Transfer of knowledge and its impact on integration processes in the technopark

Valentina Smirnova
Ph.D. in Economics, Professor,
Department of Management Theory
State University of Management
Moscow, Russia

Gabelakhat Latfullin
Ph.D., Professor, Head of the
Department of Management Theory
State University of Management
Moscow, Russia
gr_latfullin@guu.ru

Jeanne Baziyan
Graduate Student in management
theory
State University of Management
Moscow, Russia

Galina Sundukova
Ph.D., Associate Professor of
Management Theory
State University of Management
Moscow, Russia

Tamara Shramchenko
Ph.D. in Economics, Professor,
Department of Management Theory
State University of Management
Moscow, Russia

Moldir Seidina
PhD, leading researcher
National Academy of education
named after Y. Altynsarin
Astana, Kazakhstan

Abstract–The article is devoted to the impact of the transfer of knowledge on the integration processes in Russian technoparks - one of the modern organizational forms, which includes scientific, research, educational organizations and production companies. This allows technoparks in a fairly compact territory to carry out all stages of innovation from the origin of the idea to its commercialization.

Knowledge transfer includes a wide range of different activities to share, disseminate and transfer knowledge, experience, skills, skills, intellectual property movement between universities, academic organizations and businesses aimed at to support mutually beneficial interaction and cooperation.

Between 2015 and 2019, about 130 Russian technoparks were analyzed. Among them was a representative sample of 30 technoparks, the analysis of which was the basis for studying the problem of knowledge transfer. The study revealed the most common ways in which the transfer of clear and non-clear knowledge between science, education and business organizations can be carried out. development, advisory services, corporate portals and communication platforms, mentoring, joint conferences, symposiums, discussions, the use of various types of training, the creation of communities, clubs, clubs and other informal associations, academic spin-off companies, technology transfer centers, etc.

The article substantiates the need to use new approaches, modern concepts and technologies that contribute to the integration process in the technology park. The transfer of knowledge, as one of the important areas of integration of science, education and business, requires a significant change in the approach to the technology park, turning it into an "innovative ecosystem." This requires creating certain conditions that include the widespread use of digital technologies, the creation of appropriate technological and social infrastructure, and the creation of a culture of knowledge that facilitates exchange, dissemination of both clear and non-clear knowledge.

Considering the technology park as an innovative ecosystem, in order to create the best conditions for the innovation process, it is necessary as an effective way to integrate and transfer knowledge to introduce a single communication platform, portal, knowledge base. Creating a culture of knowledge in the organization that facilitates their exchange and dissemination plays a critical role in the transfer of knowledge. Therefore, the technology park needs to create a culture that supports the value of knowledge, creativity, teamwork, openness and the desire of each person to share their knowledge. These are new challenges that need to be developed and implemented, as there is essentially no experience at the moment.

Keywords–Technology park, knowledge transfer, integration, science, education, business, innovation, knowledge management, innovation ecosystem

I. INTRODUCTION

The country's transition to an innovative economy is impossible without the development of integration of science, education and business. The practice of developed countries shows that one of the effective forms of such integration is a technology park, where all stages of innovation can be carried out in one territory from the origin of an idea to its commercialization. The basic structure of the technopark, which should ensure the implementation of the innovation process, includes: university, research and business organizations. large scientific organizations. Universities play a key role in the development of the knowledge economy, in the formation of intellectual capital. They perform all the stages of the knowledge management process: creation - exchange - distribution - the use of knowledge. Fundamental and applied research and development work is carried out in scientific and research organizations. The third basic structural component is business organizations: large, medium," small innovative and high-tech companies and start-ups - residents of the technopark. The business carries out production activities and contributes to the commercialization of research and development results

performed in universities and research organizations [1].

