

*S. BUSHUYEV, D. BUSHUIEV, N. RUSAN, B. KOZYR*

## THE SPACE OF COMPETENCIES AND EMOTIONAL INTELLIGENCE IN INNOVATION PROJECTS

Today such concept, as the project is firmly established in the life of almost any organization. Project activities, as well as any activity within the organization needs to manage, and in this case managers staff in project management. Functional (linear) and project management differ in the amount of tasks. If the functional Manager is mainly personnel management, it project manager performs more extensive features, which include: financial management, personnel management, operations (production) management, procurement and supply, technical-technological aspects of management, etc. Therefore, project Manager needs to have a sufficient level of competence and developed emotional intellect. The challenges facing leaders require the ability to carry out an active search for the necessary decision making information; to recognize the emotional state of the interlocutor, to interpret adequately the content of the received information taking into account their nature, degree of completeness and accuracy, the presence of "hidden meaning", manipulating, etc. The project Manager must be able to interact with their partners, subordinates to achieve the goals, to obtain the desired effect (change of behaviour, thoughts, relationships, etc.). The cross-reference relationships of the behavioral competencies of project managers on the models of the International Project Management Association (ICB 4.0) and the Japanese knowledge system P2M in the context of the development of emotional intelligence are investigated. The results of a comparative analysis of the behavioral competencies of the two knowledge systems identified key criteria for taxonomies that shape and develop the emotional intelligence of project managers.

**Keywords:** emotional intelligence, competencies, emotions, management, P2M, ICB.

*С. Д. БУШУЄВ, Д. А. БУШУЄВ, Н. І. РУСАН, Б. Ю. КОЗИР*

## МІСЦЕ КОМПЕТЕНЦІЙ ТА ЕМОЦІЙНОГО ІНТЕЛЕКТУ В ІННОВАЦІЙНИХ ПРОЕКТАХ

Сьогодні таке поняття, як проект, міцно увійшло в життя практично будь-якої організації. Діяльність за проектом, а також будь-яка діяльність в рамках організації повинна бути керованою, і в цьому випадку менеджери займаються управлінням проектами. Функціональне (лінійне) і управління проектами розрізняються за кількістю завдань. Якщо для функціонального керівника головною компетенцією є управління персоналом, то при керівництві проектом, він виконує більш широкі функції, які включають в себе: фінансове управління, управління персоналом, управління операціями (виробництвом), закупівлі і постачання, техніко-технологічні аспекти управління і т. д. Отже, керівнику проекту необхідно мати достатній рівень компетентності і розвинений емоційний інтелект. Завдання, які стоять перед лідерами, вимагають вміння активно шукати необхідну інформацію для прийняття рішень; розпізнавати емоційний стан співрозмовника, адекватно інтерпретувати зміст отриманої інформації з урахуванням її характеру, ступеня повноти і точності, наявності «прихованого сенсу», маніпулювання і т. д. Керівник проекту повинен вміти взаємодіяти зі своїми партнерами-підлеглими для досягнення поставлених цілей, для досягнення бажаного ефекту (зміна поведінки, думок, відносин і т. д.). Досліджено кроссрелативні зв'язки поведінкових компетенцій проектних менеджерів за моделями Міжнародної асоціації управління проектами (ICB 4.0) і японської системи знань P2M в контексті розвитку емоційного інтелекту. Результати порівняльного аналізу поведінкових компетенцій двох систем знань визначили ключові критерії таксономії, які формують та розвивають емоційний інтелект проектних менеджерів.

