

Svetlana N. Apenko¹, Mikhail A. Romanenko²
**FORMATION OF PERSONNEL POTENTIAL
 OF INNOVATIVE PROJECTS BASED ON INTERNATIONAL
 PROFESSIONAL STANDARDS ***

The paper presents a study on 56 companies in Russia to show that their human potential does not contribute to the efficiency of innovative projects. The main problem is in insufficient development of staff project competencies. The analysis covers the empirical data on: staff's willingness to participate in project activity, the level of enterprises' needs in project competencies of employees, development of staff's project competencies, expert assessment of the influence of human resources on project efficiency. Methods applied to projects by most of Russian enterprises are taken from classical personnel management and are not adapted to the specifics of innovative projects, to international HRM patterns of projects and programs delivery. The authors suggest a model of personnel management system for innovative projects aimed at developing the necessary project competencies of staff.

Keywords: personnel potential; personnel management; innovative projects; international professional standards; competencies; project management.

Peer-reviewed, approved and placed: 21.04.2016.

Світлана М. Апенко, Михайло О. Романенко
**ФОРМУВАННЯ КАДРОВОГО ПОТЕНЦІАЛУ
 ІННОВАЦІЙНИХ ПРОЕКТІВ З УРАХУВАННЯМ
 МІЖНАРОДНИХ ПРОФЕСІЙНИХ СТАНДАРТІВ**

У статті представлено результати емпіричного дослідження на 56 підприємствах Росії, яке показало, що їх кадровий потенціал не сприяє ефективності інноваційних проектів. Доведено, що головна проблема пов'язана з недостатнім розвитком проектних компетентностей персоналу, заданих міжнародними професійними стандартами для інноваційних проектів. Запропоновано аналіз емпіричних даних: рівень розвитку проектного управління на підприємствах; готовність персоналу брати участь у проектній діяльності; рівень потреб підприємств у проектних компетентностях співробітників; рівень розвитку у персоналу проектних компетентностей; експертні оцінки впливу кадрового потенціалу на ефективність проектів. Застосовувані більшістю російських підприємств методи формування кадрового потенціалу проектів запозичені з класичного управління персоналом і відтак не адаптовані до специфіки інноваційної проектної діяльності, до міжнародних правил управління людськими ресурсами проектів та програм. Авторами запропоновано модель системи управління персоналом інноваційних проектів, що спрямована на розвиток необхідних проектних компетентностей.

Ключові слова: кадровий потенціал; управління персоналом; інноваційні проекти; міжнародні професійні стандарти; компетентності; управління проектами.

Рис. 1. Табл. 1. Літ. 21.

Светлана Н. Апенко, Михаил А. Романенко
**ФОРМИРОВАНИЕ КАДРОВОГО ПОТЕНЦИАЛА
 ИННОВАЦИОННЫХ ПРОЕКТОВ С УЧЕТОМ
 МЕЖДУНАРОДНЫХ ПРОФЕССИОНАЛЬНЫХ СТАНДАРТОВ**

¹ Omsk State University n.a. F.M. Dostoevsky, Russia.

² Omsk State University n.a. F.M. Dostoevsky, Russia.

* This publication has been produced within the framework of the Russian Foundation for Humanities research project No. 16-12-55010.

В статье представлены результаты эмпирического исследования на 56 предприятиях России, которое показало, что их кадровый потенциал не способствует эффективности инновационных проектов. Доказано, что главная проблема связана с недостаточным развитием проектных компетентностей персонала, заданных международными профессиональными стандартами для инновационных проектов. Предложен анализ эмпирических данных: уровень развития проектного управления на предприятиях, готовность персонала участвовать в проектной деятельности, уровень потребности предприятий в проектных компетентностях сотрудников, уровень развития у персонала проектных компетентностей, экспертные оценки влияния кадрового потенциала на эффективность проектов. Применяемые большинством российских предприятий методы формирования кадрового потенциала проектов заимствованы из классического управления персоналом и не адаптированы к специфике инновационной проектной деятельности, к международным правилам управления человеческими ресурсами проектов и программ. Авторами предложена модель системы управления персоналом инновационных проектов, направленная на развитие необходимых проектных компетентностей.