Since the driving force in the innovation process is, first of all, people, the technopark should be not just a set of buildings located on one territory, scientific, engineering and technological, industrial infrastructure, and a kind of local "innovation ecosystem." To solve the problem of turning the technopark into an "innovation ecosystem" in which the entire innovation process would be effectively carried out, it is necessary to create conditions for closer interaction and transfer of knowledge between the above-mentioned subjects. Such interaction can be carried out through public-private partnerships, commercialization of research results, contractual research and development, and advisory services by the university scientific community, programs of additional vocational education, creation of university spin-offs and startups, technology transfer centers, business incubators, etc.

The study attempts to identify the potential for increasing the efficiency of Russian technology parks by increasing the degree of integration of scientific, educational and business organizations on the basis of knowledge transfer.

II. MATERIALS AND METHODS

Between 2015 and 2019, a study was conducted to determine the impact of knowledge transfer on integration processes between scientific, educational and business organizations that are part of the technology park, as well as to identify its forms and methods. The main method of research used a systemic approach, which allowed considering the technopark as an innovative ecosystem, including: science, education and business. The methods of questionnaires, interviews, interviews and monitoring are also used.

Between 2015 and 2019, about 130 Russian organizations were analyzed, having some signs of a technopark or calling themselves technoparks. Among them was a representative sample of 30 technoparks, the analysis of which was the basis for studying the problem of knowledge transfer. Two sets of quantitative and qualitative criteria were formulated for the selection of technoparks:

1. quantitative indicators of activity (research and development costs, number of patents, profitability indicators of residents, etc.)

2. information openness and informativeness, as the performance indicators of technology parks, cannot fully characterize the degree of integration of its units.

The following sources and materials were used in the study:

1. Regulatory acts of federal and [2] regional authorities;

2. analytical and statistical materials of the Association [3] of Clusters and Technology Parks of Russia;

3. statistical and analytical data in the open access of the International Association of Scientific Parks, as well as national associations of technology parks in several countries;

4. Media (news, press releases, video - interviews);

5. reports, reports and data of official websites of Russian and foreign technoparks (and their [4] residents), universities, research organizations, various foundations;

6. materials of forums and conferences, in which the authors participated (Moscow International Forum for Innovation Development Open Innovations, 2017, All-Russia Forum "Mentor -2018," II International Scientific Forum "Step to the Future: Artificial Intelligence and Digital Economy, 2018 et al.), as well as videos from similar events [5] held in Russia and abroad, posted on the Internet;

7. Surveys of residents of several Russian technoparks.

III. DISCUSSION

The concept of "knowledge transfer" came from the modern concept of management - knowledge management, where the transfer (exchange and transfer) of knowledge is one of the basic processes of management [6]. Thus, T. Coulopoulos and K. Frappaolo as knowledge management processes allocate mediation (organization of communications between seekers and knowledge holders), embodiment (collection, storage, interpretation and classification), assimilation of samples (and filtration) and cognition; [7] M. McElroy characterizes knowledge management as a continuous cycle of production and integration processes (transfer, search, training and exchange) of knowledge, [8] and V. Smirnova, singles out the basic (creation, exchange and transfer, use) and support processes (storage, development, protection, audit, evaluation and knowledge control) [9].

"Transfer" literally translates as "carry, move, send from one person, place or position to another." [10]. The English literature provides various formulations of "knowledge transfer" such as "organized exchange of information and skills between different entities" [11] or "the process of communication between the transmitting knowledge and its recipient" [12].

In the context of studying the process of transferring knowledge in the technology park, the definition of Cambridge University is of interest, according to which the transfer of knowledge is a wide range of activities aimed at supporting mutually beneficial interactions between universities, business and the public sector, and refers to the movement of intellectual property, experience and skills between academic institutions and [13] companies one of the oldest scientific parks in Europe.