**Ключові слова:** емоційний інтелект, компетенції, емоції, управління, P2M, ICB.

*С. Д. БУШУЄВ, Д. А. БУШУЄВ, Н. И. РУСАН, Б. Ю. КОЗЫРЬ*

## МЕСТО КОМПЕТЕНЦИЙ И ЭМОЦИОНАЛЬНОГО ИНТЕЛЛЕКТА В ИННОВАЦИОННЫХ ПРОЕКТАХ

Сегодня такое понятие, как проект, прочно вошло в жизнь практически любой организации. Деятельность по проекту, а также любая деятельность в рамках организации должна быть управляемой, и в этом случае менеджеры занимаются управлением проектами. Функціональне (лінійне) і управління проектами розрізняються за кількістю завдань. Якщо для функціонального керівника головною компетенцією є управління персоналом, то при керівництві проектом, він виконує більш широкі функції, які включають в себе: фінансове управління, управління персоналом, управління операціями (виробництвом), закупки и снабжение, технико-технологические аспекты управления и т. д. Следовательно, руководителю проекта необходимо иметь достаточный уровень компетентности и развитый эмоциональный интеллект. Задачи, стоящие перед лидерами, требуют умения активно искать необходимую информацию для принятия решений; распознавать эмоциональное состояние собеседника, адекватно интерпретировать содержание полученной информации с учетом ее характера, степени полноты и точности, наличия «скрытого смысла», манипулирования и т. д. Руководитель проекта должен уметь взаимодействовать со своими партнерами-подчиненными для достижения поставленных целей, для достижения желаемого эффекта (изменение поведения, мыслей, отношений и т. д.). Исследованы кроссрелативные связи поведенческих компетенций проектных менеджеров по моделям Международной ассоциации управления проектами (ICB 4.0) и японской системы знаний P2M в контексте развития эмоционального интеллекта. Результаты сравнительного анализа поведенческих компетенций двух систем знаний определили ключевые критерии таксономии, которые формируют и развивают эмоциональный интеллект проектных менеджеров.

**Ключевые слова:** эмоциональный интеллект, компетенции, эмоции, управление, P2M, ICB.

**Introduction.** Towards the professional development and career growth of project managers are faced with a situation in which to achieve the next level of performance and professionalism required a new set of competencies. How to reach the required level? Become a Professional Project Manager.

Success in any environment depends on successful

projects, and successful projects are implemented by highly skilled project managers, supported by effective project sponsors. This article briefly outlines the concept of the Professional Project Manager – the person who unites the main groups of professional competences and has a highly developed level of emotional intelligence. These competences are divided into the spectra group

(sphere): people, practice and perspectives. Therefore, the aim of this work is to study the relationship between emotional intelligence and professional competence of project Manager. To achieve the above goal, the writing work was assigned the following tasks:

Define the concept and role of emotional intelligence of the project Manager;

Establish the relationship between professional competence and emotional intelligence.

**The concept and importance of emotional intelligence in project management.** Success largely depends on the intelligent possession the emotions, that is emotional intelligence (EQ), which is determined by the nature and level of perception of project managers of the world, events, individuals, and also reaction to everything, which in turn affects the efficiency of his actions.

The ability to recognize feelings, manage them, motivate themselves, recognize feelings of others and build relationships is such an important part of our lives, as well as the ability to think. But hardly anyone is aware of this.

Studies have shown that IQ affects the success of a project Manager from 4% to 25%. For example, to become a project Manager, you must have a certain level of IQ, and in order to become a successful Manager, you must additionally have more abilities of another kind, namely abilities associated with understanding and managing emotions. 85% is a "merit" developed emotional intelligence (EQ).

Under emotional intelligence (EQ) mean the set of capabilities that enable the project Manager to recognize and understand how their own emotions and the emotions of others. People with a high level of emotional intelligence, able to control their emotional sphere, their behaviour more flexible, so they more easily attain the goals set through interaction with other people [1, p. 136].

We join the opinion of D. Holman, who noted that the brilliant leadership affects our emotions. Not casually interest in the topic of emotional intelligence is growing rapidly worldwide. Compare: in the early 1990s, the term "emotional intelligence" was first used in their science article, P. Salovey, and in 2007, according to the site EQToday, on the Internet you could find 486 thousand web pages that had interpreted this concept. Today it is known that without emotional intelligence, effective leadership is impossible. D. Holman presents convincing data studies at Harvard University: the success of any activity, only 33% is determined by technical skills, knowledge and intellectual abilities (i.e. IQ), and 67 % – emotional competence (EQ). And for heads, these figures differ even more: only 15% of success is determined by IQ, and 85 % – EQ [3, p. 107].

