Artículo de investigación

Analysis of methodological approaches to the project management

Análisis de enfoques metodológicos para la gestión del proyecto
Análise de abordagens metodológicas para o gerenciamento de projetos

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Abstract

The interest to the project management that appeared several years ago has made it surely the most mentioned and widely known tool of management. In many ways it has happened due to set of regulatory documents of the RF Government that establishes arrangement procedure of project activities, organization chart of management system, initialization stages, preparation stages, implementation stages, monitoring and priority project accomplishment stages and others. State governments in the Russian Federation were recommended to organize project activity at their level. Taking into account that the number of employees of governmental authorities and municipal authorities at the end of 2016 was 31.8 people per 1000 people active in economy or about 1 million of people in absolute terms, target audience amount who is interested in project management methods study is quite remarkable. However, regulatory documents offered by the RF Government do not contain methodological description of project management basis and verification of its advantages in comparison with other management tools and contain the aggregation of best practice in the sphere of project management. The responses to the mentioned questions were covered fragmentarily in the scientific-practical literature; the main focus is on the analysis of strategic tools and project management methods and not on basic management philosophy.

Resumen

El interés de la dirección del proyecto que apareció hace varios años lo ha convertido seguramente en la herramienta de gestión más mencionada y ampliamente conocida. En muchos sentidos ha sucedido debido al conjunto de documentos normativos del gobierno de RF que establece el procedimiento de acuerdo de las actividades del proyecto, organigrama del sistema de gestión, etapas de inicialización, etapas de preparación, etapas de implementación, etapas de seguimiento y cumplimiento del proyecto prioritario y otros. Se recomendó a los gobiernos estatales de la Federación de Rusia que organizaran actividades de proyectos en su nivel. Teniendo en cuenta que el número de empleados de las autoridades gubernamentales y autoridades municipales a fines de 2016 era de 31.8 personas por cada 1000 personas activas en economía o alrededor de 1 millón de personas en términos absolutos, el monto objetivo de la audiencia que está interesado en el estudio de métodos de gestión de proyectos es bastante notable. Sin embargo, los documentos normativos ofrecidos por el Gobierno de RF no contienen una descripción metodológica de la gestión del proyecto y la verificación de sus ventajas en comparación con otras herramientas de gestión y contienen la agregación de las mejores prácticas en el ámbito de la gestión de proyectos. Las respuestas a las preguntas mencionadas fueron cubiertas fragmentariamente en la literatura científico-práctica; el enfoque principal está en el análisis de herramientas estratégicas y métodos de gestión de proyectos y no en la filosofía de gestión básica.

Keywords: project management, m anagement elements, methodology, process, standard, result.

Palabras clave: gestión de proyectos, elementos de gestión, metodología, proceso, estándar, resultado.

Resumo

O interesse do gerenciamento de projetos que surgiu há vários anos certamente tornou a ferramenta de gerenciamento mais mencionada e amplamente conhecida. Em muitos aspectos, aconteceu devido ao conjunto de documentos normativos de RF governo que estabelecem o procedimento de acordo com as atividades do projeto, sistema organizacional de gestão, etapas de inicialização, fases de preparação, fases de implementação, monitoramento de palco e de conformidade do projeto prioritário e outros. Recomenda-se aos governos estaduais da Federação Russa que organizem as atividades do projeto em seu nível. Dado que o número de funcionários das autoridades governamentais e autoridades locais no final de 2016 foi de 31,8 pessoas por 1000 pessoas activas na economia ou cerca de 1 milhão de pessoas em termos absolutos, o propósito do montante audição você está interessado No estudo de métodos de gerenciamento de projetos é bastante notável. No entanto, documentos regulamentares fornecidas pelo Governo RF não conter uma descrição metodológica da gestão de projectos e verificação de suas vantagens em comparação com outras ferramentas de gerenciamento e conter a agregação de melhores práticas no domínio da gestão projetos As respostas às questões mencionadas foram abordadas de forma fragmentada na literatura científico-prática; O foco principal está na análise de ferramentas e métodos estratégicos de gerenciamento de projetos e não na filosofia da gestão básica.