In Russian scientific literature, the concept of "knowledge transfer" is not often used. Instead, it uses a "technology transfer" that refers to the process of transferring technologies for their subsequent commercialization. Technology usually refers to a set of methods, techniques, modes of operation, sequence

of operations and procedures; it is closely related to the tools used, the equipment, the tools used [14]. "Knowledge" is a broader category and is a "combination of know-how, experience, viewpoints, understanding and contextual information ready for application." [15], knowledge becomes a key resource of the organization, and intellectual workers - the dominant group within the workforce, while material assets lose their importance. Organizations that are unaware of the role of knowledge and are not engaged in training will constantly give way to competition [16].

In the work of foreign authors S. Gopalakrishnan and M. Santoro cite [17] the following differences between the transfer of knowledge and technology transfer:

1.   compared to the "transfer of technology," "knowledge transfer" is a more capacious concept, as it carries a causal relationship;

2.   while technology transfer is more about operational interaction and answers the question "how?", knowledge allows you to solve strategic problems by answering the question "why?";

3.   much of the knowledge in an organization is implicit, i.e. it is in people's minds; while technology is easy to formalize and codify.

Let's dwell on the last feature of knowledge. The concept of "implicit knowledge" was first introduced into scientific circulation by the English physicist, chemist and philosopher Michael Polani in 1958. Implicit (tacitic) knowledge is stored in people's minds and minds and cannot be fully or partially formalized and codified. These include experience, skills, skills, culture of thinking, intuition, etc. They can only be obtained through personal experience and are difficult to transmit. Explicit knowledge is situational in nature, it is used "here and now", i.e. intended for a specific and practical space-time context. One of Polanyi's most famous sayings are "we can know more than we can tell." [18].

Explicit (explicit) knowledge can be expressed in words, numbers, symbols; they can be formalized, stored and transmitted on physical media, such as documents, books, instructions, programs, etc. In the scientific and technological sphere, patents, useful models, industrial designs, etc. are obvious knowledge. It should be noted that such a division of knowledge in some cases is quite conditional.

IV.   RESULTS

The study revealed the most common ways in which the transfer of clear and non-clear knowledge in the technopark between organizations of science, education and business can be carried out. Among the most common ways of transferring clear knowledge are licensing, contract research, the creation of corporate portals and communication platforms [19].

Licensing, as a form of commercialization of research results, allows the transfer of clear knowledge between the universities, research and development

organizations and companies that produce innovative products. Licensing transfers knowledge such as patents for inventions, utility models, industrial designs; Trademarks Know-how; software, databases.

Contract research is a research project carried out by universities and research organizations, using their scientific potential and equipment for the companies of the technopark on a remunerative basis. Today, few companies can afford to do research and development on their own because of their high cost. Most of them do not have or do not seek to have expensive laboratories, equipment and personnel of high scientific or technical qualifications. As a result of contract research, the company - the customer receives knowledge from the organization performing scientific research, the result in the form of scientific reports, design and technological documentation, samples of new products. The analysis shows that licensing and contract research are actively used in technology parks as effective ways of transferring knowledge between science, education and business.

Corporate portals and communication platforms are based on a variety of digital technologies, such as artificial intelligence, neural networks and cloud technologies. The essence of these platforms is that all employees of the organization have access to the knowledge base - the most important component of the knowledge management system. Knowledge transfer tools within corporate communication platforms include audio and video communication and email systems, various personal and group chats, news feeds, forums, access to contacts and tools distance learning, file-sharing interface and others. Modern corporate portals and communication platforms also allow you to create virtual spaces where individual design teams can work.

Practice shows that this method of knowledge transfer has significant potential, and due to the rapid development of digital technologies, it is becoming more and more common in various kinds of organizations in the field of public and municipal government, education, science, business, etc. [20].

