

For citation: Katunina I. V. (2018). Organizational Project Management in Omsk Region Companies: Current State and Development Constraints. *Ekonomika regiona [Economy of Region]*, 14(1), 69-78

doi 10.17059/2018-1-6

UDC 338

I. V. Katunina

Dostoevsky Omsk State University (Omsk, Russian Federation; e-mail: i.v.katunina@gmail.com)

ORGANIZATIONAL PROJECT MANAGEMENT IN OMSK REGION COMPANIES: CURRENT STATE AND DEVELOPMENT CONSTRAINTS¹

Despite widespread concept of project management, companies in major regions of Russia are still at the initial level of project management maturity. The paper is aimed to determine the current state and dynamics of organizational project management in the companies of the Omsk region, identify problem areas, and seek directions for further development. The author interviewed managers and project management practitioners in 148 companies from a variety of industries in the Omsk region. The study compares the survey results received during two years (2015–2016). The findings indicate that within the majority of companies, the organizational project management is not fully adopted. The author has empirically tested that high-performers are more likely to appreciate the value of project management than low-performers. However, the only small proportion of companies demonstrates a high level of project management maturity. Moreover, no strong relationship has been found between matured project management processes in a company and its performance. The author revealed and ranked the main problems in the organizational project management development. These problems are concerned with a poor support of organizational enablers. The organizational project management development should be considered in the context of strategic governance and management. The findings contribute to the understanding of key processes, which constitute project capabilities in a company. The research results can be used for building a conceptual model and studying organizational project management dynamics in a region during a longer period.

Keywords: project, project management, organizational project management, competence, project capability, core competences, organizational competence in managing projects, project management maturity, performance, development

Introduction

It is widely accepted that in recent years, organisations have faced tremendous social, technological and economic changes. The process of economic space complication as a result of the growing number of communications, changes of manufacture structure and an increase of an educational level of the population [1] has led to a new quality of economic space. While the pace and extent of these changes have increased dramatically, top managers recognize the key role of project management (PM) as a means of implementing new ideas, launching new businesses, improving technologies, etc. Although there is a lack of research examined the assumption that the effective PM is crucial to business success [2]. It is widely recognized that companies successfully applied a PM methodology to their business processes significantly reduce risks, cut costs, and increase outcomes over their peers. Moreover, several studies have identified project capabilities as a central one to competitive advantage in high technology industries as PM

practices are seen as the most appropriate for delivering complex products and systems (e. g., [3–5]). Another body of research is focused on business models for project-based firms (e. g., [6, 7]).

PM has been recognized as a critical success factor, and during the past several years PM concepts and ideas have been widely spread. But despite the rapid growth of PM, there are still, at least, two issues in the field.

First of all, one of the main problems with implementing projects is a low proportion of successful projects. While companies have started to invest significantly in PM development and PM education [8, 9], the gap between expected and actual projects resolutions is identified. Thus, the project failure rate remains high [10]. PMI's 2014 Pulse of the Profession™ research shows that organisations lose an average of US\$109 million for every US\$1 billion spent on projects [11]. The Standish Group findings have revealed that less than 40 % of IT projects undertaken in 2006–12 succeed [12]. Thus, developing global PM standards, sharp increases in the PM profession and plenty of undertaken research in the area have hardly affected the level of success or reduced the failure rate.

¹ © Katunina I. V. Text. 2018.

The other problem in the area is concerned with the maturity of PM processes in organisations. Although most companies fully recognize the value of adopting PM methodology, only small part of them can report the mature processes. PMI worldwide research [13] revealed that while more than 80 % of high performing companies understand the value of PM, only half of them demonstrate a high level of PM maturity. In the regions of Russia, this indicator is even lower that can be explained by the socio-economic development of a region [1, 14]. The fact that the percentage of companies recognizing the value of PM is much higher than the proportion of companies with mature PM processes seemed to call for consideration.

In the regions of Russia, PM philosophy and instruments are developing and being introduced unevenly. There are advanced regions that have a good experience and are able to translate it into the external environment. However, the majority of regions are still at the stage of initial level of PM maturity. This differentiation is particularly noticeable in the problem regions of Russia, to which the Omsk region belongs. With such uneven development of PM practice within regions, the task is to undertake longitudinal studies of PM current state, identify problem areas, and seek directions for further development.

The region can be considered as a competitive one if its economic system consisting of many interacting companies allows region to integrate into the national and global economy. Thus, this study departs from the hypothesis that mature PM practices within a company can lead to its success and regional competitiveness. The study is focused on organizational PM as the systematic management of projects, programs, and portfolios to achieve an organisation's strategic goals. It refers to the concept of organizational competence in managing projects and PM maturity models that can help in developing and improving PM processes and practices throughout the organisation and finally lead to regional development.