The author argues that the climate in the team by 50-70% depends on the actions of one person – the leader. However, only one particular organizational climate emotional people's attitude to work – able to explain the 20-30% differences in productivity of workers. It is the emotional state of the head really affects the psychological climate in the team, and therefore on the efficiency of employees [4, p. 201].

Effective in interpersonal interaction as for work and personal communication is assertive behavioral style (assertiveness is the ability to defend its borders, protect its interests and goals, while maintaining respect for other people. Assertive style of behavior helps to achieve high efficiency in terms of work environment. This assertiveness has nothing to do with aggressiveness). This style allows to find mutually acceptable solutions and to maintain a constructive relationship, even in very difficult conflict situations. Difficulties with the use of assertiveness related to the fact that the skills of such behavior require extensive training and practice, because for most people more familiar with other styles of communication and interaction in job performance [2].

We can say that assertiveness involves three components:

1. The ability to protect and defend their own rights and interests;
2. The ability to formulate and defend their own opinion, even if this involves difficulties;
3. The ability to freely express their feelings and emotions.

Model of competencies D. Holman

Among the mixed models of EI (emotional intelligence) has become a popular concept of D. Holman after the release of his bestseller "Emotional intelligence" (Table 1).

Table 1 – The structure of the emotional intelligence project manager (D. Holman)

Personal characteristics that contribute to the development of emotional intelligence	Characteristic
Identity	emotional self-awareness, self-esteem, self-confidence
Self-control	emotional control, adaptability, will to win, initiative, optimism
Social sensitivity	emotional control, adaptability, will to win, initiative, optimism
Relationship management	inspiration, influence, assistance in self-improvement, facilitating change, conflict resolution, teamwork and cooperation

**The relationship between emotional intelligence and professional competence.** A list of intrapersonal (understanding one's own emotions and management) and interpersonal (understanding other people's feelings and manage) the emotional competences of the modern Manager, which was developed on the basis of the theoretical analysis and results of experimental researches of scientists, includes the following components.

Intrapersonal emotional competencies:

1. To understand the impact of the emotional sphere on the life and emotional experiences perceived as values, to respect them.
2. Objectively perceive reality.
3. To show interest in understanding the world and its laws, but also to self-knowledge.
4. Be open to new experiences, events and life change.

5. Strive for harmony, psychological well-being, healthy relationships.
6. Creative approach to life, interpersonal relations.
7. Objectively evaluate and recognize your strengths and weaknesses through self-examination.
8. To be responsible for their own emotional reactions.
9. To identify (recognize, understand) the emotions experienced at a particular moment for personal reactions, thoughts, etc.
10. Analyze your own emotions, feelings; their causes.

11. To satiate themselves, that is, to use emotions to motivate yourself, to facilitate the process of thinking, decision-making; achievement of goals.

12. Optimistic thinking – to focus on the positive aspects of life.

13. Receptive to mistakes to acquire experience.

14. Owning psychophysiological methods of self-regulation.

15. To control the attention, imagination.

Interpersonal emotional competence:

1. Aware of itself as an equivalent of the subject of communicative interaction, be in charge of her process and the result.

2. To identify (recognize, understand) the emotions of others.

3. To analyze emotions, feelings of others, and their causes.

4. To perceive and understand non-verbal body language and movements (gestures, facial expressions, tone of voice and the like), to use this experience to improve communications.

