

Project Portfolio Management

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Petar Jovanović¹, Tatjana Rudić², Vesna Šobajić¹, Marko Makarić¹

¹The Project Management College, Belgrade

²Mikromace Group, Podgorica

The paper presents the basic characteristics of the project portfolio management process and the process itself. The project portfolio management is a new project management discipline that incorporates a simultaneous management of a number of independent projects and programmes in order to achieve strategic objectives as well as overall positive results of the organization.

1. Introduction

The development of project management as a specialized management discipline can be tracked from the Project Management concept definition and the implementation (3,6,10), dealing with managing one project, to Programme Management, that includes managing a number of projects that make up a programme (4,10), to managing project portfolio (Project Portfolio Management) which incorporates managing a number of independent projects and programmes (7). We should also mention certain concepts of strategic project management (1), (16), management through projects (17), multiproject management in the organization (8), etc, advocated by some authors, with different prospects for further elaboration and implementation.

The development of the basic concept of project management and the creation of new disciplines such as programme management and the portfolio project management, shifts the focus of our attention from individual project goals to the organizational objectives. As to the programme management and the portfolio project management, these disciplines concentrate upon several projects in the company and thus clearly take into consideration, primarily, both the organizational objectives and the degree to which individual projects within the programme or the portfolio contribute to achieving organizational objectives (14).

The strategy implementation and achieving strategic goals is the main task the organization has to accomplish and the only possibility for the organization to achieve a positive immediate and future performance (18). It is for this reason that all the activities and projects stemming from the organization should be efficiently executed, using modern disciplines such as project management and the project portfolio management.

The efficient execution of a number of projects and programmes simultaneously and hence achievement

of strategic objectives of the organization uses the project portfolio management, a new discipline which allows for the organization to achieve its strategic objectives through a simultaneous execution of a large number of projects within one portfolio (15).

The project portfolio management relies upon the strategic component of the organization. It prolongs the time dimension of the project management implementation and ensures a continuous project cycle in accordance with a long-term horizon of strategic planning. The project portfolio management is based on a strategic plan and includes all the programmes and projects coming out of it or connected with the strategic plan of the organization. The strategic plan is characterised by a continuum dimension, hence the dimension of the project portfolio management that follows the strategic plan has also to be long-term and continual. The projects and programmes supporting the organizational strategic plan are executed in the process of the portfolio project management; some come to be completed, some are stopped or are left out of the process and become part of another one and this goes on continually, in accordance with the continual nature of the long-term planning.

2. Project portfolio management - definition

The first step in the analysis of the project portfolio management is the definition of the project portfolio management as a modern managerial discipline that allows for an efficient management of project-oriented organizations as well as linking the strategic and the project frameworks in the organization.

It should be noted that the project portfolio management connects the organizational strategic objectives and the execution of individual programmes and projects for the purpose of achieving these objectives. This means that the project portfolio management incorporates the organizational strategic aspects and includes

them into the project management concept, thus linking, to a certain way, the project portfolio management with the strategic management of the organization (1,14,16).

The project portfolio management is a modern project management discipline that incorporates managing one or a number project portfolios and links strategies and other business initiatives of the organization to the respective projects. The project portfolio management consists of a succession of subprocesses such as identification, selection, prioritization, planning and control of the execution of projects, programmes and other related activities in order that the strategic goals of individual projects and programmes and the organizational objectives in general should be achieved (13).

The project portfolio management demands that the processes of selection and prioritization be first used to create a project and programme portfolio to be executed and adjusted to the defined strategies and available resources in the organization. Therefore we can say that the portfolio is a set of projects and programmes with the completion of which the organizational strategic objectives will be achieved. Some authors (4, 17) maintain that the project portfolio includes all the projects and programmes in the project-oriented organization. Here it is worth noting that the projects and programmes that are part of the portfolio may, but need not necessarily be connected or interdependent. They are grouped and directed towards organizational strategic objectives in accordance with the defined strategies present in the organizational strategic plan.

Given that the portfolio is a set of respective projects and programmes in an organization, the difference between the portfolio, the programmes and the projects is absolutely clear, both as regards the scope and complexity and as regards the planning, the control and the management in general. The project portfolio management includes the processes of managing individual projects and programmes that make the portfolio, by which such a global project portfolio management process obtains a considerably more complex time and resource dimension compared to the individual project or a programme management process (5, 7, 11).

