

UDC 33

DOI: 10.34670/AR.2022.68.67.022

A logistics approach to enterprise support project management with a view to creating a digital economy ecosystem

Ol'ga S. Krainova

PhD in Economics, Docent,
Institute of Food Technology and Design (branch),
Nizhny Novgorod State University of Engineering and Economics,
603062, 13 Gornaya st., Nizhny Novgorod, Russian Federation;
e-mail: kraynovaos@mail.ru

Abstract

The article aims to discuss the possibilities of logistics in streaming processes of project management and to justify the need for using a logistic approach to the research activities of an educational organization implementing a project to support enterprises to develop a digital economy ecosystem in the status of a federal innovation platform in Russia. To substantiate her assumptions, the author of the article uses methods of comparative analysis, the theory of logistics and synergy, general scientific methods, an analytical review of scientific literature as well as the content of regulatory documents, generalization, synthesis and analogy. Measurement approaches are presented as system-synergetic, stream-process, resource-oriented; in particular, the author applies the concept of integrated logistics and the coordination concept of controlling and project management. The article presents simulation results of the stream processes of project management. The process of project initiation is described in detail, including its formal start and the development of the role structure. The article proves the necessity of consideration as a control object. Project streaming processes integrate practical tools of logistics management and project management methodology. The analysis shows that the results of stream conversion at various stages of project management should be presented as products of stream processes. The results of the study can be applied by educational and research organizations to improve means and methods of project management and create a competitive knowledge-based product (services) within the framework of project-oriented logistics systems.

For citation

Krainova O.S. (2022) A logistics approach to enterprise support project management with a view to creating a digital economy ecosystem. *Ekonomika: vchera, segodnya, zavtra* [Economics: Yesterday, Today and Tomorrow], 12 (9A), pp. 382-396. DOI: 10.34670/AR.2022.68.67.022

Keywords

Logistics approach, stream processes, digital economy, project management, logistics systems.

Introduction

Practical tools of project logistics and expansion of its application area with the shift of the object component towards streamline project management processes reveal scientific potential of logistics. Project logistics, in turn, is in demand as applied area related to implementation of transactional relations by project participants and the development of project-oriented logistics systems [Kubasova, 2009]. Theoretical premises of the study include the necessity and feasibility of viewing the project as streaming processes, integrating practical tools of logistics management and project management methodology based on the application [Goryacheva, 2015; Kraynova, 2020] of a series of existing project management standards. The logistics approach to project management allows for optimizing flows, processes and maintaining system parameters under assumptions and limitations of the processes which, according to the author, correspond to both theoretical and methodological system approaches in project management.

Presenting a project methodologically with the help of the logistics approach, as well as in the general theory of project management makes it possible to remark that it functions as a system with necessary elements of “input” (including project resources, restrictions, etc.), a set of interrelated processes of generating the result with the planned parameters and “output” (actually, the result of this project). Inadequate application of the logistics approach to stream-process management of the project in this case makes the development and methodology of practical tools for logistics of flows and projects [Voronina et al., 2020] taking into account the specifics of the object part and specifies the characteristics of projects as relevant and appropriate.

According to logistics methodology, there is a need for the integrated use of the provisions of system-synergetic, stream-process, resource-oriented and reflective-innovative approaches for managing logistics processes in the logistics processes of the project [Fugate et al., 2012] which represent a wide functional field of research and provide the identification of the characteristics, patterns and principles of logistics management processes at any other level of macro- and microeconomics, taking into account the specifics of logistics [Goryacheva, 2015].

In this study, in order to make competent management decisions, this practical component is concretized by the example of relevant and widely developing projects for the development of education, in particular, the creation of Russian federal innovation platforms (hereinafter referred to as FIPs) and the implementation (on their basis) of projects for the development and functioning of the innovative infrastructure of the education system in the era of digital economy.

The relevance of choosing the project topics within the framework of achieving the results of the Strategy for the development of the information society in the Russian Federation for 2017-2030 is dictated by the need to solve the problems of implementing the program “The digital economy of the Russian Federation”. In order to create a digital economy ecosystem, in which data in digital form is the key factor in production in all areas of socioeconomic activity and in which effective interaction is ensured, including cross-border, business, the scientific and educational community, the state and citizens, the state supports projects to create innovative platforms.

Materials and methods

To form theoretical part of the study, the article uses methods of system analysis and formalization as well as IDEF0 functional modeling methodology [Metodologiya..., www].

The information and analytical base of the study is presented by the data of the project prepared by the scientific team of the educational organization that participated in the selection of FIPs in 2018, and issued in the form of tender documentation in an information system to support research activities of FIPs.

