



# Project management office configuring: EXPERIENCE OF INNOVATIVE INDUSTRIAL COMPANY

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## ABSTRACT

Project management development in different fields and spheres determine project management offices' forms and functions diversity. Approach development to the office configuration of the company became necessary. Choice of an innovative industrial company as a research object had predetermined the need to form a project management office as a center of management consulting. The research was carried out on the basis of the case study methodology, which combines the documents' analysis, assessment of project management and survey methods completeness. An approach to designing a project office configuration based on an assessment of the level of organizational and technological completeness in the field of project management was proposed and tested. Deep investigation of the industrial innovation company made it possible to disclose main components and links in the system «innovation – project management (project office) – consulting». As a result, a set of functions of the project management office was determined, and the content of consultation functions in current activity process of the innovative industrial company (process consulting) in particular.

## KEYWORDS

PROJECT, INNOVATIVE PROJECT, PROJECT MANAGEMENT,  
PROJECT MANAGEMENT OFFICE

## ANNOTATION

Under the conditions of business environment high uncertainty and mobility, project-oriented management seems to be one of the most effective solutions for companies that aim to comply with rapid changes in the external environment, and advent of new technologies and innovations. When the company reaches a certain level of maturity in project management, top managers think about ways to improve results and productivity level of project management. The task is even more urgent when performing more than one project, when it is difficult to with allocation of human resources, when deadlines and budget are not complied with, and reports' content does not allow making ultimate management decisions. In the literature, the issues of project management and the creation of a project office in the organization are deeply worked out.

Under conditions when business processes of the enterprise progress more new under conditions when business processes of the

enterprise progress more new developments and innovations appear, projects' number and complexity proportionally increase. Consequently, we need a set of organizational, methodical and information tools that can support project management processes in the company. Thus, it is necessary to implement the corporate project management system. Thanks to this approach to project management, a project-oriented company is formed. Such company can effectively cope with global uncertainty, aggressive external environment and shortening of the life cycle of technologies and products. This approach allows integrating individual project and program results within a single course, forming strategic portfolios of projects and programs. In order to handle multi-project management in this system, qualified specialists, procedures, mechanisms, special methods and tools are needed. An integral component of the project-oriented company is a project management office (project office). Functions of project office were studied by scholars and practitioners: V.V. Ilyin, G. I. Kendall, S. C. Rollins, M.A. Kozodaev, T.R. Block, E.Verzukh, N.L. Persod, C. Crawford, D. Bridges. The issues

of project management and creation of a project office in the company are well-developed in the literature. The control and coordination function of the project office has been drafted in detail. Nevertheless, questions about the way a project office organizes and performs advisory functions in managing the portfolio of innovative projects still were not highlighted. In theoretical literature, the role of project managers as internal consultants and of the project office as a center for advising in the field of project management is poorly expressed, although managers as well as the office were meant to assist, first of all, in selecting project management methods and tools not only for beginners, but also to specialists of an innovative industrial company. Moreover, the role of the project office as of a center for training, adaptation and professional education in the field of innovation project management is not considered.

This paper presents an approach to project management office configuration as to a center for management consulting in an innovative industrial company based on the case study methodology.

## LITERATURE REVIEW

The process approach to innovation implementation determines the innovation project as the one that has a single goal and that was planned to realize in a specific time-frame a set of work and activities for the development, production and promotion of new high-tech products to the market, indicating the executors, resources used and their sources [Burkov V N., Novikov DA, 2013]. The main objective of the innovative project is the development and application of innovations, new technologies and other pioneer work that ensure the development of technical, economic, production, social and other systems [Boer F.P., 2007]. The variety of goals and objectives of innovative development, types of scientific and technical production produced, implements a variety of innovative projects. The difference between innovation projects is provided by:

- high degree of technical and commercial uncertainty of project results;
- weak regulation of project management: the success of the project depends entirely on subjective factors, for example on the identity of the project manager and the climate in the team [Bogdanov V., 2012];
- attraction of unique resources for the projects' implementation;
- high probability of obtaining unexpected intermediate or final project results that representing an independent commercial value;
- investment nature of innovative projects;
- the priority participation of the Science & Technology Council (STC) in the management of innovative project development and implementation [Boyer F.P., 2007].

When managing several projects, the profile office is one of the key elements of the corporate system. According to the Guide to the «Project Management Body of Knowledge» (PMBOK), the Project Management Office is an organizational structure designed to standardize project management processes and facilitate the exchange of resources, methodologies, tools and methods [A. Guide, 2013].