The paper is structured as follows. First, the overall theoretical perspective used in the paper is presented, namely the organizational PM approach, the concept of organizational competence in PM and PM maturity models. Second, the author presents research methodology and empirical findings. The paper ends with conclusions and several directions for future research.

Literature Review

A number of recent studies have revealed the widespread use of PM practices and project-based forms of organising. The research themes have

moved from project level [15, 16] to organisation level [16–18] positioning PM in the wider context of organizational strategy and organizational capabilities. Considering the literature on PM, three very close perspectives were revealed concerning the development of PM in organisations: organizational PM approach; the concept of the organizational competence in PM; and PM maturity models.

The perspective of organizational PM was widely covered in Project Management Institute (PMI) guides.

PMI defines organizational PM as the holistic management of portfolios, programs, and projects integrated with the organisation's business management practices to attain strategic goals [19]. The adoption of organizational PM includes establishing and formalizing good practices for projects, programs and portfolios (PP&P), as well as utilizing centers of excellence for the coordination of organizational PM policy and competency development.

According to PricewaterhouseCoopers' third report on "Insights and Trends: Current Portfolio, Programme, and PM Practices", organisations should follow effective PM processes that capitalize on innovation; measure progress, value, and risks; and confirm that the right projects can be delivered in alignment with the organizational strategy [20]. This can be achieved by aligning projects and programs with the strategy and the strategic goals. The alignment of projects, programs, and portfolio with the strategy seems to be a key factor in success. The portfolio includes elements of the strategy that should be executed. Those elements are represented in programs and projects. Portfolio management aligns with organizational strategies by selecting the right programs and projects; prioritizing the work; and providing the needed resources. Portfolio management optimizes program or project objectives, dependencies, costs, timelines, benefits, resources, and risks. Program management coordinates components and controls interdependencies among projects in order to support the strategy. Program management deals with project interdependencies. Applying program management, companies can align multiple projects for optimizing costs, schedule, effort, and benefits. PM develops and implements plans to achieve specific outcomes that are driven by the portfolio or program objectives or, in a broader meaning, by organizational strategies [21–23]. So, organizational PM facilitates balance and coordination while implementing strategic initiatives.

The second perspective is connected with the concept of the organizational competence in PM.

A number of studies have shown that some companies are more effective in transferring knowledge and developing capabilities while initiating and executing projects. Thus, projects have been recognized as playing a central role in capability building and learning. For instance, Söderlund J. [16, 17] identified project capability practices and emphasize that some firms developed a core capability in the management and organisation of projects.

The concept of 'core competences' has been commonly accepted by scientists and practitioners. Core competence is defined as differentiated skills, complementary assets and routines, providing the basis for a firm's competitive capacities and sustainable advantage [24–26]. Thus, the development of an organisation can be seen as an organisation's ability to integrate, build, and reconfigure its competencies to cope with rapidly changing environments. As projects are often seen as a crucial factor in achieving strategic goals, organisations have started to focus on project-related competences and project excellence. Successful organizational project management can be a sustainable strategic advantage. The degree to which an organisation uses project management practices is referred to as its organizational competence in managing projects.

IPMA defines the organizational competence in managing projects as the ability of organisations to integrate people, resources, processes, structures, and cultures in PP&P within a supporting governance and management system [27]. IPMA described the content of the competence including such indicators as PP&P Governance, PP&P Management, PP&P Alignment, PP&P Resources, PP&P People's Competences [27]. IPMA also developed several tools for describing, assessing, and improving organizational competence in managing projects: IPMA Organizational Competence Baseline (IPMA OCB), IPMA Project Excellence Model (IPMA PEM), and IPMA Delta.

The research on competence in project management has connected the area with knowledge-based perspective. A number of studies on project-based organisations have examined learning and knowledge developing processes inside and between projects. Moreover, projects themselves are considered as sources of knowledge creation enabling learning through lessons learned systems and associated with a continuous development of project management competences [28–30]. Projects are also seen as arenas for the development of leadership capacity [31].

In the literature to date on project capability development, learning processes and their dy-

namic are examined within the theme of exploration and exploitation learning. "Project-led" (exploration) and "business-led" (exploitation) processes [3] form dual capability. Ruuska I. and Brady T. revealed a tendency to shift from exploration to exploitation in learning processes while project capability matures [32]. In a multi-year study, Söderlund J. [16] revealed that daily knowledge transfer inside and between projects as well as shifts and changes should be taken into account considering competence dynamics in project-based organisations. The study also illustrated the importance of three learning processes – shifting, adjusting and leveraging – and their complex interplay in building competence.

Thus, competence in PM is to be developed on the base of organizational learning and continuous improvement of its competitiveness, effectiveness, and efficiency.