5. Possess active listening skills.

6. To understand emotion, the other person's feelings by putting yourself in her shoes (empathy).

7. Offer and accept emotional support.

8. To verbalize emotions, feelings without evaluation, prosecution of people or situations.

9. Resist the immediate desire to throw out the emotions (impulse control).

10. Ask questions for understanding emotional condition of another person.

11. Tolerant adequately to respond to positive and negative emotions by others.

12. Constructively to protect their own psychological boundaries, their point of view.

13. To refuse, without offending another person.

14. To provide a motivating both positive negative feedback: I sincerely Express the praise, compliments, tactfully, criticisms, complaints and dissatisfaction.

15. To perceive feedback from others: as a criticism, complaints and dissatisfaction and compliments, the praise.

16. To select authentic and appropriate methods of emotional expression.

17. To forgive, to be free from resentment.

18. To cooperate, to master the ways of joint activities, to agree.

19. To resolve emotionally tense situations, conflicts, to overcome communication barriers.

20. To display a high level of emotional stability and self-regulation in stressful situations [5, p. 97].

Leaders with high self esteem usually know their strengths and realize their limits. They refer to themselves with a sense of humor, willing learn skills that not possess, and welcome constructive criticism and feedback on their work. Leaders with self-esteem know when to ask for help and where to focus in developing new leadership skills [7, p. 133].

The relationship between emotional intelligence and competencies shown in the diagram below (fig. 1).

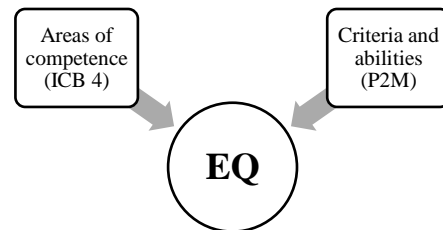


Fig. 1. The Relationship between emotional intelligence and competencies

ICB 4 considering competence not in terms of a specific role (e.g. project Manager), and from the point of view of different areas (for example, people who work in the field of project management). The reason is that the same roles and titles can be vastly different depending on language, industry and mentality of different countries [10, p. 122].

Competencies are represented as (Fig. 2):

- Human competence: describing personal and interpersonal skills required to participate or lead a project, program or portfolio of projects.

- Practical competence: describe the methods, tools and techniques used for successful implementation of projects, programmes and portfolios of projects.

- Prospective competence: Describe the methods, tools and techniques with which individuals interact with the environment, as well as justify the reasons for which people, organisations and companies begin to realize and support projects, programs and portfolios of projects.

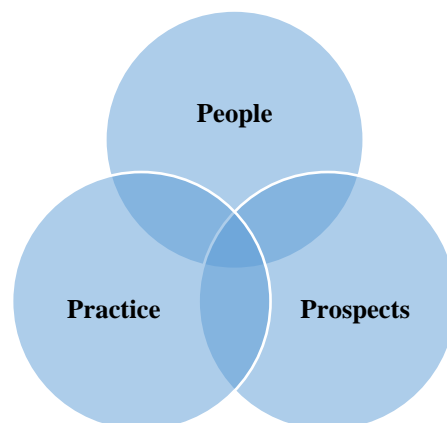


Fig. 2. Areas of competence (ICB 4)

Competence in design environment are divided into 29 elements of competence, which number from one to many key indicators of competency:

- Prospective competence (5 items).

- Human competence (10 items)
- Practical competence (14 items) [8, p. 56].

**Prospective competence.** Every project, program and portfolio moves, supported and regulated external drivers. People, organizations and companies require assets, as a rule, various extraordinary.

Sometimes in this context, executing challenging the wishes of the people, project or program needs to consider them. Very rarely a project or program is carried out in a vacuum – they are influenced by their institutional, social and political context.

The drivers for each project or programme can be divided into formal, explicit objectives and the needs of the organization, as well as more informal and implicit motives and interests.

A vivid example of a set of formal, explicit and real drivers of projects, programs and portfolios is the strategy of the organization. **Strategy (Perspective 1)**, usually has clear goals and objectives, and most often, projects and programmes contribute to the achievement of these goals and objectives, while projects, programs and portfolios ranked by priority in accordance with these goals and objectives.