It is important to mention that in some theoretical sources the concepts «project office» and «project management office» are divided. For example, in Western countries the term «project office» is used to designate a management team for a separate large-scale project, while the «project management office» is the structure that is responsible for managing all of the company's projects [Bogdanov V., 2012]. The functions can be distributed in another way, for example the project office evaluates the project status, but does not conduct methods examination for performing these tasks while the project management office is a structure that establishes standards and methods for project management and assists executors so that they carry out the tasks performed as efficiently as possible [Kendall DI, Rollins SK, 2004].

As a rule, in theory, there are three types of offices:

- supporting office: consulting in the field of project management, development of templates, analysis of best practices, staff training;
- supervisory office: support and monitor compliance with requirements through various means;
- management office: direct project management [A Guide, 2013; Jordan A., 2013].

Despite the type of project office, the most important role of the project management office is seen in helping to achieve the company's strategic goals [The Impact, 2013; Strategic PMOs, 2013]. The composition and content of project management office's functions depend on the status of this division in the company, level of maturity of the company in the field of project activities, the number and variety of projects, and so on. The scope of responsibility can include providing various types of support in project management, project management. Most frequent functions of project management office are:

- optimization of resource management;
- development of methodology, best practices and standards for project management, including policies, procedures, documentation;
- coaching, mentoring and training in project management sphere;
- monitoring of compliance with standards and procedures for project management;
- coordination of efforts and resources between projects [Project Management, 2010; Implementing Organizational Project Management, 2014].

In case when a project office is created, the company will have to introduce it into the organizational structure of the enterprise, develop its organizational structure and regulate its activities, define the functions and methods of work, create an information management system for projects, and create a staff motivating system. The solution of these tasks is the configuration of the project office. Lets' examine the content of the concept «project office configuration».

The term «configuration» is traditionally used in engineering and software; in the project management notion «project configuration» is used. The system configuration of means the set of functional and physical characteristics of the hardware or software that are set forth in the technical documentation and achieved in the product, or a set of specific versions of hardware and software elements connected in accordance with specific procedures to achieve a specific goal [Bourque P., Fairley R. E., 2014].

In project management, the project configuration is a set of

elements that require formalized change management. Project configuration management is a subset of change management designed to implement approved changes. This is a set of formalized documented procedures that determine how the results and documentation of the project are monitored, changed, and approved [A Guide, 2013].

The configuration of the project office represents a set of documented features of the architecture, functions and roles for the performance of specified functions, characteristics of the project office main components. When an innovative industrial company selects the optimal model of the project office and determines the nature of the project office configuration, it takes into account the following factors:

- enterprise-wide;
- the specifics of innovation activity, produced products;
- the number and type of projects that the project office controls;
- body and complexity of tasks performed by the project office;
- organization maturity in the field of project management;
- cast of the main users of project office` services;
- company`s readiness to invest resources in the technical and information support of the project office;
- managers` readiness to invite qualified specialists in the field of project management that are able to solve non-standard tasks and manage crisis projects;
- company's policy in the field of human resource personnel training, development of their leadership skills and competence in the field of project management;
- enterprise`s organizational structure.

Fixed configuration review, formally approved by managers and documented will be a result of configuring the project office.

## RESEARCH METHODOLOGY

The target of research is an innovative industrial enterprise (IIE), a national developer, manufacturer and supplier of stationary, portable and bench instruments and vibration diagnostics systems, computer monitoring and automatic diagnostics of the equipment condition integrated into the enterprise diagnostic network, that together constitute an automated control system for the safe resource-efficient operation of equipment in real time at all stages of the life cycle.

As a research design, the case-study methodology was chosen, because of the following circumstances:

- The research of project-oriented management development level, conducted with participation of the author of this article [Katunina I.V., Konoreva T.V., 2015], showed that the project office was created only in 16.2% of organizations in Omsk, the practice of creating and regulating design-oriented management is limited to individual cases;
- Despite the theoretically distinguished types of project offices, an empirical study of the practice of these structures in companies has revealed a wide variety of organizational forms: department office (department, business unit), specific project (program) management office, the project support office, project management office of the company (strategic, global, portfolio), center of excellence (competencies) [PMO Frame works,

2013]. This circumstance emphasizes the need for office configuration precisely in terms of its functionality and the level of company`s responsibility.