Finally, the third perspective is concerned with the concept of PM maturity.

While some companies are just getting started to implement organizational PM, others have reached a high level of PM maturity. A tool for identifying steps and activities to undertake for the development of organizational competence in managing projects is called a PM maturity model.

Grant and Pennypacker have estimated more than 30 models [33]. The most popular models are: PM Maturity Model – PMMM (H. Kerzner) [34]; Organizational PM Maturity Model – OPM3® (PMI) [35]; Portfolio, Programme, and PM Maturity Model – P3M3TM (Office of Government Commerce, UK) [36]; PM Maturity Model – PMMMSM (PM Solutions) [37]. Most of these models based on the suggestion that organisations develop their PM capabilities through a series of stages or levels to maturity. These levels consequence represents an ordinal scale for measuring the maturity of organisation's PM processes. The levels also serve as a means to prioritize improvement efforts.

It is widely accepted that companies with higher maturity levels are expected to be more successful in terms of project effectiveness and efficiency as well as demonstrate higher competitive advantage [38–40].

An organisation can increase its maturity by achieving the best practices within PP&P management. But actually achieving them largely depends on putting into place the organizational enablers as the last will support the company's efforts. Organizational enablers are structural, cultural, technological, and human resource practices that can be leveraged to support and sustain the implementation of best practices in organi-

zational PM [35]. These practices refer to general management processes that should be developed in a company to support the development of organizational competence in PM. The absence of organizational enablers decreases the maturity of PM processes within a company.

Although both scientists and PM practitioners emphasize that utilizing specific methodologies and tools is critical to manage projects successfully (e. g. [19, 41]), traditional project management has been criticized for being often inadequate to the overall task of managing projects as well as for being static in terms of developing PM practices [42–44]. The main reason for this critique is about the diversity of projects, companies and industries. As PM practices may vary significantly from one type of project to another, different approaches, tools and techniques should be adopted in order to specify needs of each type project even within the same organization. As a consequence, some PM practices have been more widely diffused, whereas others are less utilized (e. g. [45]). This difference, it is recognized, may depend on the industry or the maturity of an organization [33, 38].

The author draws on different literature considered above to construct a framework for the analysis of PM development. Several statements should be taken into account.

First, the author departs from the statement that organizational competency in managing projects should be considered as a part of its strategic competencies that creates competitive advantage. Lappe M. and Spang K. study [46] revealed a positive relationship between investments in the PM and organizational competitiveness and thereby supported the notion that PM yields positive organizational benefits. This gives a platform to improve the analysis of what differentiates high-performing companies from low-performing companies.

Second, in line with PM maturity models and the structure of the competence in PM, the author suggests that the following items should be included as indicating the degree to which a company demonstrates a high maturity of organizational PM:

1) Standardized PM processes. Both the academic literature and managerial experience emphasize the role of utilizing specific methodologies and tools that are seen as critical to manage projects successfully [41]. Therefore, a company can gain its competitive advantage by applying consistent and standardized PM practices throughout the organisation. The implementation of organizational PM processes facilitates an organisation's

ability to realize its strategic objectives through PP&P management. Thus, utilization of standardized PM processes demonstrates a higher level of organizational PM adoption;

2) The specialized centre of PM expertise (Project Management Office (PMO)). Conversely, organisations continuously change and modify their PM processes facing new challenges in a project environment. Their day-to-day activity implies balancing perseverance and renewal, exploration and exploitation. As competence dynamics is understood as a knowledge-creation process [16], the development of organizational PM implies continuous changes in PM processes. So, we need a mechanism to vary, select and retain best PM practices. Traditionally, these functions belong to PMO operating as specialized centre of PM expertise;

3) Trained and certified staff for PM activity. Interest in the education of project managers is growing extensively. Although, some researchers argue that current PM education does not meet the challenges of increasingly complex project world [8, 10], other authors highlight PM training and education as key factor in PM [47–49], as trained and certified staff for PM activity play a great deal to project success and contribute to the organizational PM development;

4) Fully adopted PM information system (PMIS). It is widely recognized that fully adopted PMIS indicates the level of PM maturity as PMIS allows effective project administration [35, 50] and supports the multi-project environment [51] as well as contributes to the project success rate increase [52].

In line with PM maturity models, the author distinguishes four basic levels of PM maturity:

– Initial level that means that a company has just started to develop organizational PM and usually has developed “common language” in PM activity;

– Intermediate level implying that a company has developed basic PM processes as documented procedures and accompanied them with the documents templates;

– High level that means that all four items mentioned above have been fully adopted by a company;

– Level of continuous improvement implying that a company constantly observes, checks, revises and improves its PM processes and structures.