Palavras-chave: gerenciamento de projetos, elementos gerenciais, metodologia, processo, padrão, resultado.

Introduction

Project management presents itself as the collection of best practice that generate a definite complex of managerial processes and tasks performed by the leader and the team of the project within the framework of its life circle. Traditionally, there are 5 groups of managerial processes: project initiation; project planning; project implementation maintenance; implementation project monitoring and control; close project. The set of functional managerial tasks can be reduced to (Federal Service of State Statistics. (2017): project scope management; project management according to timing budget; cost management; project quality management; personnel management; risks management; communication management; supply management and contract management in the project; integration management.

Purpose of Research

The complex of managerial processes and tasks described above can be applied while implementing the project of any type, difficulty, duration, scope and etc. However, it causes difficulties for employees including organizations of the socialized economic sector and public authorities that only start to join the project management practice as the mentioned processes and tasks themselves are weakly connected with basic elements of management that are familiar enough to the audience.

Methodology

The research is based on principles of dialectical logic, systematic and institutional approach to analyzing the economic phenomena and processes; on analysis and generalization of indicative management theoretical and empirical findings throughout the world. The substantiated, and widely used scientific approaches, such as selection, distribution, comparison, generalization, problem and hypothetical knowledge, forecasting, graphical description, were used to get a new scientific knowledge.

Results and Discussion

In modern conditions in modern conditions systematization and arrangement of basic (single) management elements that form the conceptional essence of project management whatever methodological approach is are of interest.

Unlike the commercial organizations that use projects as strategic development tools and investment activity implementation, for

example, for building infrastructure facilities the projects in the public sector of the economy are focused on integrated social and economic objectives solution that is why it is important that the project does not break already formed institutional connections inside any branch of public sector as during the accomplishment of project goals any actions of market participants related to utility maximization and loss minimization trigger the mechanism of probable changes and misbalance the system.

Project management can be viewed as collecting system where different methods of management are logically connected. These methods allow implementing large-scale tasks under the conditions of heterogeneous resources limitation (material, time, informational and others) that are necessary for accomplishing targets and desired goals. These methods provide the preparation of action plan and its timely execution and also effective reaction on appearing changes. Therefore, conceptual management objects in the project management are work, recourses, risks and results (Polkovnikov, 2015)

It is evident that operations management is also oriented on accomplishing the desired goals, but it supposes equal activity execution of standard schemas, it views manageable reality as separate events and facts that form clear line cause-effect chains. The capacity of project management consists in the ability to manage uncoordinated bunch of tasks and actions that is spontaneous and complex combination of operations that form new combinations all the time, or due to the unique character of a product or due to variability of standard items that influence on the production of standard items (Kostylev, 2014). Besides, project management nowadays is the special type of management that can be applied to the elements without obvious project features. Project management uses basic approaches of operations management for this purpose, but implements them at the low levels of project decomposition and mainly for providing the minimum decision deviation from actual results.

Project preparation starts from the problem – mismatch of real situation of the management object (or its definite elements) and the planned one, the removal of which is impossible within the management operating system (conception) that was approved in the company or organization. Problematic is also likely to be expressed in existence of a definite opportunity that is planned to be reached according to the results of project implementation.

For example, the administration of the regional center registers the growth of oncological diseases among population. This is a problem – the number of cases of diagnosed oncological diseases do not meet (exceeds) specified standards and if the growth takes place despite the work of healthcare system it means it is impossible to make the situation better without the changing of the system, that is for overcoming the crisis it is necessary to change the management conception and fundamental approaches to its formation. Thus, it is necessary to make a managerial decision of strategic transformational change that are sensible to held inside the health care system – that is problematic field for project activity.

The next managerial action is managerial decision making – it is the second key component of the project management that means the choice of a single course of action, a single available option. The characteristic feature of decision making is the availability of several alternative (mutually exclusive) variant actions to choose the best one from.