The author's research is based on such methodological foundations as the theory of logistics, the theory of synergy, and the theory of efficiency. Measurement approaches are presented as system-synergetic, stream-process, resource-oriented [Durst, Evangelista, 2018]; in particular, the integrated logistics concept and the coordination concept of controlling and project management [Akhmetshin et al., 2019, www; Busse, Wallenburg, 2011] are applied.

Results

Within the framework of designated national and regional programs/projects that determine growth of well-being and the quality of citizens life in the country, specific tasks are identified: increasing the availability and quality of goods and services produced in the digital economy using modern digital technologies; awareness raising and digital literacy; improving accessibility and quality of public services for citizens as well as security both domestically and abroad (the program "The digital economy of the Russian Federation").

Initiated and supported projects of creating regional innovation platforms or FIPs by the state are aimed at the creation and functioning of innovative infrastructure in the education system, which, in particular, is determined by Federal Law of the Russian Federation No. 273-FZ of December 29, 2012 "On education in the Russian Federation".

It should be noted that competitive selection was held to obtain innovative educational projects/programs by FIP applicant organizations in the Russian Federation in order to solve the tasks posed by the state [Toporovskii, 2019]. Its aim was to develop innovative infrastructure in Russian education.

In accordance with the accompanying documentation of the tender, the goal of creating FIPs is to ensure the modernization and development of the education system, taking into account the main areas of socioeconomic development of the Russian Federation, and the implementation of priority directions in the state policy of the Russian Federation in the field of education [Zakharov, Posazhennikov, Zakharova, 2020]. Thus, organizations that carry out educational activities or other organizations operating in the field of education, as well as associations of such organizations, regardless of their organizational and legal form, type, departmental affiliation, implementing innovative projects or programs, strive to achieve FIPs, target indicators and indicators of relevant state programs and departmental projects in the field of education (Order of the Ministry of Education and Science of the Russian Federation No. 611 of July 23, 2013 "On approving the Procedure for the formation and functioning of an innovative infrastructure in the education system").

The study presents practical solutions to apply the logistics approach to project management, in particular, to the initiation phase (as the initial one and giving impetus to the further development of the project) based on data from Nizhny Novgorod State University of Engineering and Economics in the FIP status for the implementation of the project "Educational and advisory support to the municipal districts of the Nizhny Novgorod region during the transition to the digital economy" approved by the Commission on the development and functioning of an innovative infrastructure in the education system [The minutes..., www].

The project was planned from the point of view of the content based on the relevance issues of supporting municipal regions during their transformation in the context of digitalization. The main tasks are to implement national projects, the Strategy for socioeconomic development of the Nizhny Novgorod region until 2035, as well as the program “Effective province” also introduced in the region [Proekt..., www]. On formal grounds, competitive selection was carried out in accordance with the Procedure for the formation and functioning of an innovative infrastructure in the education system, and it is public.

From the perspective of the introduction of national projects into practice, an educational organization in the FIP status is presented as an element of the innovative infrastructure of the education system and, therefore, is focused on ensuring its development.

Having assessed the relevance and potential of the applicant for competitive selection in accordance with criteria and performance indicators, it is advisable for educational organizations that are applicants for the FIP status to consider the creation of an innovative platform as a project and to develop practical tools for logistics support project definition as well as logistics or project logistics management. In this context, the scientific side of the issue is based on simultaneous application of project-oriented and process-oriented approaches that are consistent with the project management methodology [Kubasova, 2009] in accordance with State Standard R 54869-2011 “Project management. Requirements for project management” and State Standard R ISO 21500-2014 “Guidance on project management”.

The complexity and at the same time feasibility of developing a project in this regard is determined by the specifics of the object—the stream process of project management and the creation of project-oriented logistics systems [Voronina et al., 2020].

Turning to project management terminology, a project refers to a set of interrelated activities aimed at creating a unique product or service in terms of time and resource constraints. It is possible to imagine the activity of obtaining the FIP status in the form of a sequence of project management processes taking into account the following conditions:

- the project begins with the initiation process;
- the project ends with the completion process;
- the processes of organizing the execution and control of the project begin no earlier than the planned processes [Sataeva, Komleva, 2020].

For research purposes, the author used IDEF0 functional modeling methodology. The top-level logistics support process for project development to support enterprises to create an ecosystem of the digital economy in the FIP status is presented in Figure 1.

Following fundamental conditions of project management, initially the project supports the initiation process, during the course of which the project team will not only have to present its substantive component, but also form a certain project thinking of successful implementation of the stated stages [Walker, 2016]. The author’s approach as part of the project team seems possible for subsequent experience transfer for project management in the research activities of an educational organization.

The initiation process is aimed at a formal project start, identifying the customer, interested parties, contractor, name and reasons for its initiation [Sataeva, Komleva, 2020; Sataeva, Kraynova, Pavlova, 2020]. At this stage, the project team formed the initial data necessary to begin the work on preparation and execution of the application for participation in the competitive selection (Table 1).