Finally, the traditional literature on core competence and dynamic capabilities [24–26] has highlighted the role of organisation, management, co-ordination and governance. Accordingly, in an analysis of organizational PM development,

the roles played by management and governance infrastructure would be of particular interest. This statement, therefore, illustrates the need for linking PM development processes with organizational enablers as “core-enabling processes” [19, 35].

Keeping these statements in mind, a set of research questions guided the empirical research were formulated. How excellence in PM and a company performance are inter-related? How different components of PM competence contribute to higher performance? What are the most significant constraints towards the development of organizational PM in a company?

Research Methodology

In order to find a framework for the organizational PM development research, the author uses PM maturity models and the structure of the competence in PM as a research theoretical foundation.

In this paper, the author undertakes the survey of companies from a variety of industries. All companies are primarily Omsk-based but most of them operate on a federal and even international basis. All companies participating in the survey have experience in executing projects and they generally run both external and internal projects, as these were conditions for sample inclusion. Table 1 shows some characteristics of the sample firms and their project landscape. The firms come from different industries and show a reasonable spread according to size.

In each firm, one informant from senior or middle management level was addressed in accordance with a company size. In small firms, a senior management informant participated in the survey. Most often they had titles CEO, CFO, CMO or CIO. In the medium- and large-sized companies an informant was chosen from middle management. They typically had titles such as department manager or project manager. This approach allowed to involve respondents who had a good overview of the project landscape and the PM practices used in the firm. Moreover, all informants had been more or less trained in the field of PM.

The study is based on the comparison of the results of the survey for the development of organizational PM in the Omsk region's companies in the course of two years (2015–16). A paper and pencil survey was administered to 120 managers in 2015 and 50 managers in 2016. Out of the 170 questionnaires, 108 in 2015 and 40 in 2016 were completed and used in further analysis.

Despite the difference in sample size in 2015 (108) and 2016 (40), the sample characteristics

Table 1

Sample characteristics	
Industry,	%
Manufacturing	28.3
Healthcare and social services	16.3
Construction	13.0
Science and education	10.9
Commerce and service industries	9.8
Transportation and communication	7.6
Agriculture	5.4
Culture and art	3.3
Physical education and sport	2.2
Others	3.3
Employees,	%
< 100	24
100–500	27
500–1000	6
> 1000	41
Gender structure of informants,	%
Men	57
Women	43
(In)dependence,	%
Self-dependent regional companies	52
Branches, subsidiaries, presentations of nonresident companies	48
Focus of projects,	%
Internal regular projects	44,2
Internal development projects	48,4
External projects	29,3

were the same in both years. In order to eliminate this factor, the author compares the relative indicators based on the sample structure.

Hypotheses put forward by the author relate to the connection between the performance of a company and the extent to which this company demonstrates matured PM processes.

Hypothesis 1.1: High-performing companies are more likely to appreciate the value of PM methodology.

Hypothesis 1.2: High-performing companies are more likely to have a higher level of organizational PM development than low-performing companies, including the following:

- Decision making in PM is based on clear criteria and procedures contained in proper documentation;
- Employees have been trained and certified in the field of PM;
- Specialized center of expertise in PM has been created in a company and
- PMIS has been fully adopted in a company.

As for the last research question — What are the most significant constraints towards the development of organizational PM in a company? — the

author suggested that organizational PM development constraints are concerned with the poor support of organizational enabler as the PMI standard [35] puts them.

Results

Of the overall survey participants, 51.5 percent in 2015 and 67.5 percent in 2016 note that PM is crucial for their company's performance and more or less has been adopted within a company. At the same time, 25 percent of respondents in 2015 and 15 percent in 2016 claim that their firms do not realize the benefit of PM.

As it was revealed in [13], attitude to PM correlates to the level of performance. So, all companies were divided into three groups based on respondents' answers (Table 2).

Figure 1 presents the proportion of high-, mid- and low-performers that recognize the value of PM and the necessity of its application. The figure demonstrates the connection between the level of performance and appreciating the benefits of PM.

Thus, the survey has confirmed Hypothesis 1.1 stating that high-performing companies are more likely to appreciate the value of project management methodology than low-performing companies.

Table 2

Sample structure according to the performance level

Performance level	Proportion of companies, %	
	2015	2016
High-performers*	10	15
Mid-performers**	60	60
Low-performers***	30	25

* Those companies that have operating rates above the average industry level of performance.