The following methods were used during the case study:

- Document analysis. The maps of business processes «Scientific Research», «Development», «Operational commissioning», internal organizational and regulatory documents: regulations on scientific research department, on the development department, on the department for support and promotion of systems, on the process of planning activities, on the projects` implementation, on material incentives, on the procedure for plan and report formation in Microsoft Project, the structure of typical plans for the development of software, radio electronic equipment, the procedure for the formation of technical and financial viability;
- Evaluation of company`s maturity level in the field of project management. The five-level maturity model of G.Kertsner (Project Management Maturity Model) and the diagnostic tools proposed by the developer of the model [Kerzner G., 2003] were used. The research tool is a focus group of experts, including project managers, control group specialists, engineers of the development department. Experts` selection criterion is a participation in the projects implementation and control over it. The respondents completed 20 tasks together, which allowed determining whether the organization is ready to complete the current level of maturity.
- Inquiry. For the study, a sample of employees was formed. Selection criteria were: participation in project activities, experience in projects for at least two years, at least one closed project, experience in developing regulations, regulations, plans, protocols and other documentation that relate to project activities. The sample included respondents who corresponded to at least one criterion (99 people in total).

## RESULTS

IIE uses process approach. According to the internal accepted documents, the business process is a set of interacting processes and activities aimed at achieving the enterprise's goal. Management is carried out for 14 business processes. Most of the projects are carried out within the framework of business processes: «Scientific Research», «Development», «Operational commissioning». The company maintains a register of projects that have been initiated and implemented by employees from 1998. During this period, 234 projects were implemented, including 149 projects successfully completed (initial goals achieved), 35 projects were terminated due to the following reasons: set goals became irrelevant, not enough resources, the project was impossible to implement, no contract for work, 50 projects are now in process.

Based on an assessment of organizational and technological maturity level of the company in the field of project management [Kerzner G., 2003] it is shown that the IIE did not complete the transition from the first level «Basic knowledge and common terminology» to the second «General Processes» so that these

levels intersect. At the level of «General Processes» IIE should go through five stages of the life cycle:

- initial phase: the company is aware of the potential benefits of implementing project management;
- second phase: direction (the board of directors, general director, technical director, financial director) supports the idea of project management;
- third phase: the idea of project management is accepted by line managers, middle managers (heads of the development department branches, heads of departments for support and promotion of systems, production, marketing and sales, head of the controlling group);
- fourth phase (growth phase): the process of project management is documented, the principles of effective planning are introduced;
- fifth phase (initial maturity): a system for monitoring projects` cost and schedule, a training program for employees engaged in projects to support project management and improve the competence of staff.

In order for the IIE to fully transit to the second stage, a study was conducted using the evaluation tool [Kerzner G., 2003]. The research showed that the IIE did not reach an acceptable level of maturity at the stage of «General Processes»: in the life cycle of the second level, the initial and second phases have passed. It is too early to speak about accepting an idea by line managers. Consequently, the growth phase is not complete (Table 1).

The revealed condition is caused by the following reasons:

- not all line managers support the project management concept, they not always ensure the work performance;
- line managers were not trained in the field of project management and are not ready to pass their experience to subordinates;
- there is no united methodology for project implementation: most projects are innovative, it is impossible to accurately plan the time, cost and functionality of the product;
- the existing software does not allow to manage download and resources due to the large number of projects executed in parallel.

To objectivate why it is necessary to implement a project office with the functions of a management consultancy center in the field of project management, a survey of employees was conducted. All respondents noted the need for a project office in the company. The following functions should be assigned to the project office (in importance decreasing order, according to the staff):

- project administration;
- project coordination;
- preparation of regular project reports;
- training and consulting on project management;
- development of project management methodology;
- monitoring compliance with the methodology;
- project management;
- portfolio management of projects (selection of projects in the portfolio).

Consultancy is required on the methodology of project management, project time management, communication in the project, risks and changes in the project.

As part of the review of the configuration of the project office, it is necessary to provide more details of its functionality. The

configuration of the office required an appeal to the best practices of Project Management Institute and Boston consulting Group. Successful project offices performed the following key functions:

- development of a culture of excellence in the management of projects, programs, portfolios as the basis for the formation of the company's core competencies;
- information and analytical support (monitoring and modeling of development scenarios) of critical projects and initiatives;
- development and implementation of smart and simple standardized processes for managing projects, programs, portfolios;
- improvement of knowledge management practices in the company [The Impact, 2013; Strategic PMOs, 2013; The PMO Imperative, 2013].

In the practice of leading companies, a whole palette of possible office configurations was discovered [The Impact, 2013] (Table 2).

