И.М. Поморцева, Ю.М. Кондратьева

ВНЕДРЕНИЕ МЕТОДОВ ПРОЕКТНОГО РИСК-МЕНЕДЖМЕНТА В ПРАКТИКУ РОССИЙСКИХ СТРОИТЕЛЬНЫХ КОМПАНИЙ

В статье рассматривается опыт применения современных методов проектирования, обоснована необходимость использования метода освоенного объема в качестве фактора снижения рисков деятельности строительных компаний.

Ключевые слова: проектная деятельность, строительные организации, метод освоенного объема, риски исполнения проектов.

The investment activities are among the priorities of any business entity, therefore, investment planning methods require improvements to increase its performance.

Analysis of project activities of modern construction companies convincingly proves that the risks of project execution deviating from the projections contained in the business plan remain a bottleneck and the top area of concern. As a tool to enhance the efficiency of project control, we propose to widely apply one of the investment planning methods entitled *earned value management* (EVM) providing for the use of a set of criteria and indicators to evaluate and exercise control over the budget and calendar project plan.

Since the 1980s, this method has been extensively applied by construction companies abroad. Foreign companies monitor progress of their projects using EVM nearly on a daily basis. On-going tracking of earned value allows project managers to forecast both successful completion of their projects and the risks of going behind the estimated timing and budget[1].

As of today, EVM is rarely used in Russia as it is considered too complex and because specialists lack knowledge of making calculations under numerous formulae implied by this method.

We believe that EVM should become one the main controls and operational management tools at the stage of implementing construction

projects as it allows for evaluation of project operations in terms of the three basic parameters, namely, scope, timing and cost.

EVM gives answers to the topical issues in the course of execution: whether the project is within the budget, whether it goes ahead of, or behind the schedule, whether the resources and timing are used efficiently and what the expected project cost and its proposed duration are.

It is common knowledge that, in essence, EVM is about calculating the three basic indicators:

– PV – Planned Value;
– AC – Actual Cost;
– EV – Earned Value.

PV indicates the volume of work to be done pursuant to the project plan as of the current date. In Russia, PV is reflected in contracts and in the budgeted cost of work planned.

AC covers all the expenses incurred in connection with project execution as of the current date.

EV specifies the volume of work indicated in the budget that has been actually performed as scheduled within a certain period and evaluated in target prices.

EVM may be represented as a cumulative planned chart of project costs (S-curve) showing interrelation between the planned aggregate costs and time.

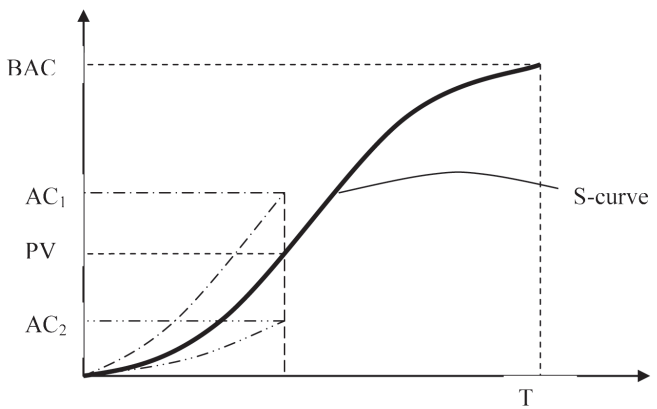

Fig. 1. Chart of the current and planned project costs.
T – total time of project implementation;
t_{cur} – current time; and BAC (Budget at Completion) –
planned project budget

The difference between the conventional method and EVM is that the conventional one compares planned and actual costs – PV and AC. $PV > AC_2$ means going behind the schedule, less work than expected as of the current date was performed. On the other side, the same can be presented as budget savings upon completion of all planned work. $PV<AC_1$ means overspending. It can also be interpreted as being ahead of schedule, more work than expected as of the current date was performed.

Therefore, it is hardly possible to come to any definite conclusion on the current status of the project (as of t_{cur}) based on only two indicators, being PV and AC. EVM introduces an additional indicator, being EV. Three indicators allow arriving at more verifiable conclusions as of the current status of the project (as of t_{cur}) and its future.

We attempted to implement the above investment planning method into the activities of CJSC Stroydortekhnika, a Moscow-based construction company (hereinafter referred to as "CJSC SDT"), that has been demonstrating sustainable growth for the most recent 6 years and that renders a full range of services related to construction and repair of road pavements, as a general contractor and subcontractor, as well as installation and warranty maintenance services. As of today, CJSC SDT has its own fleet of highway equipment and an asphalt plant. For the last three years, CJSC SDT has implemented more than 20 construction projects for the value of over 100 million roubles.

In implementing its projects, the company has been using various controls, such as: percentage-of-completion method, fixed formula method, milestone method. However, the analysis of projects for the last 3 years shows that almost one-fourth of them was significantly delayed (125 % to 35 %). Such delays cause considerable fines imposed by the state contracting authority: the company pays 0,01 % of the contractual value for each day of delay in commissioning the site.

In this regard, CJSC SDT was proposed to extend its project cycle milestones from 7 to 12 and use EVM as a tool to control project execution.

Two projects related to repair of the asphalt covering in Moscow were elected to calculate the efficiency of execution and forecasting. Project execution was calculated by using the model of EVM criteria in optimistic and pessimistic scenarios.

Integration of the model into detailed project planning and execution suggests that EVM is an efficient method as it allowed exercising more control over project execution, reducing execution timing (up to 20 %) and saving 15 % (optimistic scenario) to 8 % of the project budget (pessimistic scenario). In their turn, reduced execution timing and budget saving enabled re-deploying labour and

physical resources to other projects, which increased profitability of the construction company in whole.

Therefore, implementation of this investment planning method makes it possible for the company to be more practical in spending the project budget and complete its projects within the deadlines established by the state contracting authority. Subsequently, this method will help CJSC SDT to decrease its accounts payable, increase its performance, implement more projects and improve its financial status.

It is noteworthy that EVM is especially good for calculating the key indicators of construction projects as their budget and deadlines are known in advance. Project managers only have to set out milestones, prepare an EV plan and monitor project execution risks, that is to track how far the project is behind or ahead of its schedule by all indicators.

EVM can also be used for other projects, irrespective of industries and regions, as well as for implementation of federal programs and projects[2].

We would like to conclude by additionally emphasizing the importance of integrating contemporary investment planning methods into operational activities of Russian companies. In particular, the use of EVM allows efficiently managing project execution risks and properly forecasting project operations. This method is an essential tool for detailed project planning and implementation as it enables considerable improvements of project execution forecasts and reduced timing and cost of any work performed.

References

[1] *Поморцева И.М.* Управление рисками инвестиционных проектов: проблемы идентификации и алгоритмы реагирования // Вестник РГГУ. 2011. № 4. Серия «Управление». С. 129–143.

[2] *Поморцева И.М.* Развитие методов проектного управления в рамках реализации Федеральных целевых программ России // Вестник РГГУ. 2014. № 3. Серия «Управление». С. 87.