In simple terms, the project portfolio management has two basic sections: creating the portfolio and the portfolio execution management. The portfolio creation is a continual process that includes the selection and the prioritization of projects and programmes to create the portfolio, and then a continuous monitoring and the re-

construction of the portfolio in the sense of possible moving certain projects out of the portfolio or including new projects into it. The project portfolio management means managing individual projects and programmes using the project management and the programme management methodologies with the necessary adjusting procedures and an optimal resource usage (9, 12).

The basic objectives of the project portfolio management are as follows:

- Optimization of project portfolio results;
- Adjusting the projects and programmes with the organizational strategy,
- Selection of projects and programmes to be executed;
- Defining the priorities of projects and programmes;
- Stopping or discontinuation of certain projects or programmes;
- Coordination of internal and external resources; and organizational learning between projects and programmes (8).

In order that the project portfolio management should contribute to the strategic objectives and the overall success of the organization, the project portfolio should be designed in such a manner that the projects and programmes for the portfolio are selected through a rigorous selection and prioritization procedures, taking into account the available resources, the risk to be taken and the economic contribution to achieving organizational strategic objectives. Hence the portfolio consists of the projects that meet the following requirements (7):

- Projects are to be adjusted to the organizational strategy and goals;
- Projects are to be consistent with the organizational values and culture;
- Projects are to contribute to the positive money flow in the organization;
- Projects are to effectively implement the human and material resources of the organization;
- Projects do not contribute to organizational functioning in just one point of time; they are to contribute to the future results too.

3. Project portfolio management process

The project portfolio management process can be defined in several ways, having in mind the project portfolio management goals, the basic stages and the characteristics of the portfolio and the projects and programmes consists of (5).

The project portfolio management is a rather complex process that, globally observed (4,17), consists of creating and a continuous execution of the project portfolio which in turn consists of a set of projects and programmes meant to achieve the organizational strategic objectives. It is a highly complex process that includes a large number of subprocesses, stages and activities. Generally, the project portfolio management process incorporates the following subprocesses:

- a) Project selection and prioritization and project portfolio definition,
- B) Portfolio review, maintenance and reconstruction;
- c) Project portfolio management implementation (execution of projects and programmes in the portfolio);
- d) Monitoring the execution of individual projects, programmes and the entire portfolio (14).

If the selection and prioritization are said to be the initial stages of the project portfolio management process, it should be pointed out that these phases partially overlap and condition each other, thus making the entire project portfolio management process continuous and highly complex, with certain activities and substages that overlap or repeat.

a) Project selection and prioritization

The project selection and prioritization is the initial stage in which the characteristics and contributions of the proposed projects are compared to the set selection criteria, in order that the project portfolio be created. It is a highly complex and demanding process consisting of a large number of activities and phases whose execution can be of crucial influence upon the overall project portfolio management process.

The primary aim of the project selection and prioritization is to choose those projects and programmes from the set of the needed and available projects in the organization whose execution helps achieve the organizational strategic objectives, having in mind the available resources. The portfolio selected is expected to be in accord with the strategies defined in the organizational strategic plan as well as with the available resources, and the execution of the portfolio is to bring the optimum benefit for the organization.

In order to define and conduct the project portfolio management process it is necessary that certain pre-conditions are established. These primarily refer to:

- Defining the company's strategic objectives;
- Designing the company's strategic plan;

- Defining the available resources;
- Defining the required and available budget;
- Defining the acceptable risk for the company, etc.

The project selection and prioritization process and the project portfolio definition cover the following basic phases:

- Preparation of project propositions;
- Defining the benefits from the project and setting criteria;
- Estimation of possible risks;
- Defining available resources and financial means;
- Assessing the extent to which the project is in accord with the defined organizational strategies;
- Ranking projects according to the set criteria and prioritizing;
- Selection of projects and defining the project portfolio (14).

The preparation of project propositions is the initial phase in the project selection and prioritization process that includes a complex and extensive work on gathering the necessary information on all the available and possible projects and programmes, followed by the information analysis and processing in order to obtain realistic basis in the form of certain pre-studies and proposals for further assessment, selection and ranking of projects.