According to the results of the study, it was decided that the following functions should be assigned to the full-scale work for the project office:

- development of a project management methodology:
  - a) development of a corporate standard for project management of the company based on the Guide to the «Project Management Body of Knowledge» (PMBOK) [A Guide, 2013];
  - b) update the project implementation clause;
  - c) update the planning clause;
  - d) development and updating of instructions of project documents control;
  - e) development of instructions for project monitoring;
  - f) regulation on project documents archiving, electronic and printed project folders;
  - g) development and updating of regulations on the formation procedure of a feasibility study and information on achieved levels in project implementation;
  - h) development and updating of other documents related to the project activity;
- regular monitoring of compliance with the corporate standard;

Development and maintenance of project documentation within the framework of a separate project and organization-wide documents accompanying project implementation:

- a) orders for the opening of the project; statute and project plans;
- b) a project change journal;
- c) project concept;
- d) feasibility study;

**Table 1**  
Determination of the attainment of phases of the life cycle of the second level of maturity «General Processes»

life cycle phase	scale												
	-12	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12
fifth													
fourth													
third													
second													
initial													



**Table 2**  
Purpose and basic functions

Strategic Planning (14%)	Project Management Office	Project Support Office	Strategic Project Office	Center of Excellence
Purpose				
Supports department strategy	Supports the implementation of the project, is created for the duration of the project	Supports projects and programs of the company (administration), can develop tools, processes	Ensures the correspondence of the portfolio of projects and strategy programs, initiates projects and programs, manages relationships with stakeholders	Develops methodology, standards, tools, conducts training and advises project managers
Functions				
Management of the implementation of projects (46% *). Standards, methodology, processes (15%) Prioritization of projects in the portfolio (15%)	Project implementation management (46%) Standards, methodology, processes (16%) Performance management (11%)	Management of project implementation (47%). Standards, methodology, processes (19%) Prioritization of projects in the portfolio (12%)	Management of project implementation (30%). Prioritization of projects in the portfolio (25%) Standards, methodology, processes (20%)	Standards, methodology, processes (41%) Management of project implementation (24%) Strategic Planning (14%)

\* The part of companies with a project office of this type, in which the project office performs the specified function.

- e) records of project meetings, completion of the project;
  - f) calculation of the coefficient of labor participation;
  - g) preparation of an electronic archive (documents, diagrams, programs, etc.).
  - internal document-flow of the development department and the department of support and promotion of systems, ensuring timely ins and outs of documents, keeping a register of documents in order to track document moving and ensure its safety;
  - reparation of project reports, including the development of analysis protocols, that include a description of the project status, any deviations that have arisen, a project impact analysis, a risk analysis, proposals for the plan;
  - preparation of reports on business processes («Scientific Research», «Development», «Operational commissioning»), within which projects are carried out;
  - general project administration:
    - a) providing management with up-to-date information on the progress of projects;
    - b) transfer of information to the responsible executors of the project;
  - control over work performance, notification of executors about deviations from the project plan;
  - coordination of temporary resources in order to prevent conflicts because of them: most of the company's projects are unique and innovative, therefore it is impossible to exclude deviations in terms of time; determining the priority of projects and tasks in a particular project, the project office will reduce the probability of deviation from the deadline;
  - coordination of employment and the release of labor resources, the timing of work. A report on the status of employment is made by a specialist in the project office, the resources themselves are distributed either by the project manager or by the technical director, coordination is important, since the projects involve staff from different departments, the number of participants is increasing, the volume and scale of projects are increasing;
  - building relationships between project participants, creating a favorable emotional background;
  - search, selection, justification of the feasibility of implementation and development of software that allows to solve problems of project management, to maintain the entire system in working order.
  - making changes to the terms, executors and nomenclature of tasks in the project by updating the analysis protocol and the change log for the project;
  - preparation of reports on the loading in the projects of the staff of the development department and the department of support and promotion of systems;
  - quality evaluation of the project activity according to the actual results achieved.
- In the work of the project office, the consultation function is extremely important. As a center for management consulting, the project office will perform a number of specific functions:
- counseling of responsible executors, whose responsibilities include:
    - a) development of project documentation;
    - b) distribution of time and resources for the fulfillment of the tasks of the project;
    - c) compliance with the corporate standard, determining the effectiveness of the project (in the performance of these functions, the expert in the project office can use expert and process consulting);
  - audit of projects;
  - organization of training or directly training and training of responsible executors, how to use the corporate standard and project management in general (coaching, mentoring, counseling). The function extends both to the team of specialists working in the company, and to those who have recently become a part of it. In performing these functions, the project office specialist applies a training and process model of counseling;
  - knowledge management in the field of project management (collection, analysis, compilation and dissemination of knowledge among project participants) (by disseminating knowledge in the field of project management, the specialist practices three types of counseling: expert, training and process);
  - training internal consultants and project managers to improve their qualifications and provide opportunities for career development.
- In accordance with the chosen configuration and place in the organizational structure, the project office will relate to the offices of the unit's projects. Further regulation of the activities of the project office will require the development of such documents as the definition of areas of responsibility, authority and information

exchange in the project office, the corporate standard for project management, and templates for standard project documents needed for project implementation.