Generic characteristic of the decision is its efficiency – percentage of operating objectives completion relegated to expenditures for their completion. The higher the degree of tasks fulfillment is and the less implementation expenses are, the more efficient the decisions are. Also one of the most important characteristics is action productivity – that is the degree of correspondence of their results with the interests of accomplishing a definite goal.

The decision is called optimized if it provides the extremum (maximum or minimum) of select criteria. The decision is called acceptable (rational) if it meets the definite limitations: resource, legal, ethical and moral. In most cases satisfactory decisions (not optimized or acceptable) are made.

Besides, managerial decisions should meet the following criteria:

1. Scientific validity – the knowledge of objective laws of system development and a definite object, based on which the decision is made: it is necessary to predict the tendencies of object management development; posseses fullest, trustworthy, time-sensitive information.

2. Systematicity and consistency – logical connection between goals and means of their accomplishment, unity of approach to the decision, the necessity of preliminary approvals with t5he decisions made before in the given organization, correspondence to the normative legal documents of management and supervision organs.

3. Timing – time spent on implementation and decision making must correspond to the real conditions of object operation, it means that the result is at the time when it completely efficient.

4. Functionality – the decision is useless if the organization doesn't have the possibility to implement it.

5. Validity – the decision must be made by the person or organ that has formal grounds for that.

6. Concreteness, simplicity and clarity – clear instruction: who, what and when to perform the task, it should be clear to the action addressee.

For example, as a means of problem elimination connected with oncological diseases growth the regional center administration offers the following measures: the construction of a new Oncology Centre or the creation of an additional position of oncologist. Depending on the match of any decision made with the criteria mentioned above it is possible to forecast the result – optimized or satisfactory, and also to form the goal of the future project.

Decision making is closely connected with goal-oriented activity of a person that is why the third element of the project management – it is the choice of a person who makes the decision (PMD) – a person (or a group of people), who can make the decision in the process of management and their consequences affect the interests and influences on the people's lives.

In general terms the quality of the decisions made will depend on the mixture of PMD's main elements of human psycho (Golubkov, 2009):

1. Intelligence – supposes the usage of knowledge, logical thinking, scientific methods during decision making (rational approach), generates and analyses the decision variants.

2. Sense – subjective nature of decision making, information interpretation considering the character and interests of PMD, synthetical combination of rationality of PMD's decisions and motives of behaviour variants, his interests; decisions are usually made not on the basis of quantative methods, but on the basis of emotions - impulsively.

3. Will – PMD forms the decision through the battle of interests and opinions to make the decision to be implemented, PMD must make a great effort, overcome opposition of some people and organizations and find allies.

Great attention in the project management is paid to the choice of the leader and the team of the project.

For example, if the decision to build a new Oncology Centre was made to accomplish the aim, then the leader of this project should be a person with the definite competencies. The following actions connected with project preparation are based on the usage of management functions – special types of specialized management activity that were distinguished during the process of managerial labour division:

1) Planning – the process of resources definition and activity sequence of accomplishing goals.

2) Organizing – the process of creation the structure that gives the opportunity to work together effectively to accomplish the desired goals.

3) Motivation – the process of team inspiration to accomplish the desired personal and organizational goals.

4) Control – the process when the organizational leadership defines whether the decisions are right and if they require the corrections.

The functions mentioned above are oriented and connected with key management objects – work, resources, risks, results.

For example, it is necessary to plan construction work of Oncology Centre, staff recruitment, medical equipment supply, and integration into regional health care system, also it is important to form the project team, define the reward for the project members including contracting organization and implement different types of control.

To perform all the functions in practice the system approach is used – basic elements of the project (works, resources, risks, results) which are interrelated and cooperation with each other: execution results of one type of work in the project are the resources for the following work (fig. 1).

For example, the result of the work connected with shell, core and utilities maintenance for the future Oncology Centre is the beginning (entrance) for the work connected with interior décor of the building (Razu, 2010).