**Organisational and external governance, structures and processes (Perspective 2)** create a formal context of a project, programme or portfolio of projects. The number and interdependence of interfaces of projects, programs or portfolios largely determine their complexity. This may mean that the project, program or portfolio deals with inherited processes or structures that had clear objectives when they were created. But they are cumbersome to use in the current situation.

**Compliance, standards and processes (Perspective 3)** identify relevant laws, rules, standards and tools that reflect the priorities, best practices and requirements of organizations, companies and professional regulatory bodies.

**Informal Power and interest (Perspective 4)** individuals within the organization can have a huge impact on the success of the control project, program or portfolio of projects. People not only obey the formal rules and objectives of the organization, but also have personal goals and objectives.

**Culture and values (Perspective 5)** organizations by definition, for the most part, are informal and implicit. Of course, the organization may attempt to influence the informal culture through the formalisation of the provisions of the mission and corporate values.

**Human competence.** This area of competence describes the personal and social competence that should be possessed by the individual for the successful implementation of the project, programme or portfolio of projects.

All personal competence begins with self-expression. In the end, the competence of the individual is proved by the successfully completed the agreed tasks, which leads to the satisfaction of the stakeholders. Between these extremes defined eight other elements of competence [9, p. 301].

Main personal qualities are described in "**Self – reflection and self-government**" (element 1) and "**Personal integrity and reliability**" (element 2).

Communication with other individuals is described in the "**Personal communication**" (element 3), and **building relationships – "Relationships and communication"** (element 4).

Projects, programs and portfolios of projects rely more on "**Leadership**" (element 5). Two specific aspects of leadership presented in "**teamwork**" (element 6) and "**Conflicts and crises**" (element 7).

"**Ingenuity**" (element 8) describes thinking styles (conceptual and holistic) and methods (analytical and creative) as well as the ability to create an open and creative environment of the team where everyone is working optimally. "**Approval**" (element 9) describes how to achieve results that not only in the interests of project, programme or portfolio of projects, but is also acceptable for members of other parties. "**Result orientation**" (element 10) describes the ways used by the people to stimulate and guide work teams and optimal performance.

**Practical competence.** All contextual influences and requirements are considered together when the organization initiates a new project, program or portfolio. The individual is working in the management of the project, program or portfolio must take into account all these effects and requirements.

The individual prioritizes and reflects it in the development (**design**) of the project, programme or portfolio (**practice 1**). The development of the project, programme or portfolio is preliminary and identifies the design choices at a high level for a project, programme or portfolio. In other technical elements of competence, each of these basic solutions should be defined, implemented and have the ability to control.

**Goals, objectives and benefits (practice 2)** includes different requirements and expectations regarding results and objectives and their priority. **Content (practice 3)** describes the specific boundaries of the project, programme or portfolio of projects.

**Time (practice 4)** focus on goals and planning of deliveries. **Organization and information (practice 5)** deals with the organization of the project, programme or portfolio of projects and describes the internal information and communication flows; **Quality (practice 6)** describes requirements for managing the quality of processes and products.

Naturally, projects, programs and portfolios depends on the contribution of men, material and money resources. These input constraints include money, **Finance (practice 7)**, human and other.

**Resources (practice 8).** Often, acquiring the resources required to conduct the **Procurement (practice 9)**.

Integration and control of all activities described in the element of competence **Planning and control (practice 10)**. In addition, the person must determine to break on priorities and to reduce the impact of the main **Risks and opportunities (practice 11)**, and to assess and interact with **Stakeholders (practice 12)**.

Another way of **Change and transformation (practice 13)** – changes in organization are needed or partially needed to create benefits. And finally, the competence to **Select and balance (practice 14)** describes the selection and balancing of the component programs and portfolios.

Below are the elements of the competencies (tab. 2).

