

ORGANIZATIONAL PROJECT MANAGEMENT MATURITY

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Abstract. The present article is aimed at developing a set of recommendations for achieving a higher level of organizational project maturity at a given enterprise. *Methodology.* For the purposes of the current research, the available information sources on the components of project management system are analysed; the essence of “organizational maturity” and the existing models of organizational maturity are studied. The method of systemic and structural analysis, as well as the method of logical generalization, are employed in order to study the existing models of organizational maturity, to describe levels of organizational maturity, and finally to develop a set of methodological recommendations for achieving a higher level of organizational project maturity at a given enterprise. *The results* of the research showed that the core elements of project management system are methodological, organizational, program-technical, and motivational components. Project management encompasses a wide range of issues connected with organizational structure, project team, communication management, project participants, etc. However, the fundamental basis for developing project management concept within a given enterprise starts with defining its level of organizational maturity. The present paper describes various models of organizational maturity (staged, continuous, petal-shaped) and their common types (H. Kerzner Organizational Maturity Model, Berkeley PM Maturity Model, Organizational Project Management Maturity Model, Portfolio, Program & Project Management Maturity Model). The analysis of available theoretic works showed that the notion “organizational project maturity” refers to the capability of an enterprise to select projects and manage them with the intention of achieving its strategic goals in the most effective way. Importantly, the level of maturity can be improved by means of formalizing the acquired knowledge, regulating project-related activities, and documenting best practices and potential difficulties. *Practical implications.* For the purposes of the present research, the level of organizational project management maturity of the enterprise in question is evaluated according to the three-level model developed by H. Kerzner. The conclusion is made that project management maturity of this enterprise corresponds to maturity level 2. Besides, the defined maturity level is specified in more detail along the life cycle phases in order to determine more precisely the position of project management activity of the enterprise within the maturity model. Potential problems (the so-called “bottlenecks”) of the enterprise in the field of project management are identified. Based on the results of the analysis, a number of recommendations are suggested for further development of the corporate system of project management at the given enterprise. The results of the research showed that in order to achieve a higher level of maturity, it is necessary to create a project team, organize a project office, and distribute project management functions among the team members, develop a procedure of involving experts with different professional backgrounds into the project implementation, improve the procedure of creating project teams, ensure the accumulation of best practices of project implementation, establish the corporate standard of project management, and improve the strategic planning for project management, project implementation control, managing changes, labour resources and communication. The suggested guidelines are expected to facilitate the achievement of a higher level of maturity. They also envisage the terms of this transition and the responsible executives. Further enhancement of maturity level is achieved by means of performing a set of activities for improving and aligning various project management sub-processes aimed at managing costs, time, quality, and risks. Another important condition of enhancing organizational maturity is the development of an integrated management system that would help to achieve synergy from combining different methodologies. *Value/originality.* Assessment of the project management maturity and identification of problems made it possible to develop a set of recommendations for achieving a higher level of organizational project management maturity by the enterprise in question, which in its turn is expected to reduce the costs and the time that are necessary for project implementation.

Key words: project, project management, organizational maturity, organizational maturity model, levels of organizational maturity.

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1. Introduction

Being a unique dynamic system, a project requires certain specific methods and tools of its initiation, planning, implementation, and control. Project management tools have undergone a long and successful evolution helping enterprises to save resources (finance, labour, materials, time) and to achieve the expected project goals in the most effective way. However, the practice of using project management approach is often limited to basic tools, such as network diagrams, Gantt's charts, cost budgets, etc. This kind of planning is only acceptable when resolving minor current tasks of the project. While implementing more significant projects that require more time, efforts, and budget, it becomes increasingly important to use appropriate methods and tools of project management that help to make adjustments to the project parameters in a timely and competent way, taking into consideration the uncertainty of the economic situation.

The theory and practice of project management allow various interpretations of project management system and its numerous components. For instance, A Guide to the Project Management Body of Knowledge (PMBOK® Guide, 2008) describes project management system as a combination of processes, tools, methods, resources, and procedures for project management. The core elements of a sustainable project management system are the following: methodological, organization-al, program-technical, and motivational (Levin, 2014). The methodological component of project management refers to a variety of methods, approaches, and tools that are used for planning, implementing, and monitoring different projects. The organizational component of the project management system deals with establishing certain executive bodies responsible for project management (project office, project committee, project teams), as well as creating and maintaining all the necessary documentation for ensuring project management and communication among project stakeholders (process models, project management procedures, document templates, rules, regulations, and job descriptions). The program-technical component of the project management system refers to procedures of using various software for planning and monitoring project implementation taking into consideration the necessity to integrate these plans and reports into other management systems of the enterprise (strategic planning, financial management, human resources management, changes management, etc.). The motivational element of project management system is closely connected with human resources management as it involves a number of motivational tools and incentives that help to activate project implementation by all the involved parties.