Ключевые слова: кадровый потенциал; управление персоналом; инновационные проекты; международные профессиональные стандарты; компетентности; управление проектами.

Introduction. The task of personnel potential formation corresponding to current activity and strategic development guidelines is relevant for all businesses. This is due to the growing importance of human resources quality in efficient functioning of enterprises. Apparently, economic risks are often caused by insufficient competences of personnel. In addition, the increasingly popular concept of socially responsible business is aimed at creating conditions for the development of individual employees potential and capacity building of teams inside a company.

Along with the growing role of human resources quality not less important in the global economic space is the organization of activities of enterprises in the form of projects and the use of project management to improve performance.

Project management, developing in different national contexts and acquiring national features, is however universal. This means that regardless the country in which it is implemented, it is subject to a complex of associated and complementary professional standards in project management. This entails the use in practice of enterprises of a single set of most efficient processes, technologies, methods and techniques of projects management. Project management is among the few professional areas in which national borders are erased and national practices become irrelevant. This professional field performs the function of integration of project managers into a single professional community of like-minded people, and the activity of project managers — into one worldwide global process of various projects and programs management.

Universality and uniformity of project management provokes the unity of requirements to project managers and to other related experts. These requirements are reflected in international professional standards in the form of competencies sets. National occupational standards based on international standards, duplicate and slightly expand the scope and the content of these competences. For example, in Russia there is an NCB SOVNET 3.0, representing a national standard of project management and, in particular, describing competences of a project manager. It is based on the international standard of International Project Management Association, IPMA.

Recognizing the importance of project management and availability of competent personnel for this purpose, it is necessary to acknowledge the common problem of Russian companies consisting in low or medium level of development of personnel potential for innovative projects and programs. Staff at many enterprises is not ready to participate in innovative projects, and this results in insufficient ownership, weak incentives for innovative work, and lack of project culture and project values. To summarize, we can state that personnel involved in innovative projects usually does not have sufficiently developed project competences. This leads to a situation when human resource capacity, which can be used at various innovative projects and programs, does not meet the needs of project-oriented management. The latter demands its further development.

In accordance with the articulated actual problem, in this paper we try to present the results of our analysis of projects personnel potential, the level of staff project competences development and propose a model of personnel management system for innovative projects aimed at the development of necessary competencies. Under human capacity we refer here to the availability of human resources with the required competencies that can be involved in innovative projects.

Literature review. Study of human resources potential for innovation projects is based on generalization of fundamental and applied knowledge in different directions, in particular, the theory of labor potential and human resources management of enterprises, the theory of project management, empirical studies on project management and personnel development projects, as well as provisions of professional standards in the field of project management.

The issues of human resources potential are rather thoroughly studied in Russian economic science. It uses also such terminology as: employment potential, innovation potential and motivational potential of human resources. Over the past 40 years, scientists have been exploring the employment potential of individual employees and work groups at enterprises, and in recent years the issues of labor potential are studied in the framework of personnel management. Various aspects of labor potential were studied by the following scientists: V.V. Adamchuk et al. (2000), A.I. Dobrynin et al. (1999), B.M. Genkin (2007), L.L. Kalacheva (2005), Z.A. Kapelyuk (2006), Yu.G. Odegov and G.G. Rudenko (2016), N.A. Volgin (2004) and others.

Regarding foreign studies, they do not use the term "workforce capacity", noteworthy. However, the issues of personnel development in order to form a reserve of human resources that is the essence of labor potential has been covered by many foreign researchers, for example, M. Armstrong and A. Baron (2002), G. Hamel et al. (1999), D. Joy-Matthews et al. (2004) and others.

Despite the abundance of literature on personnel potential as such, it should be noted that project activity had a vast changing impact on personnel requirements and personnel capabilities. This requires revision and constant update of best practices on human resource capacity with specific emphasis on project activities. We believe this is an important scientific task. For its solution we must refer to more detailed studies on project management.