As for the technoparks, the following situation has developed here. As you know, the technology park includes organizations and companies that must provide a continuous innovation process from the emergence of an idea to the creation of new products. Many of them use state-of-the-art information technology to transfer knowledge at the corporate level. Some research organizations, universities and companies that are part of technology parks, successfully implement projects on knowledge management, create corporate knowledge bases, providing access to them to their employees. Considering the technopark as a modern form of integration of science, education and business, which should create the best conditions for the innovation process, it is necessary to create in the technopark as an effective way of integrating and transferring knowledge unified communication platforms, portals, knowledge bases. This is a new challenge that needs to be

developed and implemented, as there is currently no experience in solving it.

Analysis of the methods of transferring non-optical knowledge currently used in various organizations has made it possible to identify the following most common forms and consider them in the context of the possibility of using in the technopark:

1. Consultancy activities;

2. Creating academic spin-off companies;

3. Participation in forums, conferences, symposiums, exhibitions, roundtables, discussions;

4. Training (lectures, seminars, webinars, trainings, courses, workshops, etc.);

5. Mentoring and coaching;

6. Creation of communities, clubs, clubs and other informal associations.

Consulting has great potential for technology parks and creates new opportunities for the transfer of knowledge between universities, research organizations and specialized companies that can provide expert consultations in various areas (scientific, technical, legal, marketing, project implementation, etc.), carry out project examination, make calculations and justifications. Such consultations provide direct interaction and teamwork of the faculty of universities, researchers, researchers, developers and engineers of the Research Institute with representatives of business, during which non-zinknowledge is exchanged and transferred.

Another effective way to transfer knowledge in a technology park may be to create an academic spin-off of companies. Spin-offs are firms established on the basis of research and development companies; universities or research organizations to develop, manufacture and market a new product or technology on their own. In the context of the transfer of knowledge between the scientific, educational and business environment, academic spin-offs from scientific and educational organizations are of interest.

According to the definition of the American researcher R. Smilor academic spin-off represents a failure of a company founded by a teacher, employee or student of the university or with their participation, which is created on the basis of a scientific and technical idea or technology developed at a university or in a scientific [21] organization technologies that need to be introduced into the high-tech market, not the other way around [22] skills to achieve a common goal.

Educational programs and educational activities, such as lectures, seminars, webinars, trainings, courses, workshops, are actively used in Russian technoparks. Training is conducted on a regular basis on technological entrepreneurship, commercialization of research results and other different areas for startups and people who want to gain new knowledge. Interesting is the rather common practice, in which speakers at such events are people who have previously passed a difficult path to create their own technology,

product or business, and seeking to pass on their knowledge and experience [23].

It should be noted that the recent role of mentoring (mentoring) as a way of transferring the same knowledge, experience, skills, skills, principles and values Institute of Mentoring exists in Russia for a long time, but if it was previously widespread only in production, among the working professions, where the transfer of technical skills was central, today it is said that mentoring is needed in other areas of activity. The importance of solving this problem is evidenced by the All-Russian Mentor 2018 Forum organized in Moscow on the initiative of the Agency for Strategic Initiatives, Coaching is a relatively new direction in Russian practice, and more relates to consulting and individual leadership training. Coaches help you focus on achieving certain goals.

The experience of mentoring gradually extends to technoparks. For example, a number of technology parks run training accelerator programs, in which young inventors and technology entrepreneurs, under the guidance of experienced mentors, implement their projects. Thus, in the Novosibirsk Akadem gorodok technopark periodically passes a two-week intensive program "business accelerator A-start" during which the creators of startups and people who want to engage in technological entrepreneurship, receive The opportunity to train with experienced experts, mentors, coaches and work in a team for two [24] weeks programs in technoparks is only the beginning of the development of mentoring. The experience of companies such as Rosatom, Sberbank and other organizations shows that mentoring is an effective way to share and transfer non-clear knowledge in organizations, so it is necessary to implement their practice of technology parks.