The methodological element is the fundamental component of project management system (Levin, 2014) but its implementation largely depends on the

efficiency of the organizational component. Project management encompasses a wide range of issues connected with organizational structure, project team, communication management, project participants, etc. However, the fundamental basis for developing project management concept within a given enterprise lies in defining its level of organizational maturity.

In order to develop a set of guidelines for achieving a higher level of organizational project management maturity by an enterprise, it is necessary to analyse the existing models of organizational maturity and the characteristics of their levels.

2. Models of organizational maturity

The Standard for Portfolio Management (2006) developed by Project Management Institute (PMI) defines project management maturity as the level of project-portfolio management processes as compared to a certain standard. The standard is understood here as a collection of best practices in the sphere of project management, and the maturity level is defined as a measurable degree of approaching this benchmark.

The models describing the level of development of an enterprise, i.e. Maturity Models, make it possible to assess the current performance and outline the strategy and tactics of improving project management system (Pasian, 2011). An enterprise involved in project management has to make a continuous effort of enhancing its organizational maturity in order to improve its economic and technological conditions. What causes a major problem here is the necessity to synchronize the progress made by the enterprise along all the components (methodological, organizational, program-technical, motivational) as compared to the current level. In other words, achieving a higher level of organizational maturity will not be fully effective until each of the components that constitute the project management system of the enterprise is developed sufficiently.

These assumptions gave rise to a number of different models of assessing organizational maturity that help to evaluate the level of project management at the enterprise, to create an action plan for its further improvement, and to identify potential pitfalls (Pennypacker & Grant, 2003). The existing models of organizational maturity can be divided into three types:

- staged models where a certain level means that an enterprise has achieved a number of designated goals, each level serving as a foundation for the next one;
- continuous models where a set of competencies suggests developing and improving processes in each specific area;
- petal-shaped models where each characteristic of project management maturity is assessed against a certain scale and finds its visual representation in a diagram (Malinina, 2011).

In terms of organizational project management, the most wide-spread maturity models are the following:

1. Maturity model by H. Kerzner (Kerzner, 2010). It focuses on assessing the efficiency of project management in the enterprise, making particular emphasis on strategic project management for achieving higher competitiveness in the marketplace. The model contains 3 or 5 levels: common language (creating a common system of terms); common processes (replicating managerial success on one project to others); singular methodology (integrating project management methodology with quality management, process control, change management, etc.); benchmarking (comparing project management practices with recognized leaders); continuous improvement (on-going development and expansion of project management methods).

2. Berkeley PM Maturity Model The emphasis is made on guidelines for accomplishing higher maturity. It also includes 5 steps: ad hoc management (inconsistent use of some project management tools); planned (more formalized project management practice); managed at project level (systematization of project management expertise); managed at corporate level (project management processes are standardized and integrated with other spheres of management); continuous learning (systemic and structured approach to project planning and control, constant improvement of project management processes, implementation of innovative project management methods).

3. Organizational Project Management Maturity Model (OPM3, 2003). Published by PMI, these guidelines help enterprises to plan their development, to choose their priorities, and to save project resources. It contains a database of best practices of project management, KPI descriptions, expected results and recommendations for achieving higher project management efficiency. This model outlines the following stages: initial, non-regulated (weak control, partial use of project management tools); individual projects management (using individual project management procedures within the singular methodology); management stage (partial formalization of basic project management and planning); integration stage (full-scale formalization and acceptance of all processes pertaining to project management, information recording procedures); improvement stage (project management automation, ongoing improvement of project management practices).

4. Portfolio, Program & Project Management Maturity Model (P3M3, 2006). This model describes successful practices of managing portfolios, programs, and projects at the following levels: knowledge about the processes; repeatable processes; defined processes, managed processes; optimized processes.

Besides the above-mentioned models, there are other models of assessing organizational maturity: Capability Maturity Model for Software Engineering; SPICE

model (Software Process Improvement and Capability Determination); Project FRAMEWORK produced by ESA; PM Solutions, etc. (Rusyakova, 2014).

All these models share the principle of consecutive transition from lower maturity levels to more advanced, i.e. from more general knowledge about project management practice to continuous improvement of project management processes. However, it is worth noting that the above-mentioned models are aimed at several types of maturity – organizational and technological. Here technological maturity is understood in a broader meaning of this word and is referred to as the existing level of a certain methodology employed in a certain process or applied to a certain object. One can say that technological maturity is considered to be a degree, to which a certain technology is employed by an enterprise. Organizational maturity in a broader context describes the level of development of the organizational system.