** Those companies that have operating rates of the average industry level of performance.

*** Those companies that have operating rates below the average industry level of performance.

According to the PM maturity models mentioned above, the highest level of organizational PM implies that within a company decision making in PM is based on written rules and procedures, employees have been trained and certified in the field of PM, specialized centers of expertise in PM (PMO) have been created as well as PMIS has been adopted in a company. Table 3 reflects the level of development of the organizational PM in 2015–16 in the Omsk region's companies presenting such characteristics as the degree to which companies of different groups apply standardized PM practices, and whether they have

Table 3

Development of the organizational PM and the level of performance

	Proportion of companies, %					
	High-performers		Mid-performers		Low-performers	
	2015	2016	2015	2016	2015	2016
Use standardized PM* practices	29	17	22	21	0	10
Have specialized centers of PM expertise	29	33	15	42	15	10
Have PM trained personnel	29	17	17	25	15	10
Utilize PMIS	29	33	20	13	5	0

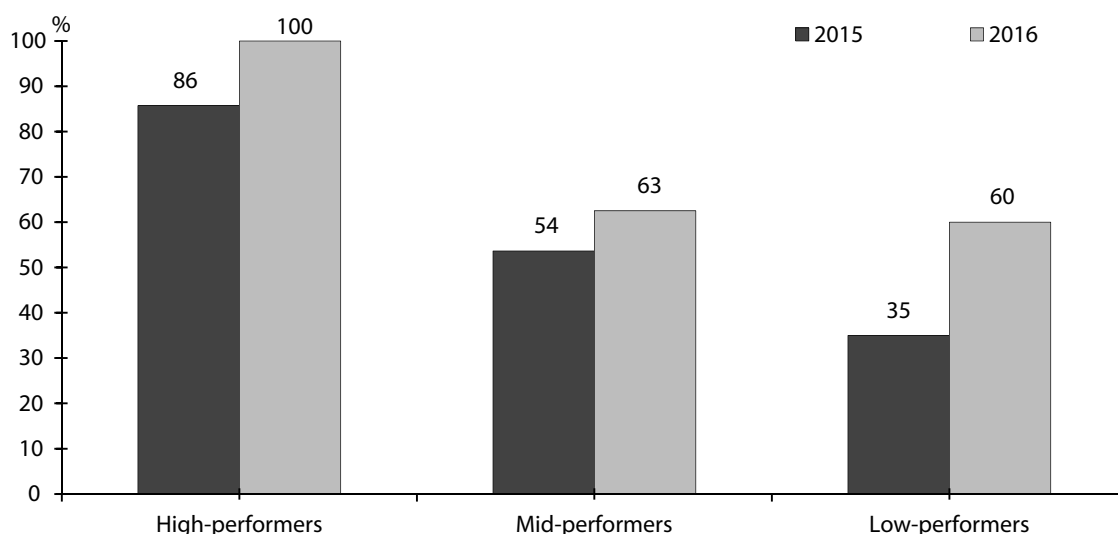


Fig. 1. The proportion of high-, mid- and low-performers recognizing the value of PM

trained workers, centers of expertise, and an information system for PM.

These findings lead to the conclusion that the survey has only partly confirmed Hypothesis 1.2. Although it has been confirmed that high-performing companies are more likely to understand the value of PM than low-performers, no strong relationship has been found between matured PM processes and performance. Moreover, despite the increase in the proportion of high-performers recognizing the benefits of PM (86 percent in 2015 versus 100 percent in 2016), the percentage of companies with standardized PM practices has dropped from 29 percent in 2015 to 17 percent in 2016.

The findings of the survey indicate on the whole that within the majority of the Omsk region's companies participated in the survey, the organizational PM is not fully adopted. Thus, the level of PM maturity of the majority of companies can be determined as initial one. Moreover, the level of continuous improvement has not been found at any of examined companies.

Because of the low level of projects management maturity, the author attempted to investigate main constraints in the area. Respondents were asked to identify problems in developing organizational PM. Figure 2 illustrates changes in problems' relevance assessment in 2015 and 2016.

According to the respondents' answers, the most significant problem in 2016 in developing organizational PM is concerned with coordination, contradictions and resource conflicts among projects. While 75 percent of respondents mentioned this issue in 2016, only 23 percent of interviewees did it in 2015. This problem typically arises as a result of weak procedures, unstandardized processes, ambiguous and vague criteria for decision making. Although a lack of employees' skills in PM, that was recognized as one of most important issue in 2015 (67 percent), has nearly the same frequency (69 percent), this issue has shifted to the second place. Poor PM professional skills result from weak practices in knowledge/competence management and underestimated PM training. Employee's resistance comes third both in 2015 (27 percent) and 2016 (64 percent). This problem indicates the lowest level of PM maturity and should be resolved in order to move on. In 2015, respondents mentioned a lack of standards and instructions for PM activities at the second place (45 percent). In 2016, this problem has gone down at the fourth place but still has got the relatively high mark (47 percent).