Table 2 – The elements of the competencies of the project Manager

Prospective	People	Practice
1.Strategy	1.Self – reflection and self-management	1.The design of the project
2. Leadership, structures and processes	2.Personal integrity and reliability	2.Requirements and tasks
3.Compliance, standards and regulations	3.Personal communication	3.The contents
4.Power and interest	4.The relationships and interaction	4.Time
5.Culture and values	5.Leadership	5.Organization and information
	6.Teamwork	6.Quality
	7.Conflicts and crises	7.Finance
	8.Ingenuity	8.Resources
	9.Approval	9.Purchase
	10.Result orientation	10.Planning and control
		11.Risks and opportunities
		12.Stakeholders
		13.Change and transformation
		14.The selection and balancing

The following are the criteria and abilities (P2M) in table 3 [6, p. 178].

**Results and conclusion.** In the study, it was found that emotional intelligence is the ability to recognize their emotions and the emotions of others, to motivate themselves and others and to manage emotions alone and in interaction with others. Defined the relationship between emotional intelligence and competencies. There are elements of competencies. The emotional state of the leader affects the psychological climate in the team. Emotions are passed from colleague to colleague. If we are environment cheerful and energetic people, their emotions are transferred to us. Conversely, the sad leader is able to discourage us. This emotional characteristics of the leader that preserve the balance and inner motivation serves as an example to subordinates, inspiring them and conveys his feelings. Optimistic and energetic leader able to increase the activity of the entire organization. Sensitivity and the ability to interact help motivate, inspire, and unite employees. Emotional intelligence allows a leader to treat a subordinate as a whole person with your feelings, thoughts, ideas, needs, abilities and dreams. It is the emotional intelligence helps the leader to

develop staff and maintain high self-esteem of every employee. Emotionally intelligent leader creates an atmosphere of trust and respect that gives meaning to the work of subordinates so that they tend not only to satisfy personal needs, but also to bring the maximum benefit to the organization.

Table 3 – Competence of the project Manager (P2M)

Criteria taxonomy	Description of the criteria and skills corresponding to the competences
I	Criteria holistic thinking: focus on holistic mission
	Ability to identify problems, their sources and develop solutions to overcome them
II	The criteria of strategic thinking: strategic perception
	The ability to perceive the strategic elements of the program/project and balance them according to priorities in the proper application
III	Criteria integrated thinking: the ongoing effort to achieve the results of the project/program
	The ability to warning, assessment and working with the changes in the environment of the project to achieve its results
IV	Criteria of leadership: leadership to increase added value and innovation
	Ability to focus team efforts on innovation and breakthrough
V	Criteria ability to planning: planning successful concept of the project/programme structuring the tasks and monitoring the execution
	Ability to plan project goals and objectives, organizing resources, execution control
VI	Criteria ability to implement the project: the implementation of projects/programs according to the plan
	Ability to use systemic approach, team building, project control and problem solving
VII	Criteria ability to coordinate: to harmonize various activities for full optimization of the project/program
	The ability to balance between the different working groups and stakeholders, to get rid of tension, competition
VIII	Criteria relationship skills: social competencies and psychological skills
	The ability to maintain high performance teams through motivation and opportunities
IX	The criteria focus on achieving results: initiative and commitment
	Ability to the initiative, support, enthusiasm to achieve results through teamwork, introduction of role models
X	Criteria of self-realization: self-discipline, self-organization, self-realization
	Ability to self-organization and self-discipline, high ethical standards, taking responsibility, foresight

**References**

1. Golman D. *The Brain and Emotional Intelligence: New Insights Kindle Edition*. 2011. 42 p.
2. O’Boyle, E. H., Jr., R. H. Humphrey, et al.. The relation between emotional intelligence and job performance: A meta-analysis. *Journal of Organizational Behavior*, 2011, no. 32(5), pp. 788–818.