There are many publications and regulatory documents on projects management, programs and portfolios of projects. HR management as a critical area of project management was well described in all professional standards on project manage-

ment. In professional standard PMBOK (sometimes called "The Bible of Project Manager"), among others is noted such an area of expertise as "human resources of project". In the standard of International Project Management Association there are professional competences of project managers to describe the contents of human resource management of a project (NCB – SOVNET, 2014; PMBOK, 2008).

Literature on the project management, when describing the field of HR management provides guidance on the implementation of separately taken elements: selection, motivation, payments to staff in a project etc. As examples can be named here the works by V. Bogdanov (2012), D.Z. Milosevic (2006), V.V. Ilyin (2011), A.V. Polkovnikov and M.F. Dubovik (2015) etc. However, this is only one direction in work with personnel. There are no comprehensive studies on the formation of personnel potential for projects at the moment, to the best of our knowledge.

Methodology. For analysis of the level of projects personnel potential, and in order to develop a model of personnel management for projects aimed at developing necessary competencies, we used have system and competence-based approaches. From the standpoint of the system approach formation and development of human resources is seen as a problem in the framework of HR management within the project management system. A systematic approach allows building internal connections between the elements of management in innovational projects. Competence-based approach helps assessing the system of professional competences of staff in order to summarize the findings about the condition of projects' personnel potential. Also, with the help of this approach, we are able to propose the system of project personnel competences.

With the purpose of the analysis of projects personnel potential in 2011–2015 we conducted the research on the enterprises of one of Russian regions – Omsk (Apenko, 2013a; 2013b). We used the method of questionnaire survey while visiting 123 enterprises (mass survey), and then in 2012–2015 – 56 enterprises and organizations more at different levels of development and implementation of projects (indepth expert survey was also applied).

The results of our study are representative for Omsk region since sample is covering about 70% of the leading enterprises in the region, with the expertise in project management and specifically in innovative projects. Such trends are characteristic for Russia in general, as evidenced by the consistency of information in various scientific sources.

The results of the study. The results of this study revealed a number of trends in the development of project management (Apenko, 2013; Corporate Governance in Transition, 2014). One trend is increasing value and costs of professional project management. For example, 76% of the surveyed enterprises realize the value of professional project management, the need to attract certified managers who have mastered all the necessary technologies and tools for project-oriented management. The majority (69%) of the participants in use project activities and project management. The reason is often referred to the awareness of the need in the most effective new forms of activity, the natural development of the enterprise and its transition to a higher stage, on which the need for project management is formed.

However, professional project management requires certain costs. Experts estimate the cost of project management in case of outsourcing ranging from 2 to

10–12% of the total project cost. But the effect of control is significant here. Through adequate planning, risk management and operational management it would be possible to get 20–30% more of economic effect as compared with non-project management (Corporate Governance in Transition, 2014).

Another trend in the development of project-oriented management in the global economic space is the recognition of the importance of a systematic approach that uses a variety of functional areas of management. However, awareness of the importance of using all functional areas of project management is not yet supported by actual Russian practice. At the moment the major part of Omsk enterprises applies the so-called "golden triangle" – they manage the scope of work and results of projects, deadlines and financial resources. A little less attention is paid to enterprise management personnel. Inadequate use of other functional areas greatly reduces the possibilities of project management.

One of the problems identified in the study, according to the representatives of Omsk enterprises and organizations, is low willingness of staff to participate in project activities. Only 10% of enterprises feel that their staff is fully prepared to work in projects, one third enterprises declared the unwillingness of staff to participate in project. Thus, this study confirms the hypothesis about the problems in personnel potential for innovative projects.

In-depth interviews showed that businesses recognize the importance of a professional approach to project management and the need for competencies' development required for this activity. To assess the competences of a project manager, the experts were asked about the importance of various competencies. Competences with some generalizations drawn from national requirements to experts in project management have been worked out by the Russian Project Management Association "SOVNET" basing on the standards of the International Association of Project Management, IPMA.