The next phase in the project selection and prioritization process refers to defining the benefits a certain project brings to the organization and hence setting the criteria to measure and compare these benefits. These criteria are the basic measures for further project selection and ranking activities. Defining the benefits and the respective criteria is a highly important activity on which the success of the entire phase of the project selection and prioritization process, and consequently the success in project portfolio defining, depend.

In order that the project selection and prioritization process should continue it is necessary that an inventory of available resources be made; together with the financial funds they are the main constraining factor in the project selection and ranking. It is also necessary that we should estimate all the risks that accompany the execution of certain projects and may crucially affect our decision as whether it is justifiable to include a certain project into the project portfolio or another alternative should be sought.

In the project selection and prioritization process it is also necessary that a thorough analysis be made and

that it be determined whether the available projects are in accord with the defined organizational strategies and in which manner and to which extent they contribute to achievement of the organizational strategic objectives. In order to accomplish this task effectively, it is necessary that there be a defined and adopted organizational strategic plan with clearly set organizational strategic objectives to be achieved. The projects that are not in accord with organizational strategic objectives are not taken into consideration, thus making a shortlist of eligible projects to be included in the portfolio.

The selection phase completed, we have at disposal a set of projects and programmes adjusted to the organizational strategic objectives. The ensuing procedure of selection and ranking is to help determine which projects and programmes will constitute the project portfolio. In this further procedure we implement the previously defined selection and ranking criteria and rank the projects on the basis of a detailed analysis and assessment of the extent to which certain projects have met the criteria.

The last phase of the project selection and prioritization process includes the selection of the projects and the project portfolio definition. The project portfolio will include only the highest ranking projects, those that by meeting several criteria bring greatest benefits (financial, developmental, etc.) to the organization and for which the organization has the necessary resources and finances. Forming the project portfolio completes the project selection and prioritization phase.

b) Portfolio review, maintenance and reconstruction

The definition of the project portfolio is followed by the execution of individual projects and programmes that are part of the portfolio. This is a long-lasting process consisting of a large number of activities and including numerous participants, with different roles each in this dynamic process.

Since the project execution process is lengthy and dynamic, it may come under the impact of various factors and numerous changes that may affect not only the execution, but the very structure of the portfolio, too. Hence the constant need for continuous reviewing, maintenance and reconstruction of the portfolio. Namely, once defined, the project portfolio is not final and unchangeable. It is subject to impacts by various factors and often conditioned by necessary changes. Hence all the projects and programmes in the portfolio are subject to constant reviews and analysis to determine whether they still bring the planned benefits and ensure the achievement of the organizational strategic objectives (14).

This means that it is necessary to constantly analyse and assess the performance of each project and programme, continually assess the contribution of each project to achieving the economic and other benefits for the organization and consequently review and improve the portfolio. It is also necessary that, on the basis of previous analyses and estimations, each project be analysed and be decided whether it should be executed further, improved, or replaced. Also, we should analyse the previously set criteria for the project selection and the estimate of the project contribution to the organizational strategic objectives and change, update and confirm the set criteria, thus affecting the portfolio review, maintenance and restructuring in a certain manner.

It is worth noticing that numerous events, especially large-scale changes in the environment, highly risky events and crises may demand changes in the strategic objectives and the organizational strategies which unavoidably calls for changes in the project portfolio structure. In such situations, new projects are likely to be introduced into the project portfolio and some projects will be moved out of the portfolio.

The project portfolio maintenance and improvement is a continuous task, executed all along the project portfolio execution, these two processes being inter-related and inter-dependent to a large extent.

c) Portfolio projects and programmes execution

The defined project portfolio, i.e., the projects and programmes it consists of, have to be executed in order to derive the benefits for the organization and achieve strategic objectives. In this process of execution of individual projects and programmes in the portfolio, standard methodologies of the project and programme management are implemented that assume the provision of project plans, organization and delegation of responsibilities, allocation of resources and budget and other planning and control activities necessary to bring a certain project or programme to an end.