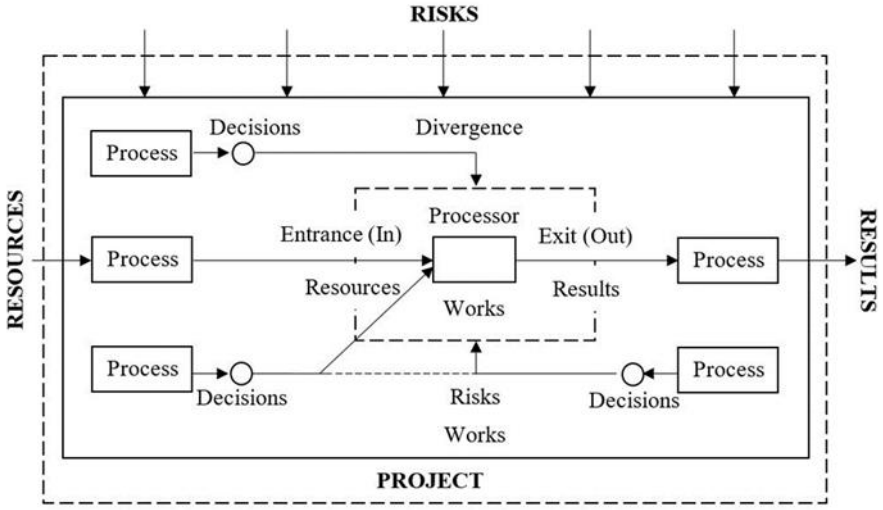

Figure 1. System approach in project management

Thus, according to the authors, the preparation of the project in public sector must be started from diagnosing the problem, managerial decision making of the problem solution (taking into account the wide diapason of requirements), the choice of a person who is capable to implement the decision, planning and fulfilling the work on the basis of permanent use of management functions that are united in the single system (fig. 2). Collective usage of mentioned elements (tools) of management allows providing controlled enthropy, that is implementing the project that can not only solve the private problem and cause adverse unintended consequences generated by the destruction of institutional connections within managed system, but also really improve the system (Volodin, 2015).

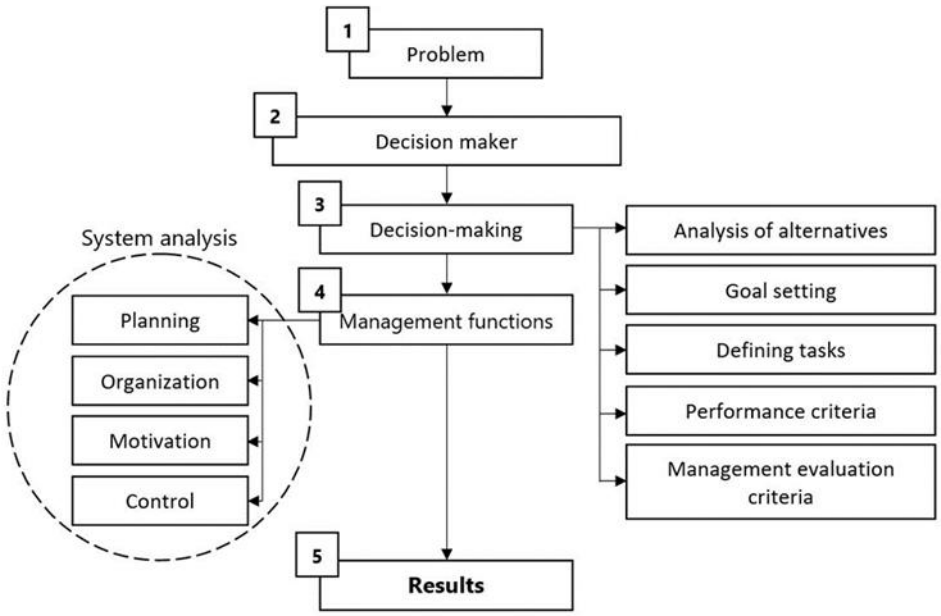

Figure 2. Common logic of project management in the public sector

To establish uniformity of understanding and tractability of definite positions in practical activity including those described in this paper the elements of management are transformed and formalized in definite standards of project management.