Considered from the point of view of project management, technological maturity can be de-fined as the readiness of an enterprise to embrace effective management practices and commit to the concept of project management. In other words, technological maturity is understood as the potential of an enterprise for further development. The notion “organizational project maturity” refers to the capability of an enterprise to select projects and manage them with the intention of achieving its strategic goals in the most effective way.

Reaching higher maturity levels means acquiring more advanced organizational competence, higher predictability and manageability of processes. This is achieved by means of reducing the use of informal communication processes among project team members and alleviating the adverse effects caused by individual peculiarities displayed by labour resources. Project management practice is also facilitated by knowledge formalization, higher standardization of project management activity, due documentation of problems and best practices. Project management improvement is also connected with a more extensive use of qualitative indicators and implementing best practices of project management.

Adopting organizational project management procedures helps to shorten the time necessary for launching a new product into the market (by 30-65%), reduce defects (by 35-75%), decrease the number of changes to the content and engineering part of the projects (by 45-68%), increase profit (by 6%) and return on investment (by up to 20%) (Degtyaryev, 2014).

3. Assessment of organizational maturity of the enterprise

The present research was conducted on the basis of the project management system of a pharmaceutical enterprise in Ukraine. In order to improve the

organizational project management practiced by this enterprise, the three-level maturity model developed by H. Kerzner (which is already employed by the enterprise) was used, which helped to determine the level of its organizational maturity in terms of project management (Table 1).

Judging from the data in Table 1, it can be concluded that project management maturity displayed by the enterprise in question corresponds to level 2. However, it also features certain characteristics of level 1 (absence of a common register of projects) and level 3 (receiving synergy from integrating project management with other spheres, such as change and processes management, etc.). For a more precise evaluation of project management performance displayed by the enterprise in question, level 2 was described in more detail taking into consideration life cycle phases (Table 2) in accordance with the following source (Polkovnikov, Terpugov & Belozarov, 2004).

Judging from the data in Table 2, the conclusion was made that project management maturity of the enterprise in question corresponds to maturity level 2. The above-described analysis helped to outline certain ways of developing corporate system of project

management in the given enterprise relying on the following assumptions: by means of achieving more advanced levels of project management maturity, the enterprise improves its project management performance and reduces the risks of unsuccessful project completion; although it is possible to transfer to a higher maturity level without fully meeting the criteria of the current level, this might increase risks due to the lack of consistency in the development of project management.

On the basis of these assumptions, it is deemed strategically correct to complete all the elements of level 1 before moving on to maturity level 2, which may consequently lead to a transition to maturity level 3. In order to ensure the enterprise's transition to maturity level 3, it was recommended to create a project office and to redistribute project management functions. The terms of transition and the executives in charge are given in Table 3.

Thus, taking into consideration the results of the analysis of organizational project management at the given enterprise, a strategic action plan was developed in order to ensure its transition to more advanced maturity levels. The activities envisaged by the plan are specified in Table 4.

Table 1

Assessment of organizational project management maturity of the enterprise in question according to the following source (Polkovnikov, Terpugov & Belozarov, 2004)

Maturity level	Brief description of the level	Degree of displaying maturity qualities by the enter-prise
1	There is certain experience of managing successful projects	The enterprise has a sufficient experience of successful projects (14 years, 6 projects).
	There is an emerging interest in project management methods	First steps have been made to implement project management approach.
	Top-managers become aware of the benefits of using project management methods.	Support is available; certain employees receive training in project management.
	A common terminology is introduced.	There is a common terminology, which is used by all project participants; a common glossary is developed.
	All completed projects are duly documented.	There is no common register of projects.
2	Awareness of considerable benefits of using project management approach.	Partially present (in terms of saving time for project completion)
	Project management approach is supported at all management levels.	Present
	There is a common methodology of project management.	A common methodology of project management is under development (30% readiness)
	Project control system is available.	Fragmentary (project budget, time schedule, and performance control)
	There is a consistent program of personnel training in project management.	Partially available (training programs are available for employees who are responsible for project implementation).
3	Project management processes are integrated with other spheres.	Partially (project management system is integrated with quality management)
	Support on the part of the enterprise (at the level of corporate culture)	Partially available
	Different project management knowledge areas are formalized in a balanced way.	Not available
	Availability of procedures of accumulating and disseminating best practices of project management	Not available

