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Features of Information Support Processes Integration of Organization and Management in the RF Machine-building Complex

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Abstract

The main opportunities and prospects the organizations can face with in the case of substantiate and competent uses of systems implementing information support production activities are examined in the article. The most important points that should be considered when choosing the production information support, as well as some of the trends and perspectives for their integration with various concepts of organization and management are noticed. The statement that we live in the age of information will hardly meet any objections. Indeed, information has been recognized as a crucial strategic resource of society in general and of its components. The activity of any enterprise, including an industrial enterprise, involves the generation, analysis, processing, dissemination, and utilization of incoming, internal, and outgoing information. The competitiveness of an enterprise depends on the ability of its managers and staff to promptly detect or even foresee changes in the environment so as to quickly readjust their own behavior.

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1. Introduction

The complexity increasing of the main business processes and processed information growth are an essential feature, characterizing the activities of almost every enterprise. On the one hand there are invention and development of the new technologies, techniques, development of the means of production that provide higher quality products output, production period reduction, but on the other hand, these lead to a dynamic integration of a large number of processes necessity. Therefore ERP systems are becoming increasingly popular enabling (providing) the information model development of the enterprise as a whole and carrying its management activities out. ERP stands for Enterprise Resource Planning. ERP is a n enterprise-wide information system that facilitates the flow of information and coordinates all resources and activities within the business organization. Functions typically supported by the system include manufacturing, inventory, shipping, logistics, distribution, invoicing, and accounting. Some solutions now embed customer relationship management functionality. A wide variety of business activities including sales, marketing, billing, production, inventory management, human resource management, and quality control depend on these systems. The ERP system assists in managing the connections to outside stakeholders as well as enhancing performance management. It uses a centralized database and usually relies on a common computing platform. It provides the user a unified, consistent, uniform environment.

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2. The history of the ERP systems development and the choice specifics of the system for the particular enterprise

The idea of information technology used for the production planning has become especially popular due to the computer development technology in the early 60s. The first MRP (Material Requirements Planning) methodology has been implemented in a system that allows adjust the components supply in the production process optimally, controlling the stocks in the warehouse and production technology itself. System improvement has led to the creation of MRP II (Manufactory Resource Planning), which allows planning all resources of the enterprise effectively; it has the ability of adaptation to internal and external conditions [1]. Further development of the MRP II class planning systems in integration with financial planning module FRP (Finance Requirements Planning) has led to the ERP systems (Enterprise Requirements Planning), which allow efficiently planning all commercial activities of the modern enterprise. The system provides the ability to control the information flow between all departments within the enterprise and implement the information support of connection with other enterprises [2]. Nowadays, the ERP systems market is diverse enough, but the suitable system choice is limited to a fairly narrow range of solutions [3]. The key to proper selection of a suitable ERP system is the particular company precise positioning relatively to the decision variants of a particular manufacturer. Implementation project the ERP system planning, as a rule, should begin from the global objectives defining of the enterprise. On the basis of these objectives the volume of sales is determined; number of employees and amount of equipment, production methods are determined [4]. Each ERP system has certain functionality, it covers certain subject areas, and in addition, manufacturers also introduced industry specialization, the products at cost solutions separation, the business size, users' number connected to the ERP system. Therefore, for the ERP systems correct choice enterprises often employ professional advisers, whose job is in the right positioning of the company-client in a multi-dimensional matrix of solutions [5]. According to the agency "Expert" magazine rating, the Russian consulting market as a whole has been formed and quite intelligently and competently provides required services. A number of Russian companies even have a practice of creating special places, where customers at the stage of the pilot project can build a model of their information system, test it, check the software compatibility and the compliance of the ERP system capabilities with for specific tasks of the enterprise [6, 7].

To optimize the operation of the business processes can be used as foreign ERP systems, as well as domestic. But, despite the fact that in the well-known foreign systems such as SAP, Oracle, BAAN, etc., the latest achievements of the global enterprise management practice are concentrated, but not all the experts recommend them for implementation in domestic enterprises. The main reason is the high cost and long implementing process of such systems. In addition, there are some problems associated with the implementation of western systems at domestic enterprises [8]. All the Western systems declared benefits such as - compliance, proposed solutions complexity, rich experience in implementation, high support level and services promoted by the creators of the system, can turn into disadvantages in the case of Russian conditions. This is connected with that the standards regulating operations and reporting, can have serious differences, the statute book doesn't fundamentally correspond to the facts, the complexity solutions can reduce the system flexibility, the implementation experience in the West, unfortunately, doesn't guarantee the maintenance of the same advantages Russia [9].

3. Reality and perspectives of the ERP systems development

Among the main trends of the ERP systems development in the Russian market in the 2015/2016 vendors and system integrators note the market saturation point achievement, which contributes to aggravation of the already tough competition between the suppliers of solutions. It is compounded by the fact that few of customers fully implement the system; usually in the projects the platform functional involves an average of 30-40%. There is a growing demand for highly specialized ERP blocks for specific tasks. At the same time in the RF the cloud ERP technologies market is being formed, and mobile access to enterprise management systems develops too [10].

By 2014, the Russian market of automated enterprise resource management systems has reached maturity: anyway, the majority of medium and large businesses are using the ERP systems. One of the most frequently implemented systems SAP R / 3 is successfully realizing its potential in such companies as "Eldorado"; CJSC "GM-AVTOVAZ", distribution network "Yuterra", JSC "Surgutneftegaz", JSC Russian Railways. Oracle system is actively being exploited in such organizations as the Federal Treasury of the RF, the Central Bank of the RF, Sberbank of Russia, Ministry of Internal Affairs of the RF, Ministry of Education of the RF. CJSC "IC" company clients are CJSC "Transmashholding", OJSC "KAMAZ" and LLC "SIBUR - Business Service Centre". Without exception, all the vendors (suppliers) and innovative companies interrogated by TAdviser, noted a sharp decline in the ERP products demand in the period 2012-2014. The potential demand exists among small and medium-sized enterprises, but the instability in the global economy (world economy) and in the foreign policy arena doesn't add enthusiasm to the medium-sized enterprises considering investments in long-term IT projects [11].

Trying to keep the ERP system interest in the RF is accompanied by the customers' desire to reduce the cost of implementation and operation of enterprise resource planning systems. For achieving these goals various means are used: the replacement of the ERP system to a more "economical", phased the ERP introduction, modules partial replacement and modules optimization. In addition, to get visible economic effect customers seeking to expand the field of the ERP applications, to use modern production management techniques, actively move to electronic document. Improving the efficiency of the ERP system functioning is also possible because of its integration with the organization concepts of production such as "lean production",

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