

INFORMATION TECHNOLOGY IN INVESTMENT PROJECT MANAGEMENT

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In the article it is proved that use of information technology today is not only something innovative distinctive feature and competitive advantage for organizations, but it is a necessary condition for effective business. The article discusses the main functionality of financial-analytical system Project Expert as an effective tool of investment project management and instrument of business planning. The main advantages which organizations get from Project Expert program use are in detail considered. Thus in the article Project Expert is considered as the effective tool of investment project management which allows to receive a number of advantages and to carry out the qualitative analysis of projects.

Keywords: *investment project management, investment analysis, business-planning.*

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ИНФОРМАЦИОННЫЕ ТЕХНОЛОГИИ В УПРАВЛЕНИИ ИНВЕСТИЦИОННЫМИ ПРОЕКТАМИ

В статье доказано, что применение информационных технологий сегодня является скорее необходимым условием, а не чем-то инновационным, отличительной особенностью либо конкурентным преимуществом организаций. В статье рассматриваются основные функциональные возможности и отличительные преимущества финансово-аналитической системы Project Expert как эффективного инструмента управления инвестиционных проектов и бизнес-планирования деятельности организации. Подробно рассмотрены основные преимущества, которые организация получает от использования программы Project Expert.

Ключевые слова: *управление инвестиционными проектами; инвестиционный анализ; бизнес-планирование.*

1. Introduction

Now both to businessmen and investors it is necessary to carry out the comprehensive analysis of a set of investment projects to choose from them what meet their requirements on need of resources, the period of investments return, investment effect, etc. And it's realized in the conditions of resources limitation – first of all time resource, human, financial and other kinds or resources. In these conditions one of modern methods of investment project management is application of specialized computer programs in the process of investment projects analysis and planning. One of such software products is *Project Expert* which allows to calculate automatically necessary financial activities, to provide interpretation of their concrete values, to carry out the comprehensive analysis of investment projects from the point of view of their efficiency. It allows the user to make a right choice according to selection criteria of projects. In the article the main opportunities and distinctive advantages of financial and analytical *Project Expert* system as modern instrument of investment project management are considered.

2. Business-planning is an important stage of investment project management process

There is a set of approaches to concept definition «management of investment projects» today. One of them is the most complex approach which consists in the analysis of investment project management as set of processes of planning, organization, coordination, motivation and control throughout all life cycle of the project on the basis of using of system of modern methods and equipment of the management which main goal is ensuring effective realization of the project's results connected with structure and amount of works, the cost, quality and satisfaction of project participants. Certainly planning of investment projects is the most important part of investment project management process and it's the first stage of this process. All subsequent stages of investment project management throughout all stages of project's life cycle depend on correctness of the analysis of investment projects and rationality of a choice of the most optimum projects by certain criteria.

3. Project Expert is an effective tool of investment project management

Basis of assessment of investment projects efficiency in *Project Expert* system is the full financial model of the organization. In this model all payments connected with implementation of the project, receipts from sales, accounting operations are imitated. The model of the company constructed in the program allows to analyze repeatedly various variants of implementation of the project, to estimate influence on the project of changes of various external factors (taxes, exchange rate, inflation, the changes in raw materials and materials price, etc.).

Having constructed by means of *Project Expert* financial model of the investment project users have an opportunity:

- to develop the detailed financial plan and to define need for money during future periods of time; *Project Expert* allows

to analyze several variants of the business development goals and to choose the optimal one. While it is possible to estimate the margin of safety of business with regard to the risk of changes in the most important factors influencing project realization. The program also allows you to evaluate how the implementation of the business plan will affect the efficiency of the enterprise activity, to calculate the payback period of the project, predict the total showings of investment projects financed from the general budget. *Project Expert* allows you to create business-plan of the enterprise according to international standards (IFRS), to prepare proposals for regional investment program or a strategic investor, defining for each participants total economic effect from implementation of the investment project and the efficiency of investments.

- to define the financing scheme, to estimate opportunity and efficiency of money from various sources; to define the financing scheme, to assess the feasibility and effectiveness of raising funds from various sources; using *Project Expert* you can develop a scheme for financing the investment project with consideration of future cash requirements based on a forecast of cash flows for the entire planning period, to choose the sources and conditions of attracting funds for the implementation of the business plan, assess possible time constraints and build schedules of repayment. Also there is a possibility to design the capital structure of the company and to evaluate business value.

- to elaborate the plan of implementation of the investment project, to define the most effective marketing strategy and also the strategy of production which provides rational use of material, human and financial resources; *Project Expert* allows you to analyze the planned cost structure and the profitability of individual units and products, to determine the minimum volume of production and marginal costs, to choose the production program and equipment, procurement schemes and variants of sales in the market.