Table 4 presents four categories of organizational enablers. Those enablers that deal with the

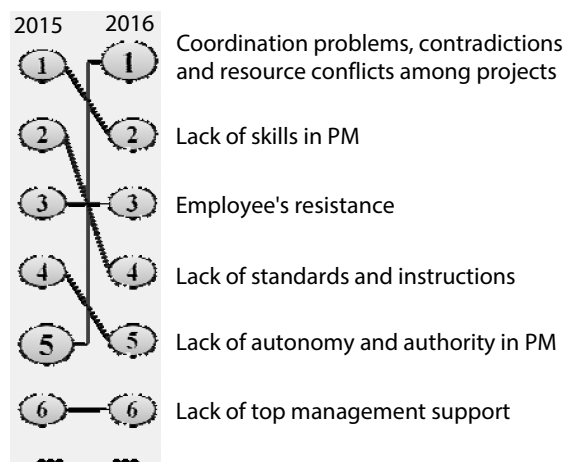


Fig. 2. Problems in developing organizational PM

Table 4

Organizational Enablers^{*}

Categories	Organizational enabler
Structural	Strategic alignment Organizational structures (5) Resource allocation (1)
Cultural	Governance (5) Organizational PM policy and vision Organizational PM communities (3) Sponsorship (3, 6)
Technological	Benchmarking Knowledge management (2) and PM information system Management systems Organizational PM methodology Organizational PM practices (4) Organizational PM techniques (4) PM metrics Project success criteria
Human Resource	Competency management (2) Individual performance appraisals PM training (2)

^{*} composed from [35].

above-mentioned problems are displayed in italics. The numbers in parentheses reflect the problems' ranks in 2016.

As the table shows, 10 out of 18 enablers are concerned with the most frequently mentioned problems in developing organizational PM. Therefore, it can be concluded that organizational PM development constraints are concerned with the poor support of organizational enablers.

These findings lead to the conclusion that organizational PM should be considered within a broader context than it is used to be. As organizational competence in managing projects refers to the integration of people, resources, processes, structures, and cultures in PP&P within a supporting governance and management system, not only the components of organizational

PM system (standardized practices, trained personnel, PMO, PMIS) should be taken into account while elaborating a what-to-do plan for the development of organizational PM in a company. At least, it should include activities for incorporating organizational enablers as supporting practices. Moreover, it is important to mention that three out of six most significant problems — employee resistance, a lack of autonomy and authority in PM and a lack of top management support — are the insufficient results of change management in a company that should be integrated within its strategic process.

Conclusions and Future Research

The dynamic and complex business environment has been emphasizing the need for excellence in PP&P management. The main objective of organizational PM is to tie the PM practices to business processes and organizational strategy in order to develop the integrated process as the sustainable strategic advantage. Thus, the degree to which an organisation uses PM practices in its activities is referred to as its organizational competence in managing projects. The implementation of organizational PM processes facilitates a company's ability to archive its strategic goals through PP&P management. PM maturity models and competence-based model developed by IPMA identify the universal phases an organisation goes through as organizational PM evolves.

By comparing results of the survey of project-oriented management development in the companies of Omsk region in the course of two years, the author has empirically tested that high-performing companies are more likely to appreciate the value of PM than low-performing companies. Although in 2015 the connection between company's performance and its PM processes maturity was revealed, in 2016 these variables were not connected much.

Despite the rapid growth of PM as a profession, the main problems are a low rate of projects success and a low level of PM processes maturity. As organizational PM development largely depends on organizational context, organizational enablers — structural, cultural, technological, and human resource practices — should be leveraged to support and sustain the implementation of organizational PM. The empirical study showed that the main problems in adopting PM methodology and developing competence in managing projects, such as coordination problems, contradictions and resource conflicts among projects; lack of skills in PM; employee's resistance; lack of standards and instructions; lack of autonomy and authority in PM; lack of top management support, are concerned with poor support of organizational enablers. Thus, organizational PM should be considered within a broader context of strategic governance and management.

Future research should consider how different components of competence in managing projects interact with each other and with organizational enablers within learning and knowledge creation processes. The paper has offered a preliminary framework for the analysis of the organizational PM dynamics and its constraints in the course of two years that should be enriched with the conceptual model and longitudinal study of organizational PM dynamics within the more prolonged period. Moreover, in-depth case study analysis would contribute to the understanding of key processes constituting project capabilities.

In conclusion, it appears that the findings contribute to PM theory by confirming the connection between the organizational PM and company's performance. The research is expected to assist creating the conditions for the development of organizational competence in managing project as a "core" competence in the dynamic and complex business environment.