Various forums, conferences, symposiums, exhibitions, roundtables, discussions that can be held both in a "live" format and, thanks to the development of modern digital technologies, online, are a fairly common way of sharing and knowledge transfer and are also actively used in technology parks. Employees, entrepreneurs, scientists, researchers, engineers, representatives of state authorities get the opportunity to share their knowledge and experience, get acquainted with the vision and experience of others to solve current problems research, engineering, innovative entrepreneurship, etc. government initiative. For example, in the "Slava" technopark of the city of Moscow on the initiative of organizations - residents working in the field of pharmaceuticals, conferences are held on the current problems of drug development and registration, which are advocated It is important to note that during such events there is not only an exchange [25] and transfer of non-explicit knowledge, but also their transformation into formalized knowledge through printed and electronic materials, publications, collections, recommendations, etc.

Communities of practice, community-by-interest, expert communities, clubs, clubs are informal associations whose members meet to discuss the

various issues inherent in their fields of activity, to share knowledge and experience; contact via email, social media and digital platforms. This method of transfer in the last century has proven itself in many foreign companies (Xerox, HP, General Motors, BP, etc.), but has not been widely distributed in foreign or Russian technoparks. The experience of the Amsterdam Science Park, in which scientists in the field of computer biology and bioinformatics have created a community called Amsterdam Science Park Study Group, is unique. They periodically organize so-called interactive training programs, collective work sessions, and social activities such as "Hacky Hours hackatons" - legal hackathons for programmers [26] communities of practice within Russian technology parks will give tangible results for the effective integration of science, education and business.

It should be noted that the list of methods of transfer of knowledge is far from exhaustive. The academic practices of students in companies, various staff rotation programs, and the migration of scientists and professionals from one organization to others are also well-established ways of exchanging and transmitting non-visible knowledge. The role of informal personal communication, casual meetings of employees of technopark organizations in corridors, cafes and restaurants, fitness centers, where people exchange views on a problem, share experiences, give each other valuable Tips. Working in a technopark in neighboring organizations, they through informal communication and useful discussions not only find solutions for their own problems, but also create a so-called "atmosphere of knowledge and innovation" in the technopark.

V. CONCLUSION

In order to effectively apply the above-mentioned methods of transferring knowledge between scientific organizations, higher education institutions and companies, it is necessary to create certain conditions, to create an appropriate environment that contributes to the their implementation and distribution. First of all, they should be included:

The introduction of digital technology

Creating technological and social infrastructure

Building a culture of knowledge.

The rapid development of information and communication technologies today allows to take all the processes of knowledge management to a new level. Most of the ways in which explicit knowledge is stored and transferred in organizations, such as corporate platforms and portals, knowledge bases and expertise systems, databases, maps and knowledge classifiers, is based on digital technologies. Modern digital technologies are replacing live communication, through which the exchange and transfer of non-clear knowledge traditionally takes place. Conferences, forums, seminars, lectures, master classes and more are held online with equal success, reducing time and cost.

Note the importance of having technological and social infrastructures for the transfer of knowledge in the technopark. Technology infrastructure organizations include offices and knowledge transfer centers, engineering centers and companies, collective use centers, technology support centers, etc. They are created to narrow the gap between research and the commercialization of its results, and act as intermediaries between scientific, educational organizations and businesses in the transfer of knowledge and technology [27].

It is worth noting the role of contract engineering companies that specialize in providing a wide range of engineering services in various fields from research, design, industrial design to organization Production. The advantage of companies is that they do not produce their own products, but provide services, complying with confidentiality rules and the mode of trade secrets. Thus, there is no risk for customer organizations that their technology and know-how can be copied and used by an engineering company for their own purposes.

In recent years, the centers and offices of knowledge transfer have become a common element of the technological infrastructure of Russian and foreign technoparks. Thus, the Russian Innovation Center Skolkovo operates the Office of Knowledge Transfer, as one of the divisions of Skoltech University, which through licensing carries out the transfer of knowledge in the form of patents from the university to interest Companies. Knowledge transfer centers and offices can support the creation of academic spin-off companies in the technology park.

