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EVALUATION OF INFORMATION PROCESSES OF MANAGEMENT OF BUSINESS ENTITIES

The article is devoted to the study of the evaluation of information processes of management of business entities (enterprises). The purpose of the article is to substantiate the methodological approach to assessing the effectiveness of the information management process through the evaluation of information procedures of certain areas of the enterprise with subsequent practical testing of this technique. The need to assess the quality of management information processes, which determine the quality and efficiency of development and management decision-making processes and directly affect the effectiveness of the operation and efficiency of the enterprise as a whole. It is proposed to evaluate the effectiveness of information processes through the effectiveness of certain areas of activity of the business entity. In our opinion, indicators of the effectiveness of the information process of enterprise management should be formed into three groups: indicators of the financial sphere; indicators of the labor sphere; indicators of the production sphere. The effectiveness of the information management process was evaluated using data for 2018-2020 of one of the Ukrainian industrial enterprises. The forecast of separate partial indicators of an estimation is carried out, tendencies of changes of indicators are revealed. The use of the proposed methodology allowed to identify problem areas and suggest specific areas in the context of the information strategy of the enterprise to improve the efficiency of information processes in various areas of the entity. Thus, the proposed and tested method of evaluating the effectiveness of information through the effectiveness of certain areas of the enterprise allows to identify problems with the effectiveness of information procedures and identify areas of tactical change, as well as to address solutions to problems identified in developing information strategy.

Keywords: information, information process, information management process, evaluation of information management process.

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ОЦІНЮВАННЯ ІНФОРМАЦІЙНИХ ПРОЦЕСІВ УПРАВЛІННЯ СУБ'ЄКТАМИ ГОСПОДАРЮВАННЯ

Зараз, у складних мінливих ринкових умовах, суттєво змінюються соціально-економічна роль підприємства, стратегічні орієнтири його діяльності. Підприємство отримує значну незалежність з багатьох питань, що часто збільшує ймовірність криз і банкрутства, оскільки держава відмовилася від ринкової економіки, щоб забезпечити підприємство сировиною, не гарантує збут, заробітна плата регулюється лише в контексті гарантування мінімуму заробітної плати. Це істотно впливає на системи управління промисловими підприємствами в сучасних економічних умовах, створюючи їх принципові особливості. Таким чином, системи управління, які використовуються підприємствами, повинні враховувати трансформацію цілей підприємства в сучасних умовах, орієнтувати його на виживання та забезпечувати функціонування в дуже нестабільних економічних умовах. Слід також зазначити, що структура ринкового попиту та галузева структура окремих галузей економіки постійно змінюється, кризові умови виживання підприємств часто є нечіткими та непередбачуваними, що також пов'язано з певним збільшенням їх кількості та різноманітності. Підприємства часто не можуть оцінити, чи стабільно працюють їхні постачальники та клієнти, що змушує їх шукати нових партнерів. Усе це суттєво ускладнює процеси розробки та прийняття рішень на рівні окремих підприємств.

Статтю присвячено питанням дослідження питань оцінювання інформаційних процесів управління суб'єктами господарювання (підприємствами). Метою статті є обґрунтування методичного підходу щодо оцінювання ефективності інформаційного процесу управління через оцінювання інформаційних процедур окремих сфер діяльності підприємства з подальшою практичною апробацією даної методики. Визначено потребу оцінювання якості інформаційних процесів управління, що визначають якість та ефективність процесів розробки та прийняття управлінських рішень і безпосередньо впливають на результативність функціонування та ефективність діяльності підприємства в цілому. На нашу думку, показники результативності інформаційного процесу управління підприємством доцільно сформувати у три групи: показники фінансової сфери; показники трудової сфери; показники виробничої сфери. Використання запропонованої методики дозволило виявити проблемні місця та запропонувати окремі напрями у контексті інформаційної стратегії підприємства щодо підвищення ефективності інформаційних процесів різних сфер діяльності суб'єкта господарювання.

Ключові слова: інформація, інформаційний процес, інформаційний процес управління, оцінювання інформаційного процесу управління.

Formulation of the problem in general and its connection with important scientific or practical tasks

Now, in the difficult changing market conditions, the socio-economic role of the enterprise, the strategic guidelines of its activities are changing significantly. The company gains considerable independence on many issues, which often increases the likelihood of crises and bankruptcy, because the state has abandoned the market

economy to provide the company with raw materials, does not guarantee sales, wages are regulated only in the context of guaranteeing minimum wages. This significantly affects the management systems of industrial enterprises in modern economic conditions, creating their fundamental features. Thus, management systems used by enterprises must take into account the transformation of the goals of the enterprise in modern conditions, focus it on survival and ensure the operation in very unstable economic conditions. It should also be noted that the structure of market demand and sectoral structure of certain sectors of the economy is constantly changing, the crisis conditions of survival of enterprises are often unclear and unpredictable, which is also due to a certain increase in their number and diversity. Businesses often cannot assess whether their suppliers and customers have stable operations, forcing them to look for new partners. All this significantly complicates the processes of development and decision-making at the level of individual enterprises.