Table 2

Life cycle phases corresponding to project management maturity, level 2

Phase	Characteristics	Degree of displaying maturity qualities
Initial	Recognizing the need for project management tools and methods	Present
Project management is accepted at the level of executive management.	Project management is supported at the level of executive management.	Present
	The essence of project management approach is understood by senior executives.	Present
	Project mentorship is available.	Partially available (there is no formal committee dealing with projects)
	Willingness to change the existing practices at the enterprise	Partially available
Project management practice is accepted at the level of line management.	Project management is supported at the level of line management.	Partially available
	Functional managers receive training in project management.	Not available
	Employees of functional departments receive full-time training in project management.	Not available
Growth	Development of project management methodology	Under implementation
	Commitment to effective project planning	Limited presence
	Minimization of changes in project content and scope	Not available
	Selection of project management software to support methodology	Partially available
Maturity	Development of cost/schedule management control system	Partially available
	Integration of schedule and cost control	Partially available
	The training program is developed to support project management and to upgrade the personnel's skills.	Not available
	Project office is created (i.e. a department that defines and maintains standards for project management within the organization)	Not available

Table 3

Maturity levels characteristics

Level	Characteristics	Recommendations	Term	Executives in charge
Terminology	The enterprise recognizes the importance of project management; it understands the need for a more extensive application of project management knowledge and adopting the relevant terminology.	The basic recommendation is to make sure that the transition to the next maturity level is performed only after the enterprise has duly classified the acquired experience of its best practices of project management, renewed its glossary and templates of major project documents.	The level is achieved	Business development director
Common processes	The enterprise recognizes the necessity of determining and developing common processes so that the success of one project could be replicated in other projects.	In order to move to the next level of maturity, it is recommended to finalize the model of project management process, as well as the process models for initiating, planning, monitoring, controlling, and completing projects, standard operational procedures of key subprocesses of project management.	12 months	Business development director
Singular methodology	The enterprise understands the importance of synergy, which is achieved through integrating project management methodology with other management methodologies.	In order to make a transition to the next level of maturity, it is recommended to carry out a major reorganization (create a committee dealing with projects, establish a project office, redistribute functional responsibilities, develop a relevant set of standards and regulations for the proper functioning of project office), to reconsider the existing corporate standard of project management, to continue working on the integrated management system at the enterprise.	25 months	Project office
Benchmarking	There is a growing understanding of the necessity to improve corporate processes in order to keep the competitive position.	More extensive application of the integrated management system of the enterprise, synchronization of various directions of project management development, implementation of innovative approaches, accumulation (analysis) of best practices of project management.	15 months	Project office
Continuous improvement	The enterprise evaluates the information obtained at the previous level and decides whether it is possible (feasible) to use it for the further development.	The basic guidelines lie in the necessity to analyse the results of the previous levels, to identify obstacles and potential resources of development, and to improve the methodology and corporate system of project management.	Constantly	Project office

Table 4

Strategic action plan for transition to a more advanced level of organizational maturity

Activities	Term	Executives in charge
To develop a training course in basic project management for functional managers	3 months	Business development director, HR director
To develop a template (algorithm) for project management	2 months	Project planner, project managers
To develop a procedure for change management within the framework of project implementation	12 months	Project office head
To improve control system within the framework of project implementation, to reconsider job descriptions, departmental regulations, and project communication procedures	17 months	Project office head, HR director, project planner, project administrator
To outline a procedure (algorithm) for creating project teams	3 months	Business development director, project office head, HR director
To create corporate standard of project management	5 months	Project office head, project administrator

Creating a project team is the top priority task for business development director on the first stage of transition to a more advanced level of organizational project management maturity. As long as the project management department evolves into a project office, and more experience is gained of how to involve experts with different professional backgrounds into the project implementation, the procedure of forming project teams is becoming increasingly refined.

On the next stage, it is important to pay attention to creating standards of project management, which calls for a standardized typical process, which will regulate and prescribe the document database, procurement, executors in charge of certain sub-processes within the entire project management system of the enterprise. This stage involves the development (renewal and improvement) of procedures of outlining project management strategies, project implementation control, managing changes, human resources, communication patterns, etc. The completion of all these tasks is expected to facilitate the emergence of the project management corporate standard on the next level of organizational maturity. Besides, having achieved this level of maturity, the enterprise is expected to understand the synergy of using various methodologies, so with the purpose of achieving greater cooperation and better control of operational and project-related processes, the company is expected to form an integrated management system.

