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INFORMATION TECHNOLOGIES IN PROJECT MANAGEMENT - A TOOL FOR EFFECTIVE COMPANY MANAGEMENT

Annotation

The article considers the process of project management, analyzes its characteristics. and project information model. The problems of companies in the context of the project management system are highlighted. Namely, in today's economy, companies that aim to maximize profits and optimize the use of available financial, production and human resources must use new approaches and tools for project management, because today in the world of project management is identified as a key mechanism for competitiveness. The project management system is necessary first of all for the company's management as a tool for implementing the company's strategy. Different phases of the project require different management functions, changing the amount of problems that require decision-making. Therefore, the project information system must be dynamic, the functionality of which varies depending on the specific phase of the project development and management stage. The role and significance of information technologies in project management are studied, the range of tasks solved by them is outlined. The functions provided by modern automated project management information systems are given. The necessity of the introduction of information technologies in project management as a tool to increase the efficiency of the company has been proved. It is shown that the introduction of information technology in project management will reduce the time and financial costs of the project.

Keywords: project management, information technologies, project management system, information systems, software project management.

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ІНФОРМАЦІЙНІ ТЕХНОЛОГІЇ В УПРАВЛІННІ ПРОЕКТАМИ – ІНСТРУМЕНТ ЕФЕКТИВНОГО УПРАВЛІННЯ КОМПАНІЄЮ

Анотація

У статті розглянуто процес проектного менеджменту, проаналізовано його характерні особливості. та інформаційна модель проекту. Висвітлені проблеми компаній у розрізі системи управління проектами. А саме, в умовах сучасної економіки компанії, метою яких є максимізація прибутку та оптимізація використання наявних фінансових, виробничих і людських ресурсів, повинні використовувати нові підходи та інструменти до управління проектами, тому що сьогодні у світі управління проектами визначено як ключовий механізм формування конкурентоспроможності. Система управління проектами необхідна перш за все керівництву компанії як інструмент реалізації стратегії компанії. Різні фази проекту вимагають виконання різних управлінських функцій, змінюється обсяг проблем, що вимагають прийняття рішень. Тому інформаційна система проекту повинна бути динамічною, функціональність якої змінюється в залежності від конкретної фази розвитку проекту та стадії управління. Досліджено роль та значення інформаційних технологій в управлінні проектами, окреслено коло задач, що вирішуються ними. Наведено функції, які забезпечують сучасні автоматизовані інформаційні системи управління проектами. Доведено необхідність впровадження інформаційних технологій в управлінні проектами, як інструменту підвищення ефективності функціонування компанії. Показано, що впровадження інформаційних технологій у проектний менеджмент дозволить скоротити часові і фінансові витрати на виконання проекту.

Ключові слова: управління проектами, інформаційні технології, система управління проектами, інформаційні системи, програмні продукти проектного менеджменту.

1. Entry

Today, information technology has penetrated into all areas of economics and management. The introduction of information technology in project management has reduced the time and financial costs of the project. Companies that aim to maximize the use of available financial, production and human resources must use new approaches and tools for project management, because today project management in the world is identified as a key mechanism for building competitiveness. The project management system is necessary first of all for the company's management as a tool for implementing the company's strategy. Problems such as increasing the complexity of the project, changes in deadlines, the quality of work provided, contributed to the effective management of projects, which is carried out using modern information technology.

2. Presentation of the main material

Companies are managed through various projects, because it increases the efficiency of management decisions. To manage the project requires the creation of a single information system, as in the process of project management is the exchange of information at different levels of government. The information system in turn includes tools and technologies for collecting, storing, processing and distributing information obtained as a result of project management at all stages for all functions of the management process and in the interests of all project participants according to their competence and responsibility [1].

Most information systems are designed to support individual functions (such systems are structured by company units), while the project management information system combines data from different departments and organizations belonging to a particular project. To plan and monitor the progress of the project, as well as to provide

decision-makers with the necessary and sufficient information, it is necessary to develop and maintain an up-to-date information model of the project, which will provide [1]: centralized storage of information on work schedules, resources, cost and other indicators of the project; the ability to quickly analyze the impact of changes in the work plan, resource, financial and other types of support on the final results and indicators of the project; the possibility of distributed support and data updates in the network mode of operation of the information system; possibilities of automated generation of reports and graphic diagrams, development of project documentation, as well as solving other tasks and project management procedures.

In the organizational structure of the project can be identified at least three levels of management that require specialized information support: strategic level of project management (senior management of the company or program); level of management of a separate project (project management); the level of project work (project executors).

As a result of the implementation of the project management information system, the following tasks are solved [1]:

- support of procedures of analysis and decision-making on structure, volumes of works and directive terms of achievement of intermediate results of the project;
- determination of the necessary time and costs for the implementation of the project and its individual phases, as well as the distribution over time of the financial needs of the project; development of the scheme of financing of works and attraction of resources according to the uniform plan of the project;
- support of procedures for development of the consolidated project plan and coordination of decisions on time, volume, cost and other parameters with the main participants of the project;
- support of procedures for development and approval of contracts, distribution of risk areas, responsibilities and powers, organizational measures;
- collection of actual data on the progress of work and their characteristics (for example, the amount performed, the costs of financial, labor, material and other resources);
- support for contract management procedures; support of processes of interaction and coordination of works, performance control and operational management; providing all levels of management with up-to-date information on the performance of works in the relevant indicators in terms of contracts, departments at the required level of detail;
- support of procedures of the analysis of a condition of works and the reasons of deviations of actual indicators from planned, the analysis of tendencies, forecasting of terms of performance and other characteristics of works;
- adoption and coordination of decisions on changes in the unified work plan, prompt adjustment of the plans for the implementation of works in accordance with the agreed decisions;
- support of internal and external reporting within the project; obtaining aggregate reporting on the project in different sections (by project participants, types of work, cost items, etc.).

Different phases of the project require different management functions, changing the amount of problems that require decision-making. Therefore, the project information system must be dynamic, the functionality of which varies depending on the specific phase of project development and management stage.

Modern automated project management information systems must ensure the performance of the following functions [2]: calendar planning of works; resource planning; calculation of the critical path and time reserves for project operations; calculation of the project needs in financing, materials and equipment; distribution of downloads of renewable resources; risk analysis and risk-based planning; accounting of actual data on project implementation; preparation of reporting materials; access of geographically remote users; centralized storage of documents (data) - knowledge bank; collective (joint) work.

Microsoft Office Project, Primavera and Project Expert are in the greatest demand on the market of software products in the field of project management.

Having studied the characteristics of these software products, you can choose the right one for a particular project today and in the future. This will help to allocate financial investments more competently and will help to expand the functionality if the project requires it.

Summary

The introduction of information technology in project management requires preliminary research, planning a set of works and monitoring their implementation. Automation of project management processes and control over their implementation is the way to effective company management.

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