

Notion, Essence and Evaluation of the use of Information Technologies in the Economy of Metallurgical Industry

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Abstract— This article describes the main aspects of the use of IT technologies in the economy of the metallurgical industry, the Author emphasized the relevance of the study based on the current state of the Russian economy and the prospects of this direction. The article reveals the problems of assessing the possibilities of using IT technologies in the economy. And offered some solutions, which is of practical value.

Keywords— *IT-technologies, metallurgy, metallurgical industry, evaluation methods, industry.*

I. INTRODUCTION

The successful development of companies in the metallurgical industry of Russia which along with the fuel and energy sector is an important part of the domestic economy, it is currently impossible without the creation of a modern IT infrastructure. Using an arsenal of tools, the company considered both optimizes their business processes, which, in the final analysis, lead to a decrease in the level of operating costs. In the struggle to preserve the results achieved and increase its share in the global market enterprise in metallurgy industry systematically carry out the introduction of advanced technologies in both production and management [6]. The relevance of this study lies in the fact that those companies within the industry, which carried out the launch of modern production facilities Parallel with the introduction of modern information systems, according to the scientific community, will be able to take in the near future the leading position in the market.

The term "information technology" should be understood set of production processes, methods, and software and hardware tools that are integrated into the process chain, ensuring the collection, processing, storage, distribution and display of information in order to reduce the complexity of the processes used information resources, improve their efficiency and reliability [1, C.111].

Bringing the above-mentioned concept of the economy of metallurgical industry it should be understood by IT - use of information technology in the economy of the metallurgical industry, which includes the collection, processing, transmission and storage of large amounts of economic data in the sector in question [3, C.183].

Among the factors shaping the modern trends in the use of IT technology in the metallurgical industry experts are the following:

- Technological growth of market relations and the process of globalization of activity, i.e. participation of enterprises in the metallurgical industry in the global commodity chains, which makes it necessary to improve the quality of the processed information. The competitiveness of the enterprise in question depends largely on how the material resources, but to a greater extent on the availability of advanced means of communication links with partners and customers, the volume of each company staff accumulated industry knowledge and professional skills, as well as opportunities in their intensive use;
- Sustainability and profitability of the business in the relevant field are largely determined by the speed of response to the changing needs of the end user. Claiming success requires industries subject faster than their competitors restructure its internal organization in order to maintain readiness to meet the emerging needs of the client;
- Information requirements from the standpoint of accuracy, completeness, relevance and timeliness requirement supplemented its effective use at all levels of management. There is a tendency to integrate both services, and enterprise information systems into a single field with the aim of continuing to ensure economic

management of information about the position of the direct current affairs, as well as the opportunities available in the relevant market.

In our turn, the nature of the use of IT technology in the industry is the processing of information economic plan in the industry, which takes place on specific and pre-laid algorithms that including you must be able to competently use, but above all, we should understand their purpose and the correct meaning. Storing this information may be produced in different amounts and different types of media. Thus, communication can be performed at a sufficiently long distance in a short time.

In addition, a number of researchers are not groundless believes that today, "the world of thin technologies begins to rule the world of machines, that is the world of reality" [4]. In this context, the importance of acquiring the word "start" that can serve as a hint of some great opportunities of using IT technologies. In this aspect, a number of difficulties.

Assume that the cost estimate is performed in several stages, namely:

- A comparative analysis of IT spending in the whole group of companies in the metallurgical industry,

which involves calculation of the following indicators:

- At the IT costs that can be calculated as a percentage of income;
- The proportion of employees of IT services in the total staff number of employees of the enterprise;
- The number of PCs per 1 employee of the IT department;
- PC software personnel by 100%.

However, these figures do not allow to fully assessing the possibility of using IT technologies in the industry, as it does not contain complete information on the economic activity of the enterprise or group of enterprises relevant industry. If you give a more precise wording, this method takes into account only the costs [5, C.62].

The author Pergunova O.V "Assessment of the development and use of information and telecommunication technologies at the metallurgical enterprises of the Orenburg region" proposed approach to each of the enterprises of the industry individually, using individual assessment methods (see. Table 1) [2, c.250].

Table.1: Methods of evaluating the effectiveness of the use of ICT

methods of assessment	positive sides	negative sides
Traditional financial methods(Return on investment, Economic value Added, Total cost of ownership, Total Economic impact, Rapid economic justification)	1) Methods, on the basis of a classic financial analysis and profitability concepts operate net present value internal rate of return. 2)The effect of the application of information technology in the form of estimated cash equivalent.	Methods are based on a comparison of income and expenditure, so it is important assess as the outgoing cash flows (costs). Incoming and (profit) .methods allow us to estimate the cost side and the quantity. Incoming cash flows to determine practically impossible.
probabilistic methods(Real Options Valuation, Applied information economics)	The ability to assess the probability of occurrence of risk and new possibilities with the help of statistical and mathematical models.	Impossiblein today's economic environment to accurately predict changes in technical and economic indicators of the enterprise.
Qualitative methods(Balanced scorecard, information economics, portfolio management, It scorecard)	1) The ability to link the assessment of the effectiveness of IT projects with the corporate strategy of the company. 2) Range of textures that characterize the effectiveness of IT remains with the specialists, which allows taking into account the specifics of the enterprise.	1) For self-development of the system performance is significantly affected by the subjective opinion of specialists. 2) The absence of the fundamental principles of prioritization of key performance indicators.

As can be seen from the table given, the three main types of methods: qualitative, probabilistic and traditional financial valuation techniques. Each method has its advantages and disadvantages. Some methods for evaluating the ability to provide for the prediction of certain changes in technical and economic parameters of the enterprise, while others do not allow the relevant forecasts. Thus, the assessment of the possibilities of using IT technologies in the economy, the metallurgical industry is difficult, as there is no single, universal approach in the assessment.

The author of this article believes that in order to assess the feasibility of introduction of IT technologies necessary to the existence of a single differentiated system of indicators. Given the isolation of the enterprises need their unit to the appropriate group, depending on the volume of production. It is expected that the wider range and greater production volumes, the more important these enterprises play in the IT technology, respectively, the number of such enterprises should be a great indicator.

The procedure for the calculation of indicators for assessing IT consists of the following steps: a) selection of the initial array of indicators (egg, the presence of the PC, PC upgrade, PC software employees, the number of computers connected to the global and local networks); b) on the basis of the indicator index, which can be determined by dividing the achieved value baseline X_i to basic / standard value X_{bi} ; g) the calculation of the integral indicator of the use and development of information technology resources in an industrial plant or a group of industrial enterprises in the industry.

To optimize the calculations necessary to develop a national IT platform, allows you to enter the initial data, followed by the construction of charts and predictions.

Thus, IT-technology, used in the metallurgical industry will reduce the risks for individual companies and provide optimal operation in the economic crisis.

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