- to analyse various scenarios of development of the project, varying values of the factors which are capable to affect its financial results;

- to create standard financial documents, to calculate the most widespread financial activities of investment projects;

- to prepare the business plan of the investment project;

- to control the execution of the business plan; *Project Expert* will help you to control the execution of the business plan comparing in the process of its implementation the planned and actual indices.

4. The advantages of using *Project Expert* in the analysis of investment projects and business-planning

The organization which use such tool of investment project management as *Project Expert* enjoys a number of competitive advantages which in the conditions of modern economic reality are very important factors of company's success in the market. In the article some advantages from *Project Expert* program use are described.

1. Economy of temporary time, human, financial and other resources. Firstly the most important advantage is the saving of resources (time, human, financial and other) from the use of this software product. Many operations that would be the developer of the business plan had to manually implement, *Project Expert* automates – for example, the construction of the main forms of financial statements or plans, analysis of various business development scenarios depending on the influence of many factors, etc.

Currently the development of good business plan of the investment project involves the construction and analysis of alternative variants of business development and choose the most optimal, corresponding to certain criteria. Without the use of specialized software developer would have to manually count the many variants of business development, different scenarios depending on many factors – it leads to the increase of the cost of the business planning process.

Using the method of imitation modeling in *Project Expert* (which

is based on the scenario approach) allows to study various scenarios of development of the organization automatically, the state of the external economic environment, the planned investment projects. Simulation models enable testing different ideas, hypotheses and assumptions about the business development, to analyze the consequences of its implementation.

2. The second advantage and peculiarity of the *Project Expert* is an complex approach to the analysis of investment projects which allows to consider the totality of stimulating factors of external and internal environment.

Comprehensive complex approach to business planning in *Project Expert* is that business planning is carried out with the greatest possible consideration of the totality of affecting factors of the external and internal environment – the prices of the raw materials, the impact of various macroeconomic factors (inflation, exchange rate), etc. The program allows to define the organization's cash need, to find the optimal scheme of financing and credit conditions, to estimate the margin of safety of business, the efficiency of investments for all participants of the project, choose variants of production, purchasing and sales and to monitor of the implementation investment projects.

3. Possibility of use in the organizations of various scale of activity is the next advantage of the *Project Expert*. The system allows to simulate the activity of the organizations of various sizes – from small private institution to holding structures. Using the program you can create and analyze investment projects of any complexity – from calculating the value of new equipment to evaluating the effectiveness of business diversification.

4. The possibility of representation of results in *MS Excel* and *MS Word* can also be attributed to the peculiarities of the program which distinguishes it from the programs of this class and which is one of its competitive advantages. Due to the capabilities of dynamic data exchange with *MS Excel* transmission of reports in *MS Word* and save them

in *HTML* format, *Project Expert* can be used as an independent analytical program and as an integral part of informational-analytical system of the organization.

5. And finally the most important feature and advantage from the point of view of practical implementation and use of *Project Expert* software in the organization's activity is the simplicity of its using which allows users without special knowledge in programming, mathematics or financial analysts to carry out comprehensive analysis of investment projects. In general one of the main problems impeding the implementation of the development achievements of technics and technology in business is that they are perceived by potential users as something complex, confusing, which is a psychological barrier that inhibits the practical use of them in activities of the organizations.

Project Expert does not require deep knowledge of mathematics, no programming skills – you need only know the described business. Easy to understand interface guides the user

through the steps of creating a model of organization and development of the business plan. The program automatically supports basic rules of accounting and financial analysis and provides a profound analysis of correctness of entered data during calculation which allows to avoid many mistakes at the planning stage.

Project Expert has an easy to understand interface that allows the user to pass through all the stages of creation of the model of organization and development of the business plan. It allows to accelerate the process of training of potential users of the program and to provide the most seamless its introduction in the business.

5. Conclusion

Thus *Project Expert* allows to solve the problem of design of business development, risk analysis and the efficiency of investment projects of enterprises of different profile, industry and scale of activity and this program bases on financial modeling enterprises functioning

taking into account the variable factors of economic environment. Using the *Project Expert* software as one of those tools of investment project management enables to significantly improve efficiency of business by implementing reviewed in this article certain competitive advantages.

References

1. Site of company «*Expert Systems*». [Online] Available at: <http://www.expert-systems.com> [Accessed 23 November 2013].
2. User's guide *Project Expert*. System for modeling of business and an assessment of business projects. Moscow, 2012.

Литература

1. Руководство пользователя *Project Expert*. Система для моделирования бизнеса и оценки бизнес-проектов. – М.: Про-Инвест-ИТ, 2012.
2. Сайт компании *Expert Systems* [Электронный ресурс]. – Режим доступа: <http://www.expert-systems.com>