## CONCLUSION

In innovative industrial organizations, the development of products and the improvement of internal business processes are carried out in the form of innovative projects. In such conditions, the development of project management led to the creation of a project management office. It is designed to formalize the project management process, monitor compliance with the methodology and advise on its application, monitor the timing, budget of projects and functionality of the result, consolidate information on completed and ongoing projects, accumulate experience and knowledge.

The content of the concept «configuration of the project office» is determined by its purpose and function in the company. Due to the fact that the activities of the project office are consulting services, its features were identified, systematized and described as a center for management consulting in an innovative industrial company. Companies that have reached such a level of organizational and technological maturity when it is vitally important to implement a project office can use the proposed programs of the organization of the project office, recommendations on the regulation of the activities of the project office as a consultancy center.

## REFERENCES

1. Bogdanov V. (2012) Project management. Corporate system - step by step. M: Mann, Ivanov and Ferber. 248 p.
2. Boer FP (2007) Technology Cost Assessment: Problems of Business and Finance in the World of Research and Development. M.: Olimp-Business. 448 p.
3. Burkov VN, Novikov DA (2013) How to manage projects. M.: cinteg-geo. 188 pp.
4. Katunina IV, Konoreva TV. (2015) Development of project-oriented management in Omsk companies // Bulletin of Omsk University. Ser. Economy. № 4. P. 134-142.
5. Kendall DI, Rollins SK (2004) Modern methods of managing project portfolios and the office of project management. SPb.: PMSOFT. 576 p.
6. Kertsner G. (2003) Strategic Planning for project management using the maturity model. Moscow: DMK Press. 318 p.
7. Project management: The fundamentals of professional knowledge, the national requirements for the competence of specialists (NcB - SOVNET National competence Baseline Version 3.0) (2010) / Под науч. Ed. VI Voropaev. M.: Joint-Stock Company «Design practice». 256 p.
8. A Guide to the Project Management Body of Knowledge: PMBOK guide (2013)/Project Management Institute. 5th ed. Newtown Square. 589 p.
9. Bourque P., Fairley R. E. (2014) SWEBOK® V3.0 Guide to the Software Engineering Body of Knowledge // NC State University. URL: [http://www4.ncsu.edu/~tjmenzie/c\\_s510/pdf/SWEBOKv3.pdf](http://www4.ncsu.edu/~tjmenzie/c_s510/pdf/SWEBOKv3.pdf).
10. Implementing Organizational Project Management: A Practice Guide (2014)/Project Management Institute. Newtown Square. 100 p.

11. Jordan A. (2013) Risk Management for Project Driven Organizations: A Strategic Guide to Portfolio, Program and PMO Success. Boca Raton: J. Ross Publishing. 334 p.
12. PMO Frameworks. (2013b) (PMI's Pulse of the Profession) // Project Management Institute. URL: [http://www.pmi.org/~media/PDF/Publications/PMI\\_Pulse\\_PMO-Frameworks.ashx](http://www.pmi.org/~media/PDF/Publications/PMI_Pulse_PMO-Frameworks.ashx)
13. Strategic PMOs Play A Vital Role In Driving Business Outcomes. A Part Of PMI's Thought Leadership Series (2013)/Forrester. 11 pp. URL: <https://www.pmi.org/~media/PDF/Publications/Forrester-PMOs-Play-Vital-Role-TLP-PMI-Final.ashx>.
14. The Impact of PMOs on Strategy Implementation. (2013c) (PMI's Pulse of the Profession In-Depth Report) // Project Management Institute. URL: <https://www.pmi.org/~media/PDF/Publications/PMI-Pulse-Impact-of-PMOs-on-Strategy-Implementation.ashx>
15. The PMO Imperative (2013) // Project Management Institute. URL: <https://www.pmi.org/~media/PDF/Publications/BCG-Strategic-Initiative-Management.ashx>.