Population standards in the sphere of project management can be figuratively classified in the following way: international standards, national standards, social standards and corporate standards. Such international standards as Project Management Body of Knowledge (PMBOK) should be distinguished, they were initially formed as national standard in the USA. Nowadays more than 160 countries have accepted it as basic while developing their own national standards (Schultz, D. E., Peltier, J. 2013). The given standard views project management as activity arisen from interconnection of knowledge areas with the management processes.

Another wide spread standard in the sphere of project management is structured methodology PRINCE2 that includes approaches to management, control, monitoring, project organization. The characteristic feature of this standard is the fact that it concentrates more on the aim than on the tools and methods of its accomplishment. The main elements of the given methodology are 7 principles that define general direction which the team follows, 7 topics that describe the tools of project management, 7 processes that define the consequence of activities with the usage of managerial tools and also approaches to the adaptation.

Russian practice of project management develops rapidly now. Despite the fact that Nationwide Standards in project management exist quite a long time, it was possible to systematize their knowledge with the help of national certification framework Project Management (PM) STANDARD in 2016. Nationwide Standard R ICO21500–2014 «Project management administration» represents the methodological and practical utility in the given system. The given standard analyses the main concepts and processes of project management. As we see, the mainstream in modern theory and practice of project management was given to standards that view the project management processes (Schweidel, D. A., Moe, W.W., 2014; Thompson, C. J., Coskuner-Balli, G., 2007).

In general, a comparison made by the authors of basic elements with international standard systems can be viewed as the table (tab. 1).

Standard compliance / Project element	**NATIONAL STANDARD P ISO 21500 NATIONAL STANDARD P 54869**	**PMBOK**	**PRINCE2**
Problem definition	p. 3.1 ISO 21500 General points p. 3.4.ISO 21500 Organisation strategy and projects	1.6 Business value 4. Integration project management	p. 2.1 Permanent assessment of economic justification p. 4 Economic justification
Decision making person	p. 3.9 ISO 21500 Project personnel competencies	p. 1.7 The role of the project leader p. 2.2 The parties concerned and project administration	p. 4.4 Obligations Application C Roles and Obligations
Decision making process	p. 3.4 ISO 21500 Organisation strategy and projects p. 4.3 ISO 21500 Process	Knowledge areas PMBOK	p. 13 Project administration
Management function	p.5 ГОСТ Р 54869 Project management p.3.6 ISO 21500 Project administration p. 4.2 ISO 21500 Managerial and objective process groups	p.3 Project management processes	p. 14 Project initiation p. 15 Stage control p. 16 Supply management p. 17 Stage border management p. 18 Project closing

Results	p. 3.1.ISO 21500 General points p. 3.3.ISO 21500 Project management p. 3.12.ISO 21500 Interprocess and key concept communication in project management	p. 1.2 Introduction p.3.3 Process initiation group p. 4 Integration management	p. 4 Economic justification

Table 1

Compliance matrix of basic elements in project management with the system of international and national standards

Conclusion

1. The peculiarities of standards practical use depend on maturity levels of project management within organisation, as it is the developed project culture that allows distinguishing only necessary elements that on the one hand provides the accomplishment of goals and on the other hand it won't overload the managerial process. For that purpose it is necessary to gain the understanding and perception of basic elements that should become the basis for development of internal managerial system.
2. Despite the clear scheduling of any given processes that were stated in standards, the majority of them have non-regulatory character and must be used depending on range, complexity, specificity and other specifications of the implementing projects.
3. The stages Project Management project preparation for organization of public economic sector described in the article via the description of traditional elements of management is theoretical and serves to simplify the understanding of project management basis.
4. The usage of the given approach has had positive results in the educational process of High school of management, Belgorod State National Research University in the sphere of preparation and retraining of students of managerial specialties.

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