References

1. Bochko, V. S. (2015). Uskoryayuschiye i sderjivayuschiye factory skoordinirovannogo i sbalansirovannogo pazvitiya peyonov [The Accelerating And Constraining Factors Of The Coordinated And Balanced Development Of Regions]. *Ekonomika regiona [Economy of region]*, 1, 39–52. (In Russ.)
2. Pollack, J. & Adler, D. (2014). Does project management affect business productivity? Evidence from Australian small to medium enterprises. *Project Management Journal*, 45, 17–24. (In Russ.)
3. Brady, T. & Davies, A. (2004). Building project capabilities: from exploratory to exploitative learning. *Organization studies*, 25, 1601–1621. (In Russ.)
4. Davies, A. & Brady, T. (2000). Organizational capabilities and learning in complex product systems: towards repeatable solutions. *Research Policy*, 29, 931–953.
5. Ethiraj, S. K., Kale, P., Krishnan, M. S. & Singh, J. V. (2005). Where do capabilities come from and how do they matter? A study in the software services industry. *Strategic Management Journal*, 26, 25–45.
6. Kujala, S., Artto, K., Aaltonen, P. & Turkulainen, V. (2010). Business models in project-based firms — towards a typology of solution-specific business models. *International Journal of Project Management*, 28, 96–106.

7. Wikström, K., Artto, K. A., Kujala, J. & Söderlund, J. (2010). Business models in project business. *International Journal of Project Management*, 28, 832–841.
8. Egginton, B. (2012). Realising the benefits of investment in project management training: Evidence supporting the need for a more strategic approach. *International Journal of Managing Projects in Business*, 5(3), 508–527
9. Winter, M., Smith, C., Morris, P. & Cicmil, S. (2006). Directions for future research in project management: The main findings of a UK government-funded research network. *International Journal of Project Management*, 24, 638–649.
10. Starkweather, J. A. & Stevenson, D. H. (2011). PMP® Certification as a core competency: Necessary but not sufficient. *Project Management Journal*, 42(1), 31–41.
11. Project Management Institute. (2014). *PMI's Pulse of the Profession™: The High Cost of Low Performance*. Retrieved from: http://www.pmi.org/~media/PDF/Business-Solutions/PMI_Pulse_2014.ashx. (date of access: January 31, 2017).
12. The Standish Group International. (2013). *CHAOS Manifesto: Think Big, Act Small*. The Standish Group, 54.
13. Project Management Institute. (2015). *PMI's Pulse of the Profession™: Capturing the Value of Project Management*. Retrieved from: <http://www.pmi.org/~media/PDF/learning/pulse-of-the-profession-2015.ashx>. (date of access: January 31, 2017)
14. Andreyeva, Ye. L., Zakharova, V. V. & Ratner, A. V. (2014). Influence of international economic integration on socio-economic development of region. *Ekonomika regiona [Economy of region]*, 3, 90–100.
15. Lindkvist, L. (2008). Project organization: Exploring its adaptation properties. *International Journal of Project Management*, 26(1), 13–20.
16. Söderlund, J. (2008). Competence dynamics and learning processes in project-based firms: Shifting, adapting and leveraging. *International Journal of Innovation Management*, 12(01), 41–67.
17. Söderlund, J. (2005). Developing project competence: Empirical regularities in competitive project operations. *International Journal of Innovation Management*, 9(4), 451–480.
18. Crawford, L. (2006). Developing organizational project management capability: Theory and practice. *Project Management Journal*, 37(3), 74–86.
19. Project Management Institute (2014). *Implementing Organizational Project Management: A Practice Guide*. PA: Newtown Square, 100.
20. PricewaterhouseCoopers. (2012). *Insights and Trends: Current Portfolio, Programme, and PM Practices*. Retrieved from: https://www.pwc.com/en_US/us/people-management/assets/programme_project_management_survey.pdf. (date of access: January 31, 2017).
21. Project Management Institute. (2013). *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*. Fifth Edition. PA: Newtown Square, 589.
22. Project Management Institute (2013). *The Standard for Program Management*. Third Edition. PA: Newtown Square, 176.
23. Project Management Institute. (2013). *The Standard for Portfolio Management*. Third Edition. PA: Newtown Square, 175.
24. Prahalad, C. K. & Hamel, G. (1990). The core competence of the corporation. *Harvard Business Review*, 68, 79–91.
25. Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17, 99–120.
26. Grant, R. M. (1991). The Resource-Based Theory of Competitive Advantage: Implications for Strategy Formulation. *California Management Review*, 33(3), 114–135.
27. International Project Management Association. (2013). *IPMA OCB, Organizational Competence Baseline*. IPMA, 68.
28. Bartsch, V., Ebers, M. & Maurer, I. (2013). Learning in project-based organisations: the role of project teams' social capital for overcoming barriers to learning. *International Journal of Innovation Management*, 31, 239–251.
29. Müller, J. (2015). Formal and informal practices of knowledge sharing between project teams and enacted cultural characteristics. *Project Management Journal*, 46, 53–68.
30. Prencipe, A. & Tell, F. (2001). Inter-project learning: processes and outcomes of knowledge codification in project-based firms. *Research Policy*, 30, 1373–1394.
31. Berggren, C. & Söderlund, J. (2008). Rethinking project management education: social twists and knowledge co-production. *International Journal of Project Management*, 26, 286–296.
32. Ruuska, I. & Brady, T. (2011). Implementing the replication strategy in uncertain and complex investment projects. *International Journal of Project Management*, 29(4), 422–431.
33. Grant, K. P. & Pennypacker, J. S. (2006). Project management maturity: an assessment of project management capabilities among and between selected industries. *IEEE Transactions on Engineering Management*, 53(1), 59–68.
34. Kerzner, H. (2001). *Using the Project Management Maturity Model: Strategic Planning for PM*. 2nd Edition. NY: John Wiley & Sons, 352.
35. Project Management Institute (2013). *Organizational Project Management Maturity Model (OPM3®)*. Third Edition. PA: Newtown Square, 246.
36. Office of Government Commerce, UK. (2010). *Portfolio, Programme and Project Management Maturity Model (P3M3®): Introduction and Guide to P3M3®*. Retrieved from: http://webarchive.nationalarchives.gov.uk/20110822131357/http://www.ogc.gov.uk/documents/P3M3_Introduction_and_Guide.pdf. (date of access: January 31, 2017)
37. Crawford, J. K. (2006). The project management maturity model. *Information Systems Management*, 23(4), 50–58.