The results show that businesses recognize the importance of competences as objects, subjects, processes and the environment project management (i.e., directly related to functions in project management) and behavioral acting condition for successful realization of the first group of competences (Table 1). While 73% of the enterprises stated that personnel management and human capacity forming in project activities is a very important competence.

Thus, high importance was attributed many competencies of a project manager. Unlike with other types of projects, for innovative projects particularly important competences are: risk and quality management, working with stakeholders, leadership, involvement, teamwork, stress resistance. This is explained by the nature of these projects.

An important result of our study was finding out that not all competences are developed among the staff of innovative projects. The experts mentioned such problem with competencies as: the ability to manage changes and risks in a project, stress resistance and the need to work under tight time conditions, the ability to innovate, motivation for project work, compliance with project values and standards.

Making a conclusion about the insufficient development of human potential, we offer a model of human resource management system for innovative projects aimed at developing necessary project competencies (Figure 1). It is based on the require-

ments of international project management standards, in particular, for innovative projects. Its novelty and originality lie in combination of two subsystems into a single system – the subsystem of personnel management and the subsystem of project management. Until now, the scientists considered these subsystems relatively isolated from each other. And this led to the fact that in managing projects personnel project management specifics is poorly tailored and in project management HR management in all its variety of technologies was insufficiently developed.

Table 1. Expert assessment of the importance of project manager competences, authors'

Competence	The level of significance:		
	very important	important	not important
Competence as to objects, subjects, processes and project management environment			
Facility Management: projects, programs, portfolios, multiprojects	100	0	0
Projects' life cycle management (initiation, project planning etc.)	84	16	0
Justification of goals, strategies, success criteria and other elements of a project concept	88	12	0
Work with stakeholders	77	19	4
Managing the contents of a project	100	0	0
Time management	92	8	0
Cost management	77	23	0
Quality management	80	16	4
Personnel management	73	23	4
Risk management	50	42	8
Communication management	54	34	12
Supply chain management	19	31	50
Management of projects integration	42	46	12
Change management	38	31	31
Security management	8	34	58
Legal support for project activities	12	46	42
Features of project management by sectors (construction, services etc.)	8	69	23
Behavioral competencies			
Management and leadership	73	23	4
Involvement and motivation	69	31	0
Teamwork	58	42	0
Self-control and self-organization	38	58	4
Confidence and credibility	26	42	12
The removal of tension, stress resistance	16	72	12
Creativity	12	69	19
Focus on results	54	46	0
Efficiency	42	58	0
The ability to match interests, negotiate	46	50	4
The ability to manage conflict and crises	31	46	23
Reliability	54	46	0
Understanding the values of organization and project	19	54	27
Ethical of behavior	16	54	32
Problem resolution	42	50	8



Figure 1. The content of the HR management system in a project, authors'

A central position in the proposed model belongs to the processes of team building and leadership, managing project communications and formation of corporate culture of a project. Norms and values of this project culture are the factors determining pace and success of staff professional competences formation. For example, the value of talent management underlying project culture, encourage the company to develop professional competences of human resources in projects. Project leader is also able to affect certain qualifications of his followers, if managing efficiently the process of team building. During creation and development teams are undergoing changes, same applies to professional competences of project participants. Communication management includes a set of project meetings, meetings on the retrospective analysis of the project, strategic sessions and other forms of communications, which significantly develop the professional competences of project participants.

The remaining elements of HR management system for innovative projects are also involved in the formation of human resources through competencies development. For this purpose the most important elements are the selection of personnel for a project team, training, evaluation and motivation (Apenko et al., 2014; Apenko and Popova, 2015). Selection allows performing the primary diagnostics of the required competences at the entrance.

As can be seen from Figure 1, competences development of innovative projects' participants is possible not only through a set of HRM technologies, but with staff participation in various areas of project management. The key idea is that by control-

ling project timing, its subject area, quality and risks, costs and values, the employees develop their competences. Thus human potential is enriching through innovative projects.

