IMPLEMENTATION OF INFORMATION TECHNOLOGIES IN MANAGEMENT ORGANIZATION

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The main direction of the restructuring of the management structure and its radical improvement, adaptation to modern conditions was the mass use of the latest computer and telecommunications equipment, the formation of highly effective information and management technologies on its basis. Tools and methods of applied computer science are used in planning, management, marketing and other areas of management and regulation of enterprises. New technologies based on computer technology require radical changes in the organizational structures of management, its regulations, human resources, documentation systems, recording and transmitting information. Of particular importance is the introduction of information management, which significantly expands the opportunities for companies to use information resources. The development of information management is associated with the organization of data processing and knowledge systems, their consistent development to the level of integrated automated control systems, covering vertically and horizontally all levels and links of production and sales.

In modern conditions, effective management is a valuable resource of the organization, along with financial, material, human and other resources. Consequently, improving the efficiency of management activities becomes one of the areas of improvement of the enterprise as a whole.

From the point of view of the use of information technologies, almost the entire set of companies represented on the market can be divided into four categories, in which:

- in the process of development, various, unrelated systems have been introduced for accounting and enterprise management in separate areas of activity, such as sales, procurement, warehouse, accounting, personnel, etc.;
- an integrated information system has been implemented, developed "to order" and includes components from the list of possible modules, but does not meet the current level and the requirements of constantly emerging new standards;
- information technologies (with the exception of accounting) are practically not used in the management of processes and resources; an attempt was made to implement an industrial system whose characteristics meet the requirements of one of the accepted standards (MRP, MRPII, ERP, etc.), but the implementation result is unsatisfactory.

At present, the view of the organization as a complex open social system has been formed, a mechanism that takes the elements of entry from the environment external to the organization and subjects them to various transformations, resulting in the elements of exit.

One approach, called the congruence model ("correspondence") of organizational behavior, is based on the general system model proposed by David Nadler (Beu1e Kae1eg, 1993). Organizations represented as systems are considered to consist of interdependent components. A change in one component of the system leads to changes in other components of the system. At the same time, the system generates energy to move to the state of equilibrium. Finally, in order to continue to exist, the organization as an open system must maintain a
favorable relationship of inputs and outputs with the external environment.

The main input elements that enter the system of organizational behavior connect it with the external environment. These include: limitations, requirements, and capabilities; resources; and the history of the organization. The fourth and probably most important input element is strategy. Output elements include: performance characteristics of the organization, performance characteristics of groups, individual characteristics, which together determine the overall performance of the activity.

Thus, it would be wrong to consider the introduction of information technologies as a self-sufficient process of changing one of the elements of the model. In fact, it is part of a more general process of change that affects all the components of the system in question, affecting the organization as a whole. Making changes without taking this influence into account can lead to unpredictable consequences.

How to start developing a solution? Any industrial ECR system offers many modules for implementation: sales planning, production planning, inventory management, financial module, warehouse accounting, etc. Which of the proposed options should be implemented first, what in the second, and what is not required at all (or all at once)? The implementation of changes in the soft system should begin with the first stage of the PR methodology and only at the stage of setting goals should the process of introducing new information technologies be considered as one of the many components of development activities. Below is a possible list of steps that need to be completed in order for the process of setting the task, developing and implementing the solution to be most effective and efficient.

1. Determining the future state of the Company.
   ("Description of the future state of the system")
   1. Formulation of an agreed image, vision of the future company.
   2. A written description of the shared vision.
       1. Development of a business process model.
          ("Systems of coordinated business processes, the presence of which is necessary and sufficient for the company's activities in accordance with the declared mission.")
       2. Development of work models, structures and teams for their implementation.
           ■ hierarchy of power and lines of accountability, distribution of responsibility;
           ■ Job specification;
           ■ Job descriptions;
           ■ information systems, communication and coordination systems, meeting systems.
   3. Development of a management and evaluation system
       ■ management decision-making mechanisms;
       ■ Planning systems;
       ■ performance indicators and criteria systems, monitoring, evaluation and control mechanisms;
       * formal systems of motivation, incentives, remuneration and remuneration;
       ■ employee training and development systems;
       ■ production policy, etc.
   4. Development of a system of values and beliefs of employees and mechanisms for their formation
   2. Diagnostics and analysis of the current state.
       ("System state description - " Where are we now?"")
   3. Transition management.
       ("Setting goals and implementing change - ")
       What needs to be done to make a difference? Only at the stage of transition management, depending on where (at what level of analysis) the problem is concentrated in the organization and on the degree of intervention required, a set of necessary changes and development measures are identified, among which may be the need to change systems and structures and, accordingly, the introduction of new management information technologies.")

Further, assuming that at this stage there is a branching of the process into a set of parallel activities, we will trace only one process - the process of implementing an IT solution. Having a model presented in the form of a description of the processes, structure, systems and regulations that should be implemented as a result of the implementation of the information system, you can prioritize the sequence of actions and determine which of the modules should be implemented first: warehouse, supply, production or finance. But even in this case, do not rush.

1. Implementation of the workflow system.
   ("As the most organic and effective way to implement a PIS, we can suggest using a business process automation system (workflow) as the core of the entire information complex. This is due to the following considerations:

First, the activity of any organization is a system of processes that involve financial, material, human, information and other types of resources;
Secondly, it is business processes that determine the order of interaction between individual employees and entire departments, as well as the principles of building information systems;"
Third, a modern workflow system can act as a link around which other software products can be integrated.

Thus, the use of workflow allows you to combine the disparate modules of the software used in a single information system, and then consistently, step by step, implement the modules of a new integrated solution. At the same time, there is no need to use rather risky methods of making changes such as the "big bang" and there is always the opportunity to go back a step."

2. Selection of the information system core and additional software.

(“After analyzing the working workflow system, you can accurately determine which of the systems offered on the market most meets the needs of the company, which of the modules need to be implemented first, etc. It is quite possible that for a particular organization, it will be more important to integrate the project management system into the overall workflow contour (For example, RE or Open Plan) and only then proceed to the implementation of an integrated information system that meets the relevant standards (ERP, CRM, CSRP, etc.). Moreover, it may turn out that, at this stage, it generally makes sense to limit the resulting solution (only the workflow system, or the workflow system + the project management system), and it will be quite enough to achieve the goals set.

3. Design and consistent implementation of the core and functional modules of the developed solution.

(“It remains to add that the development and implementation of solutions using information technology is an iterative process that has a beginning, but no end. After the first implementation of the project, constant support and modification of the operating system is required in accordance with the requirements of the constantly changing external and internal environment.”)

Thus, when making a decision on the implementation of information technologies, the following sequence of actions is recommended:

- Formulation of a coherent image, vision of the future of the organization;
- A written description of the shared vision;
- Mission statement;
- Development of the business model of the organization;
- Diagnostics and analysis of the current state;
- Implementation of the Workflow system;
- Selection of the information system core and additional software;
- Design of the future system;
- Consistent implementation of the modules of the developed solution.

REFERENCES