The important role of the social infrastructure of the technopark, which creates conditions for people to communicate, should not be underestimated. Sports and entertainment centres, cafes, restaurants and other elements of the social infrastructure of the technopark promote informal communications, which, as noted above, are one of the effective ways of sharing and transmitting the non-explicit Knowledge.

Creating a culture of knowledge in the organization that facilitates their exchange and dissemination plays a critical role in the transfer of knowledge. Often, the introduction of new technology and technologies is easier than developing a culture of cooperation and knowledge sharing. As noted by I. Nonaka and H. Takeyuchi, in order to direct individual knowledge to achieve common goals, the organization must train its employees to share knowledge and make sure that knowledge of "how-to" is constantly transferred from one employee to another [28].

Therefore, the technology park needs to create a culture that supports the value of knowledge, creativity, teamwork, openness and the desire of each person to share their knowledge. But we should not forget that the technopark as a form of integration of science, education and business unites many organizations, and each has its own unique corporate culture, which promotes or hinders the exchange of knowledge. Therefore, each organization, which is part of the

technopark, first of all should form its own culture of knowledge, on the basis of which it is possible to create a culture of the technopark as an innovative ecosystem. Only if these conditions are met will it be possible to integrate science, education and business closely, and instead of contractual relationships and single projects, long-term partnerships will be established between the organizations.

The aspects of knowledge transfer discussed in the article are of practical importance and may be recommended for use in technology parks to enhance the integration of scientific, research organizations, universities and companies implementing innovative process from the origin of an idea to its commercialization.

REFERENCES

[1] I. N. Chuev, T. M. Panchenko, V. S. Novikov, O. A. Konnova, N. G. Iraeva, and I. S. Karabulatova, "Innovation and Integrated Structures of the Innovations in Modern Russia", in International Review of management and marketing, 2016, Vol. 6, No 1S, pp. 239-244.

[2] Federal Law of December 31, 2014 N 488-Fz "On Industrial Policy in the Russian Federation" (In the version of federal laws of 13.07.2015 N 216-Fz; from 03.07.2016 N 365-Fz; from 31.12.2017 N 486-Fz; 27.06.2018 N 160-Fz). The National Standard of the Russian GOST P 56425-2015 "Technoparks. Requirements" (approved by the Federal Agency for Technical Regulation and Meteorology of June 10, 2015 N 614-st) (with changes and additions). Russian Government Order of March 10, 2006 N 328-r (ed. 29.11.2014) "On the state program "Creation of high-tech technology parks in the Russian Federation".

[3] L.V. Danilov, A. R. Valeeva, and I. V. Golubkin, Fourth annual review "Russian Technoparks - 2018". Association of Clusters and Technology Parks of Russia. Moscow, AKIT RF, 2018.

[4] RvC (Russian Venture Company) Analytical Report "Development of Innovative Ecosystems of Universities and Research Centers," Saint-Petersburg, 2015. Available at: /https://www.rvc.ru/upload/iblock/06b/Innovation_ecosystem_analytical_report.pdf.

[5] J. K. Baziyan, and V. G. Smirnova, Technopork as an innovative ecosystem of the digital economy. Materials II of the International Science Forum "Step into the future: artificial intelligence and digital economy. A revolution in governance: a new digital economy or a new world of machines." Vyp.2. Moscow: GUUPublishing House, 2018.

[6] G. A. Shiganova, I. S. Karabulatova, A. V. Sviridova, and L. P. Yuzdova, "The concept of "knowledge" / "cognition" in russian paremia: the experience of structural semantic representation", in Astra Salvensis, Vol. 6, No 12, pp. 385-393.

[7] Smart Things to Know About, Knowledge Management Thomas M. Koulopoulos, Carl Frappaolo Wiley, Oct 15, 1999. Business & Economics, 240 p.

[8] M. McElroy, The knowledge life cycle. In Proceedings of the ICM Conference on KM. Miami, FL, 1999.