All these elements, influencing each other, form an integrated HRM for innovative projects aimed at the development of necessary competencies.

Conclusions. Personnel potential formation for innovative projects is an important, yet challenging task. Its complexity is associated with the need to not just use advanced technologies of working with project personnel, but be flexible and adapt them to peculiarities of a particular project. Project specificity determines the change of the entire system of human resource management, the emergence of new elements in it, such as the formation of project culture, team building, and management of project communications.

Further more detailed consideration is required such items as risk management of personnel, human resources quality management, project team management, for representativeness of stakeholders etc. Only the totality of these elements can help personnel potential formation for innovative projects. In practice, these elements are implemented at a low level, and in theory there are a lot of indepth research on these issues. Trying to fill this huge gap, the authors offer their vision of HRM system for innovative projects.

In future it would be necessary to continue this research with a purpose of finding a set of relevant methods and technologies that take into account needs and peculiarities of project activity.

References:

- Адамчук В.В., Ромашов О.В., Сорокина М.Е. Экономика и социология труда: Учебник для вузов. — М.: ЮНИТИ, 2000. — 407 с.
- Adamchuk V.V., Romashov O.V., Sorokina M.E. Ekonomika i sotciologiya truda: Uchebnik dlia vuzov. — М.: ІuNITI, 2000. — 407 s.
- Апенько С.Н. Проектно-ориентированное управление на российских предприятиях в процессе интеграции в мировое экономическое пространство // Восемнадцатые апрельские экономические чтения: Материалы международной научно-практической конференции (23.04.2013, г. Омск). — Омск: Омская областная типография, 2013. — С. 70–72.
- Apenko S.N. Proektno-orientirovannoe upravlenie na rossiiskikh predpriiatiakh v protsesse integracii v mirovoe ekonomicheskoe prostranstvo // Vosemnadcatye aprelskie ekonomicheskie chteniia: Materialy mezhdunarodnoi nauchno-prakticheskoi konferencii (23.04.2013, g. Omsk). — Omsk: Omskaia oblastnaia tipografiia, 2013. — S. 70–72.
- Апенько С.Н. Региональные тенденции развития управления проектами как профессионального труда: результаты исследования в Омске // Вестник СибАДИ. — 2013. — №4. — С. 124–130.
- Apenko S.N. Regionalnye tendencii razvitiia upravleniia proektami kak professionalnogo truda: rezultaty issledovaniia v Omske // Vestnik SibADI. — 2013. — №4. — S. 124–130.
- Апенько С.Н., Попова О.В. Формирование профессиональных компетенций менеджера проекта // Кадровик. — 2015. — №5. — С. 81–90.
- Apenko S.N., Popova O.V. Formirovanie professionalnykh kompetentcii menedzhera proekta // Kadrovik. — 2015. — №5. — S. 81–90.
- Богданов В. Управление проектами. Корпоративная система — шаг за шагом. — М.: Манн, Иванов и Фербер, 2012. — 248 с.
- Bogdanov V. Upravlenie proektami. Korporativnaia sistema — shag za shagom. — М.: Mann, Ivanov i Ferber, 2012. — 248 s.
- Волгин Н.А. Оплата труда: производство, социальная сфера, государственная служба (Анализ, проблемы, решения). — М.: Экзамен, 2004. — 224 с.
- Volgin H.A. Oplata truda: proizvodstvo, sotcialnaia sfera, gosudarstvennaia sluzhba (Analiz, problemy, resheniia). — М.: Ekzamen, 2004. — 224 s.

