierarchy	General, private
Full coverage	Full, thematic
Purpose	Retrospective, operational, promising
Comparison objects	Individual, group
Principle of comparison	With analogues, reference, etc.
Time sign	Comparative, dynamic, static
Criterion sign	External, internal
Evaluation frequency	Single, periodic

Total (integral) efficiency - assessment of the effectiveness of the digital transformation of the enterprise as a whole.

Private efficiency - the level of efficiency of digital transformation in structural divisions, lines of business, by type of product, etc.

Full efficiency reflects all aspects of the enterprise's activities in terms of the effectiveness of digital

transformation in their unity, interconnection and interdependence. Thematic efficiency - its value by individual topics (sections) of the implementation of activities (for example, improving management, organization, technology and technology, production, etc.).

The retrospective efficiency of the digital transformation of an enterprise is an assessment of its

magnitude over the past period, according to the chosen development option. Operational effectiveness assessment reveals the state of digital transformation of the enterprise in a relatively short period of time. Prospective evaluation of the effectiveness - an assessment of the prospects for the composition and volume of the selected option of digital transformation of the enterprise.

Individual effectiveness - evaluation of the effectiveness of an object, an element of an enterprise (for example, its divisions). Group efficiency - the value of the effectiveness of systems, a group of elements of the enterprise.

Comparative efficiency with analogues and standards - evaluation, comparison of actual results of an enterprise with corresponding values adopted as analogues (for example, other enterprises) and standards, as which values of generalizing indicators can be used (design, planned, competitors, industry average, etc.), towards which the work on the introduction of digital technologies is directed.

Comparative efficiency is based on comparing the actual results of the enterprise with past results, or with other development options based on digital transformation.

Dynamic performance evaluation reflects the nature and direction of changes in indicators over time, comparing the values of effective data in different periods of time.

Static efficiency shows the state of enterprise efficiency at a specific point in time.

External performance evaluation characterizes the magnitude of changes in the performance of the enterprise in terms of other enterprises, competitors, partners, divisions, etc.

Internal performance evaluation is carried out by the company, its structures and specialists.

A single evaluation of the effectiveness is carried out to solve a specific problem of digital transformation of an enterprise in a specific period of time, taking into account special circumstances. It appears as a result of special research or analysis for specific reasons.

Periodic evaluation of effectiveness is carried out at certain intervals depending on the appearance of specific production problems. It can be held monthly, quarterly annually, as well as for longer periods.

CONCLUSION:

Thus, the assessment of the effectiveness of a digital transformation of an enterprise is a prerequisite for its successful conduct, it is a generalizing conclusion about possible (calculated or achieved) results using qualitative and quantitative analysis of change processes described by a system of performance indicators.

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