38. Cooke-Davies, T. J. & Arzymanowc, A. (2003). The maturity of project management in different industries: An investigation into variations between project management models. *International Journal of Project Management*, 21, 471–478.
39. Backlund, F., Chronéer, D. & Sundqvist, E. (2014). Project Management Maturity Models — A Critical Review A case study within Swedish engineering and construction organisations. *Procedia — Social and Behavioral Sciences*, 119, 837–846
40. Yazici, H. J. (2009). The role of project management maturity and organizational culture in perceived performance. *Project Management Journal*, 40, 14–33.
41. Papke-Shields, K. E., Beise, C. & Quan, J. (2010). Do project managers practice what they preach, and does it matter to project success? *International Journal of Innovation Management*, 28, 650–662.
42. Koskela, L., Howell, G. (2002). The underlying theory of project management is obsolete. *PMI Research Conference*. PMI, 293–302.
43. Morris, P. W. G., Pinto, J. K. & Söderlund, J. (2011). Introduction: towards the third wave of project management. In: Morris, P.W.G., Pinto, J. K., Söderlund, J. (Eds.), *The Oxford handbook of project management*. Oxford University Press, Oxford, 1–11.
44. Svejvig, P. & Andersen, P. (2015) Rethinking project management: A structured literature review with a critical look at the brave new world. *International Journal of Project Management*, 33, 278–290.
45. Besner, C., Hobbs, B. (2008). Project management practice, generic or contextual: a reality check. *Project Management Journal*, 39, 16–33.
46. Lappe, M. & Spang, K. (2014). Investments in project management are profitable: a case study-based analysis of the relationship between the costs and benefits of project management. *International Journal of Project Management*, 32, 603–612.
47. Cooke-Davies, T. J. (2002). The “real” success factors on projects. *International Journal of Project Management*, 20(3), 185–190.
48. Dai, C. X. & Wells, W. G. (2004). An exploration of project management office features and their relationship to project performance. *International Journal of Project Management*, 22(7), 523–532.
49. Takey, S. M. & Carvalho, M. M. (2015). Competency mapping in project management: An action research study in an engineering company. *International Journal of Project Management*, 33(4), 784–796.
50. Braglia, M. & Frosolini, M. (2012). An Integrated Approach to Implement Project Management Information Systems within the Extended Enterprise. *International Journal of Project Management*, 32(1), 18–29.
51. Ahlemann, F. (2009). Towards a Conceptual Reference Model for Project Management Information Systems. *International Journal of Project Management*, 27(1), 19–30.
52. Ali, A. S. B., Anbari, F. T. & Money, W. H. (2008). Impact of Organisation and Project Factors on Acceptance and Usage of Project Management Software and Perceived Project Success. *Project Management Journal*, 39(2), 5–33.

Author

Irina Vladimirovna Katunina — Doctor of Economics, Associate Professor, Professor, Dostoevsky Omsk State University; ORCID: 0000-0002-1130-3985; ResearcherID: S-3678-2016 (1, Litskevicha Sqr., Omsk, 644077, Russian Federation; e-mail: i.v.katunina@gmail.com).