[9] V. G. Smirnov et al., Organizational culture: textbook and workshop for academic bachelor's degree. Moscow: Jright Publishing House, 2017, 306 p.

[10] N. Webster, Webster's new twentieth century dictionary of the English language, unabridged: based upon the broad foundations laid down by Noah Webster. 2nd ed., extensively rev. / by the publisher's editorial staff under the general supervision of Jean L. McKechnie pub. New York: Simon and Schuster, 1983, 2129 p.

[11] Y. Duan, W. Nie, and E. Coakes, "Identifying key factors affecting transnational knowledge transfer", in Information & Management, 2010.

[12] S. Gasik, "A model of project knowledge management", in Project Management Journal, 2011.

[13] "What is knowledge transfer?", in University of Cambridge Available at: http://www.cam.ac.uk/research/news/what-is-knowledge-transfer.

[14] B. A. Raisberg, L. S. Lozovsky, E. B. Starodubtseva, Modern economic dictionary. 2nd, Ypr. M.: INFRA-M, 1999, 479 p.

[15] R. J. Theirauf, Knowledge Management Systems for Business. Westport, Connecticut: Quorum books, 376 p.

[16] P. F. Drucker, The Age of Discontinuity: Guidelines to our Changing Society. London: Heinemann, 1969.

[17] Sh. Gopalakrishnan, and M. D. Santoro, Distinguishing Between Knowledge Transfer and Technology Transfer Activities: The Role of Key Organizational Factors. Engineering Management, IEEE Transactions on, 2004. 51. 57-69.

[18] M. Polany, Personalknowledge. On the way to post-critical philosophy. Moscow: Progress, 1985, 343 p.

[19] N. R. Saenko, A. A. Sozinova, I. S. Karabulatova, I. V. Akhmetov, O. V. Mamatelashvili, and E. E. Pismennaya, "Research in Action Integrated Marketing Communications as the Elements of Information and Virtualization Market Relations", in International Review of management and marketing, 2016, Vol. 6, No 1S, pp. 267-272.

[20] I. Karabulatova, Kh. Vildanov, A. Zinchenko, E. Vasilishina, A. Vassilenko, "Problems of transformation matrices modern multicultural identity of the person in the variability of the discourse of identity Electronic Information Society", in Pertanika Journal of Social Science & Humanities, 2017, No 25 (S). Jul., pp. 1-16.

[21] V. Rudenkov, M. Belitsky, A. Oginskaya, "Spin-off Organization in the University Environment", in Science and Innovation, 2016, No 155. Available at: https://cyberleninka.ru/article/n/spin-off-organizatsii-v-universitetskoy-srede.

[22] E. Y. Porhun, "The possibility of using spin-off and spin-out models in the organization of innovative companies", in Creative economy, 2011, Vol. 5, No 5, pp. 103-108.

[23] G. Rakisheva, I. Karabulatova, and A. Abibulaeva, "Ethno-sociocultural deviations in the educational environment of the modern eurasian higher education institution as a reflection of transcultural globalization factors", in Man in India, 2017, No 97 (23), pp. 115-131.

[24] Business accelerator "A: START". Academpark website. Available at: https://academpark.com/events/23813/.

[25] Conference. The website of Technopark Glory. Available at: http://www.technopark-slava.ru/event_type/88/.

[26] Amsterdam Science Park Study Group web-page. Available at: https://www.scienceparkstudygroup.info/.

[27] O. A. Koryakovtseva, I. I. Doronina, T. M. Panchenko, I. S. Karabulatova, Z. M. Abdullina, "Research of category "Motivation" as a basic tool of personnel management", in International Review of Management and Marketing, 2016, Vol. 6, No 1 S, pp. 293-299.

[28] I. Nonaka, and H. Takeuchi, The Knowledge Creating Company: How Japanese Companies Create The Dynamics Of Innovation. 1995.