Analysis of research and publications

It is possible to allocate the following scientists who were engaged in research of questions of estimation of information processes of management of economic systems of various levels, including business entities (enterprises): Apatova N. [1], Berezhnoy O.A. [2], Bobrul G.I. [3], Vashchenko L.O. [4], Volot O.I. [5], Krupyak T.P. [6], Malyaretsb L. [7], Melnik L.G. [8], Saliga S. Ya. [9], Tishchenko V.F. [10], Shpak Yu. N. [11], Yarovoy L.V. [12] and others. First of all, the issues of scientific substantiation of the methodological basis and development of specific methods of evaluation of these processes at different levels of government are considered.

Well-thought-out and balanced management provides an opportunity to lead the company to a leading position in the market, which is an essential condition for economic success. The traditional model of enterprise management today is impractical, as modern enterprises must operate in conditions of high uncertainty, instability and unpredictability of market processes, with the rapid development of informatization and digitalization, which requires finding a modern adaptive model of management. application of modern management methods and technologies.

Formulation of the goals of the article

The purpose of this article is to substantiate the methodological approach to assessing the effectiveness of the information management process through the evaluation of information procedures of certain areas of the enterprise with subsequent practical testing of this methodology.

Presenting main material

Inevitable changes and market transformations in the Ukrainian economy require constant development of management systems in order to adapt domestic enterprises to a dynamic and uncertain market environment. We also see the rapid development of the information society, which is manifested in new development and implementation of information and communication technologies in virtually all spheres of public life and the creation of publicly available information resources and IT technologies, increase the role and importance of information processes. The globalization of the economy and the corresponding expansion not only of material production, but also of the service sector, require significant volumes and effective exchange of information, which is highly dependent on the level of perfection and progressiveness of large data processing. This puts in the first place the quality of management information processes, which primarily determine the quality and efficiency of development and management decision-making processes, and, consequently, directly affect the effectiveness and efficiency of the enterprise as a whole.

Modern economic development and the formation of the post-industrial era requires innovative approaches to the development of certain branches of science and technology. Therefore, it is clear the transition of society to knowledge-intensive technologies, which is determined by the collection, aggregation and processing of large data sets generated in the study of economic activity of the enterprise and its environment. It should be noted that this process is impossible without high-quality and timely technological support with the use of effective information management processes and IT technologies, which forces the management of modern enterprises to actively use them, while increasing the requirements for computer equipment and skills. The actual, reliable, relevant information received in the course of realization of information process in management system, its intensive and correct use gives the chance of acceptance of the reasonable administrative decisions. However, deciding on the formation of information management processes in the enterprise, it is necessary to agree on the cost of this process for the owner and the corresponding effect that he will receive in the future [12].

One of the main problems in solving this problem is the lack of universal methods for evaluating information management processes and IT technologies, and, accordingly, generally accepted by scientists and practitioners system of evaluation indicators, which would assess the effectiveness and feasibility of information management processes and IT technologies in practice. activities of domestic enterprises. The results of theoretical research show that Ukrainian enterprises do not have a system for evaluating information processes at all, there is no practical quantitative criterion, which complicates the assessment of the effectiveness of information resources and the value of information processes in management.

Therefore, the well-known phrase of one of the founders of Hewlett Packard Bill Hewlett is relevant again: it is impossible to control what cannot be measured. Indeed, the need for specificity and measurability of all key aspects of modern enterprise, which also includes indicators of evaluation of information management processes and IT technologies, requires the introduction of a list of quantitative indicators that can be used to monitor and measure processes and to evaluate the effectiveness of the enterprise as a whole in order to develop sound strategies for its further operation. Thus, the study of existing indicators in the practice of enterprise evaluation of information processes and IT technologies is very relevant, but requires the formation of a system of indicators that would help managers evaluate information management processes and IT technologies, which will improve the management system as a whole. The information process of enterprise management can be considered as a complex system of interconnected and interdependent resources of production and management. Therefore, the process of its evaluation should include the evaluation of a set of indicators (indicators) that will most fully reflect the state of the enterprise (prospective or current) and will characterize the effectiveness and efficiency of its activities.