3. Golman D. *Emotional leadership: the Art of managing people based on emotional intelligence*. Moscow: Alpina Business Books, 2012, pp. 104-109.
4. Golman, D. *Emotional intelligence in business*. Mann, Ivanov and Ferber, Moscow, 2013. 356 p.
5. Howard K., Korotkov E. M. *Manager Experience: Teaching aid*. M.: research center Infra-M, 2013. 224 p.
6. *P2M: A guidebook of Program & Project Management for Enterprise Innovation*. Third edition, 2015. 366 p.
7. Voropaev V.I. *Project management: Fundamentals of professional knowledge, National requirements for the competence of specialists*. M. ZAO "Project Practice", 2010. 256 p.
8. *Fundamentals of individual competences for the Management of Projects, Programs and Portfolios (National Competence Baseline, NCB Version 4)*. K.: SAMMIT-Book, 2016. 208 p.
9. *Project management. The fundamental course*. Ed. Anshina V. M., Ilyina O.N., Moscow: The HSE Publishing House, 2013. 500 p.
10. Gray K.F., Larson E.U. *Project management*. M., "Business and Service", 2007. 608 p.
11. Bushuyev Sergey D. Wagner Reinhard F. IPMA Delta and IPMA Organisational Competence Baseline (OCB): New approaches in the field of project management maturity. *International Journal of Managing Projects in Business*, 2014, vol. 7, Iss: 2, pp.302 – 310.
12. Bushuyev S. D., Dorosh M. S. Development of innovation methods and models of project management on the basis of convergence. *Managing the development of complex systems*. 2015, no.23, pp. 30-37.
13. Bushuyev S. D., Bushuiev D. A., and Yaroshenko R. F., Deformacija polja kompetencij v innovacionnyh proektah [Deformation of the field of competences in innovative projects], *Visnyk nacionaljnogho tekhnichnogho universytetu «KhPI»*. Serija: *Strateghichne upravlinnja, upravlinnja portfeljamy, proghramamy ta proektamy* [Bulletin of NTU "KhPI". Series: Strategic management, portfolio, program and project management]. 2017, no. 2 (1224), pp. 3–7. DOI: 10.20998/2413-3000.2017.1224.1
- [14] Bushuev S. D., Kharitonov D. A., Rogozina V. B. Organizational project management pathologies. *Managing the development of complex systems*, 2012, no.10, pp. 5–8.

Надійшла (received) 27.12.2018

*Відомості про авторів / Сведения об авторах / About the Authors*

**Бушуєв Сергій Дмитрович (Бушуев Сергей Дмитриевич, Bushuyev Sergey Dmitrievich)** – доктор технічних наук, професор, Київський національний університет будівництва і архітектури, завідувач кафедри управління проектами; м. Київ, Україна; ORCID: [http:// orcid.org/0000-0002-7815-8129](http://orcid.org/0000-0002-7815-8129); e–mail: [Sbushuyev@ukr.net](mailto:Sbushuyev@ukr.net).

**Бушуєв Денис Антонович (Бушуев Денис Антонович, Bushuyev Dennis Antonovich)** – кандидат технічних наук, Київський національний університет будівництва і архітектури, докторант кафедри інформаційних технологій; м. Київ, Україна; ORCID: [http:// orcid.org/0000-0001-5340-5165](http://orcid.org/0000-0001-5340-5165); e–mail: [bushuyevd@gmail.com](mailto:bushuyevd@gmail.com);

**Русан Надія Ігорівна (Русан Надежда Игоревна, Rusan Nadiia)** – асистент кафедри управління проектами, Київський національний університет будівництва і архітектури; м. Київ, Україна; ORCID: [http:// orcid.org/0000-0001-9927-0198](http://orcid.org/0000-0001-9927-0198); e–mail: [rusan.nadya@yandex.ru](mailto:rusan.nadya@yandex.ru).

**Козир Борис Юрійович (Козырь Борис Юриевич, Kozur Boris Yuriyevich)** – кандидат технічних наук, доцент, Київський національний університет будівництва і архітектури, доцент кафедри управління проектами; м. Київ, Україна; ORCID: <https://orcid.org/0000-0003-3400-4571>; e–mail: [VKozyr@ukr.net](mailto:VKozyr@ukr.net).