4. Conclusions

The conducted research yielded the following results:

1. Project management system practiced by the enterprise should be developed with due account for the integral effect of methodological, organizational, program-technical, and motivational components. The fundamental element within the organizational component is the evolution of project management organizational maturity. Among various organizational maturity models, the most widely spread are the model developed by H. Kerzner, Berkeley PM Maturity Model, and OPM3. P3M3 model is used in case of dealing with a significant number of projects and if there is a task to determine the necessity of project portfolio management.
2. The conducted assessment helped to define the organizational project management maturity of the given enterprise, which corresponds to level 2. However, it also detected certain "bottlenecks", which testify to the fact that some elements of the previous maturity level yet remain to be completed.
3. In order to help the enterprise to fully complete organizational maturity level 2 and move on to the next level, a set of recommendations was developed that contains a strategic action plan and gives a detailed description of all the tasks to be completed in order to develop all the components of organizational project management system. Further enhancement of maturity level is achieved by means of performing a set of activities for improving and aligning various project management subprocesses aimed at managing costs, time, quality, and risks.

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Яна ДЕРЕНСКАЯ

ОРГАНИЗАЦИОННАЯ ЗРЕЛОСТЬ УПРАВЛЕНИЯ ПРОЕКТАМИ

Аннотация. Целью работы является разработка рекомендаций по переходу анализируемого предприятия на более высокий уровень организационной зрелости управления проектами. **Методика.** Для данного исследования были проанализированы доступные источники информации о компонентах системы управления проектами, сущности понятия «организационная зрелость», моделях организационной зрелости. Методы системного и структурно-го анализа, логического обобщения использовались для изучения существующих моделей зрелости, характеристики уровней организационной зрелости и формирования методологических подходов по переходу предприятия к более высокому уровню зрелости управления проектами. **Результаты** исследования показали, что основными элементами системы управления проектами являются методологический, организационный, программно-технический и мотивационный. Вопросы организации управления проектами охватывают широкий спектр проблем, связанных с формированием организационной структуры, проектной команды, управлением коммуникациями, участниками проекта и пр. Однако, основополагающей базой организационного развития концепции проектного менеджмента в рамках определенного предприятия является определение уровня его организационной зрелости. Описаны типы моделей организационной зрелости (уровневые, непрерывные, лепестковые) и основные их виды (модель организационной зрелости Г. Керцнера, модель Беркли, Organizational Project Management Maturity Model, модель зрелости управления портфелями, программами и проектами). В результате анализа теоретических источников выявлено, что понятие «зрелость организационного управления проектами» описывает способность предприятия отбирать проекты и управлять ими с целью максимально эффективного достижения стратегических целей. При этом повышение уровня зрелости достигается путем формализации знаний, регламентирования проектной деятельности, документирования проблем и лучших практик. **Практическое значение.** Для реализации цели исследования проведена оценка уровня организационной зрелости управления проектами анализируемого предприятия согласно трехуровневой модели Г. Керцнера. Был сделан вывод, что зрелость управления проектами предприятия соотносится со стадией второго уровня зрелости. Кроме этого, для более четкого позиционирования проектной деятельности предприятия в модели зрелости выявленный уровень детализирован по фазам жизненного цикла. Определены проблемы («узкие» места) предприятия в сфере управления проектами. По результатам анализа были сформулированы направления развития корпоративной системы управления проектами предприятия. Выявлено, что для перехода на более высокий уровень зрелости необходимо создать проектную команду, сформировать проектный офис и перераспределить функции по управлению проектами, разработать процедуру привлечения к реализации проектов предприятия специалистов различных функциональных сфер, усовершенствовать процедуру формирования проектных команд, обеспечить накопление опыта успешной реализации проектов, разработать корпоративный стандарт управления проектами и усовершенствовать процедуры формирования плана управления проектами, контроля реализации проектов, управления изменениями, трудовыми ресурсами, коммуникациями. Разработанные рекомендации по переходу на следующий уровень зрелости также включали сроки реализации перехода и ответственных исполнителей. Дальнейшее повышение уровня зрелости

осуществляется путем реализации работ по усовершенствованию и гармонизации подпроцессов управления проектами, направленных на управление стоимостью, временем, качеством и рисками. Также существенным условием роста уровня зрелости предприятия является развитие интегрированной системы менеджмента, позволяющей достичь синергетический эффект от взаимодействия методологий разной направленности. *Значение/оригинальность.* Оценка уровня зрелости управления проектами, выявленные проблем позволили разработать план реализации соответствующих мероприятий по переходу предприятия на более высокий уровень организационной зрелости управления проектами, что будет способствовать снижению затрат бюджета и времени на реализацию проектов исследуемого предприятия.