Indicators of financial sphere assessment include a comprehensive analysis of the sources of funds of the enterprise (liabilities) and areas of their use (assets). Performance indicators are one of the most important areas of assessing the effectiveness of the enterprise, as they show its ability to achieve its goals. Analyzing the indicators of the labor sphere, we can assess the state of human resources of the enterprise. But the indicators of the group of the effectiveness of the information process are quite well known, their calculation is carried out constantly at most domestic enterprises, which is the main advantage of using the proposed method. However, almost no one uses them to assess the information process and IT technologies in enterprise management and develop, based on this, further strategy of its activities. In our opinion, the indicators of the effectiveness of the information process of enterprise management should be formed into three groups: indicators of the financial sphere; indicators of the labor sphere; indicators of the production sphere.

The effectiveness of the information management process was evaluated using data for 2018-2020 of one of the Ukrainian industrial enterprises. The results of the evaluation of the production sphere are presented in Table 1. All indicators are calculated as coefficients, which makes them relatively comparable and allows not only to determine growth indices (baseline, the base year is 2018), but also to identify trends in the indicator and conduct dynamic forecasting. To predict changes in indicators, we define short-term periods (2021 and 2022), primarily because the available factual information includes only three research periods). Most economic processes are characterized by changes over time, so they can detect the presence or absence of a clear trend in the implementation of temporal or dynamic forecasts (factor X in the model is time). The results of forecasting changes in growth indices, as well as the estimated values of indicators for the company for 2021 and 2022 are presented in table 2. The statistical function GROWTH in the environment of Excel spreadsheets was chosen for forecasting (the choice of the exponential model is explained by the fact that the development of economic processes can very rarely be linear).

Based on the identified trend based on the study of actual and forecast values of baseline growth rates, it can be seen that all indicators are divided into five groups according to the dynamics of change: stabilization of values; unsustainable growth; sustainable growth; unstable decrease; sustainable growth.

Example, we will study the production sphere and, accordingly, the effectiveness of information processes in it (tables 1 and 2).

Table 1

Evaluation of the production sphere on the effectiveness of information processes at the enterprise

Indicator	Year			Growth indices by year		
	2018	2019	2020	2018	2019	2020
Update rate	0,218	0,229	0,132	1,000	1,050	0,606
Disposal rate	0,008	0,006	0,006	1,000	0,750	0,750
Coefficient of suitability	0,725	0,731	0,710	1,000	1,008	0,979
Return on investment	4,828	4,324	4,207	1,000	0,895	0,871
Capital intensity	0,207	0,231	0,238	1,000	1,117	1,148
Capital investment	163,538	211,498	258,829	1,000	1,293	1,583
Technical equipment of labor	173,091	206,028	240,430	1,000	1,190	1,389
Profitability of production	0,751	0,526	0,403	1,000	0,701	0,537

All indicators of the production sphere, except for the disposal rate, are stimulants.

Among the problematic aspects identified in the forecast (Table 2), it is worth noting first of all the significant trend towards a decrease in the renewal rate and the current trend of decreasing return on investment. This indicates the need to update the information strategy in the context of the overall strategy of the enterprise to update the fixed assets of the enterprise, as well as insufficient growth of net income from sales of products, works and services. Summing up the study of the effectiveness of information processes, we can note the following: the greatest need is to update the information strategy on information processes of the financial sector; information processes in the labor and production spheres need to be partially improved.

Table 2

Forecasting of indicators of the production sphere on the efficiency of information processes at the enterprise

Indicator	Growth index forecast, year		Forecast value of the indicator		Trend
	2021	2022	2021	2022	
Update rate	0,521	0,405	0,114	0,088	↑ steady decline
Disposal rate	0,619	0,536	0,005	0,004	↓ steady decline
Coefficient of suitability	0,975	0,965	0,706	0,699	↓ stabilization
Return on investment	0,802	0,749	3,874	3,616	← steady decline
Capital intensity	1,246	1,335	0,258	0,277	↓ steady decline
Capital armament	2,010	2,528	328,630	413,433	↓ sustainable growth
Technical equipment of labor	1,642	1,936	284,301	335,070	↑ sustain
Profitability of production	0,388	0,284	0,291	0,214	↑ able growth steady decline

Conclusions from this study and prospects for further exploration in this direction

Thus, the proposed and tested method of evaluating the effectiveness of information through the effectiveness of certain areas of the enterprise allows to identify problems with the effectiveness of information procedures and identify areas of tactical change, as well as to address solutions to problems identified in developing information strategy. For the needs of further concretization, in addition to the main ones, other spheres of activity of the business entity can be singled out and evaluated - logistics, foreign economic, investment, etc.

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