- Генкин Б.М. Экономика и социология труда: Учеб. для вузов. — 7-е изд., доп. — М.: Норма, 2007. — 448 с.
- Genkin B.M. Ekonomika i sotciologija truda: Ucheb. dlja vuzov. — 7-e izd., dop. — М.: Norma, 2007. — 448 s.
- Добрынин А.И., Дятлов С.А., Цыренова Е.Д. Человеческий капитал в транзитивной экономике: формирование, оценка, эффективность использования. — СПб.: Наука, 1999. — 308 с.
- Dobrynin A.I., Diatlov S.A., Tsyrenova E.D. Chelovecheskii kapital v tranzitivnoi ekonomike: formirovanie, otsenka, effektivnost ispolzovaniia. — SPb.: Nauka, 1999. — 308 s.
- Ільин В.В. По ту сторону проектов. Записки консультанта. — М.: БИНОМ. Лаборатория знаний, 2011. — 376 с.
- Ilin V.V. Po tu storonu proektov. Zapiski konsultanta. — М.: BINOM. Laboratoriia znanii, 2011. — 376 s.
- Калачева Л.Л. Социология и экономика труда. — Новосибирск: НГТУ, 2005 г. — 308 с.
- Kalacheva L.L. Sotciologija i ekonomika truda. — Novosibirsk: NGTU, 2005 g. — 308 s.
- Капелюк З.А. Организация, нормирование и оплата труда на предприятиях торговли общественного питания: Курс лекций. — М.: Омега-Л, 2006. — 224 с.
- Kapeliuk Z.A. Organizatciia, normirovanie i oplata truda na predpriatiiakh trgovli obshchestvennogo pitaniia: Kurs lekcii. — М.: Omega-L, 2006. — 224 s.
- Милошеевич Д.З. Набор инструментов для управления проектами. — М.: АйТи-Пресс. ДМК, 2006. — 728 с.
- Miloshevich D.Z. Nabor instrumentov dlja upravleniia proektami. — М.: AiTi-Press. DМК, 2006. — 728 s.
- Одегов Ю.Г., Руденко Г.Г. Управление персоналом: учебник для бакалавров. — М.: Юрайт, 2016. — 513 с.
- Odegov Ju.G., Rudenko G.G. Upravlenie personalom: uchebnik dlja bakalavrov. — М.: Iurait, 2016. — 513 s.
- Полковников А.В., Дубовик М.Ф. Управление проектами: Полный курс MBA. — М.: Олимп-Бизнес, 2015. — 552 с.
- Polkovnikov A.V., Dubovik M.F. Upravlenie proektami: Polnyi kurs MBA. — М.: Olimp-Biznes, 2015. — 552 s.
- Руководство к Своду знаний по управлению проектами (Руководство PMBOK) / Project Management Institute. — 4-е изд. Pennsylvania, 2008 // by.oddb-office.eu.
- Rukovodstvo k Svodu znanii po upravleniiu proektami (Rukovodstvo PMBOK) / Project Management Institute. — 4-е изд. Pennsylvania, 2008 // by.oddb-office.eu.
- Управление проектами: Основы профессиональных знаний. Национальные требования к компетентности специалистов / NCB — SOVNET National Competence Baseline Version 3.1. — М.: Проектная ПРАКТИКА, 2014. — 259 с.
- Upravlenie proektami: Osnovy professionalnykh znanii. Natsionalnye trebovaniia k kompetentnostti spetsialistov / NCB — SOVNET National Competence Baseline Version 3.1. — М.: Proektnaia PRAKTIKA, 2014. — 259 s.
- Управление проектами: Учеб. пособие / С.Н. Апенько и др. — Омск, 2014. — 384 с.
- Upravlenie proektami: Ucheb. posobie / S.N. Apenko i dr. — Омск, 2014. — 384 s.
- Armstrong, M., Baron, A. (2002) Strategic HRM: The key to improved business performance. CIPD, London.
- Corporate Governance in Transition. Корпоративное управление в переходе: Монография. — Subotica: Ekonomski fakultet; Омск: Omski drzavbi univerzitet F.M. Dostojevski, 2014. — 745 p.
- Hamel, G., Prahalad, C.K., Thomas, H., O'Neal, D. (1999). Strategic Flexibility: Managing in a Turbulent Environment. Wiley.
- Joy-Matthews, J., Megginson, D., Surtees, M. (2004). Human resource development 3-rd ed. London.