Due to the fact that it is a number of projects that are executed simultaneously, the organization of management of individual project, programme, and portfolio execution is generally a highly complex problem that requires that the key players in the process and their main roles and responsibilities be clearly defined. In addition to project managers and project teams in charge of managing the execution of individual projects, a very important role in the project portfolio management process belongs to the team of top managers and the Project Portfolio Council and the

Programme (Project) office as well as a number of stakeholders interested in certain projects and programmes (14).

These two organizational forms are responsible for the management of the execution of all the processes in the project portfolio management. Although it is logical that the top management, responsible for achieving the organizational strategic objectives, should be in charge of making all the managerial decisions in the project portfolio management, it usually delegates part of its authority and responsibilities to the Project Portfolio Council. In this case the Project Portfolio Council is responsible for the course of the entire project portfolio management process as well as for the efficient execution of the projects and programmes in the portfolio (14).

The Project office is in charge of monitoring and control of the execution of all the projects in the portfolio. Their task is to coordinate the execution of all the projects in the portfolio, to control the achievement of the planned project results and to inform the Project Portfolio Council of the process. On the basis of the information and the recommendations obtained from the Project office, the Project Portfolio Council makes the decision as to whether a certain project should be discontinued, continued or postponed.

It is clear that the Project Portfolio Council is the supreme authority in the project portfolio management. They decide whether the project portfolio will be altered or partly reconstructed. They also decide whether the key contributions and benefits for the organization are obtained and, consequently, whether a project should be continued or a new one should be introduced. Thus they link the execution of individual projects and programmes with the achievement of the overall organizational goals and control the achievement of these objectives.

d) Monitoring execution of individual projects and programmes and of entire portfolio

The final stage in the project portfolio management process consists of a continual monitoring and control of the execution of individual projects and programmes as well as of the entire portfolio. This phase is directly related to the project and programme execution phase and also demands an efficient organization, capable of coordinating, collaborating, information collecting, reviewing certain activities and processes in the execution. It is from this phase that information and recommendations are sent to the portfolio maintenance and execution phases, so that

changes can be made and the activities directed towards the planned strategic objectives.

Individual projects, programmes and the entire portfolio monitoring and control is carried out throughout the entire project portfolio management process. Although this phase is directly linked to the projects and programmes in the portfolio execution phase, it yields the data necessary in the portfolio maintenance and reconstruction and also impacts the selection and prioritization processes and the introduction of new projects and programmes into the portfolio.

The complexity of individual projects and programmes monitoring and control and a host of information, demands, calls for, in addition to an efficient organization and a clear managerial structure, a powerful computer support, capable of receiving, processing and distributing a large number of required and timely information. It is only in this way that the project portfolio management process can run continually, from selection and prioritization, to project portfolio creating and maintaining, to its direct execution and execution control.

This can be ensured only by a modern integrated information system with a strong computer support that assumes the use of the Internet and numerous software tools that are continually developed and improved and without which it is impossible to manage the project portfolio.

4. Conclusion

As regards the project development and the modern tendencies in the development of this specialized management discipline a conclusion can be drawn that the project portfolio management is a modern concept that offers varied opportunities for an efficient management of several different projects and programmes an organization conducts or is planning to carry out.

From managing one project (14, 18) and a tendency to achieve the set objectives of the project under considerations, we came to a need to manage a number of projects and programmes (11, 12) and to the efforts to achieve, in addition to the goals of individual projects, the overall organizational objectives. Thus the focus is shifted to organizational strategic objectives, connecting the operational aspect of the basic project management concept with a strategic aspect the organization strives to and the strategic management of the organization.

The project portfolio management process includes a number of inter-connected sub-processes (14) such as:

project identification, selection and prioritization and project portfolio definition, then the portfolio review, maintenance and reconstruction, followed by the management of the portfolio projects and programmes execution, and, finally, individual projects, programmes and the entire portfolio execution monitoring. This concept of project portfolio management is a rather simplified approach that is relatively easy to implement in practice.

To conclude, the project portfolio management consists of two global sections: portfolio definition and portfolio execution management. The portfolio definition is a continuous process that includes the project and programme selection and prioritization in order that the portfolio may be created, and then a regular portfolio monitoring and restructuring in case certain projects should be left out and some new should be entered. The portfolio execution management includes individual projects and programmes management by implementing the project management and the programme management methodologies with the necessary adjustment procedures and with the optimal use of resources.

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