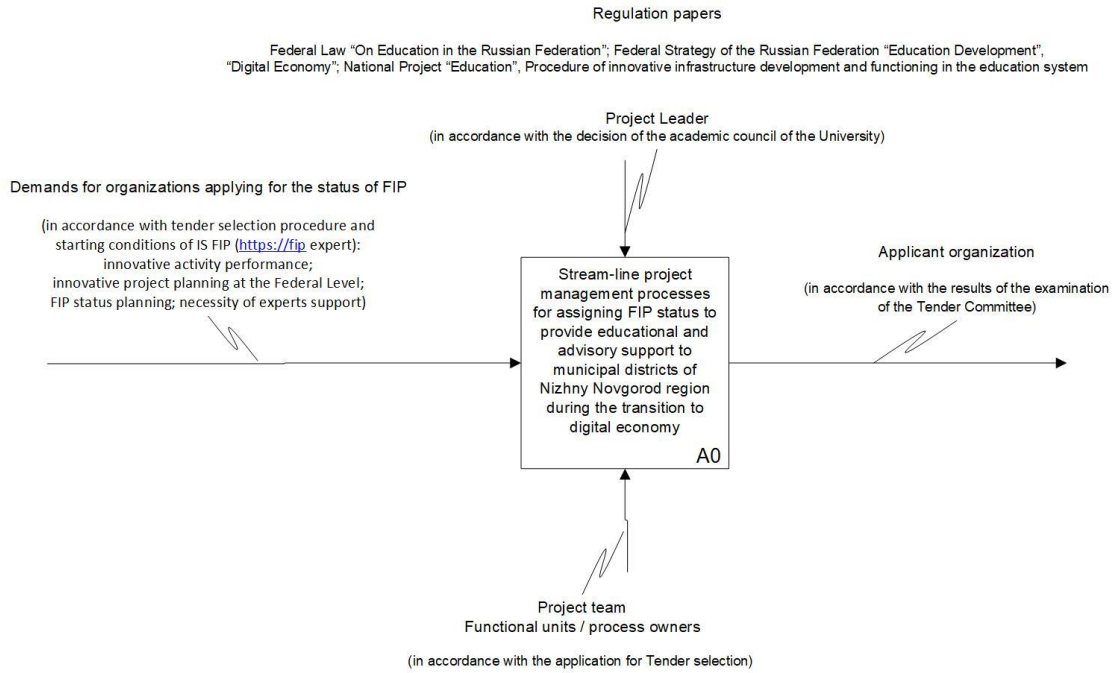


Figure 1 - The top-level diagram of the flow processes of managing a project to support enterprises in order to create an ecosystem of the digital economy in the FIP status (according to IDEF0 functional modeling methodology)

Table 1 - A formal project start to support enterprises in order to create an ecosystem of the digital economy to obtain the FIP status

Category	Description
Project customer	The Department of Strategy, Analysis and Forecast of the Ministry of Education and Science of the Russian Federation (Order of the Ministry of Education and Science of the Russian Federation No. 611 of July 23, 2013 “On approving the Procedure for the formation and functioning of an innovative infrastructure in the education system”; Letter of the Ministry of Education and Science of the Russian Federation No. 02-657 of July 6, 2018 “On collecting applications for participation in the selection of federal innovation platforms”)
Parties concerned	Educational organization The Regional Ministry of Education, Science and Youth Policy Educational organization partners—representatives of business structures <i>* Additionally see: in the field of practical use and application of project results</i>
Project executor	Educational organization (Minutes of the Scientific Council of Nizhny Novgorod State University of Engineering and Economics No. 6 of August 24, 2018)
Project name	Educational and advisory support to the municipal areas of the Nizhny Novgorod region in transition to the digital economy (Minutes of the correspondence meeting of the Commission on the formation and functioning of an innovative infrastructure in the education system No. D02-4/02pr of November 7, 2018)
Reasons for project initiation	Development of an ecosystem of the digital economy in the Russian Federation in the FIP status Competitive selection to obtain the FIP status (Letter of the Ministry of Education and Science of the Russian Federation No. 02-657 of July 6, 2018 “On collecting applications for participation in the selection of federal innovation platforms”)

The project initiation process also involves identifying those responsible for managing and implementing the project and developing the role structure [Sataeva, Komleva, 2020] with obligatory inclusion of leading employees in it, ensuring the administration of individual work and the presentation of the results at the regional and municipal levels. The main purpose of the role structure in this regard is to create certainty in the work by establishing the roles and responsibilities of project participants (Figure 2). The distribution of roles within the educational organization that is a project executor for obtaining the FIP status is fixed by the order of the director on the opening of the project and the composition of the team.

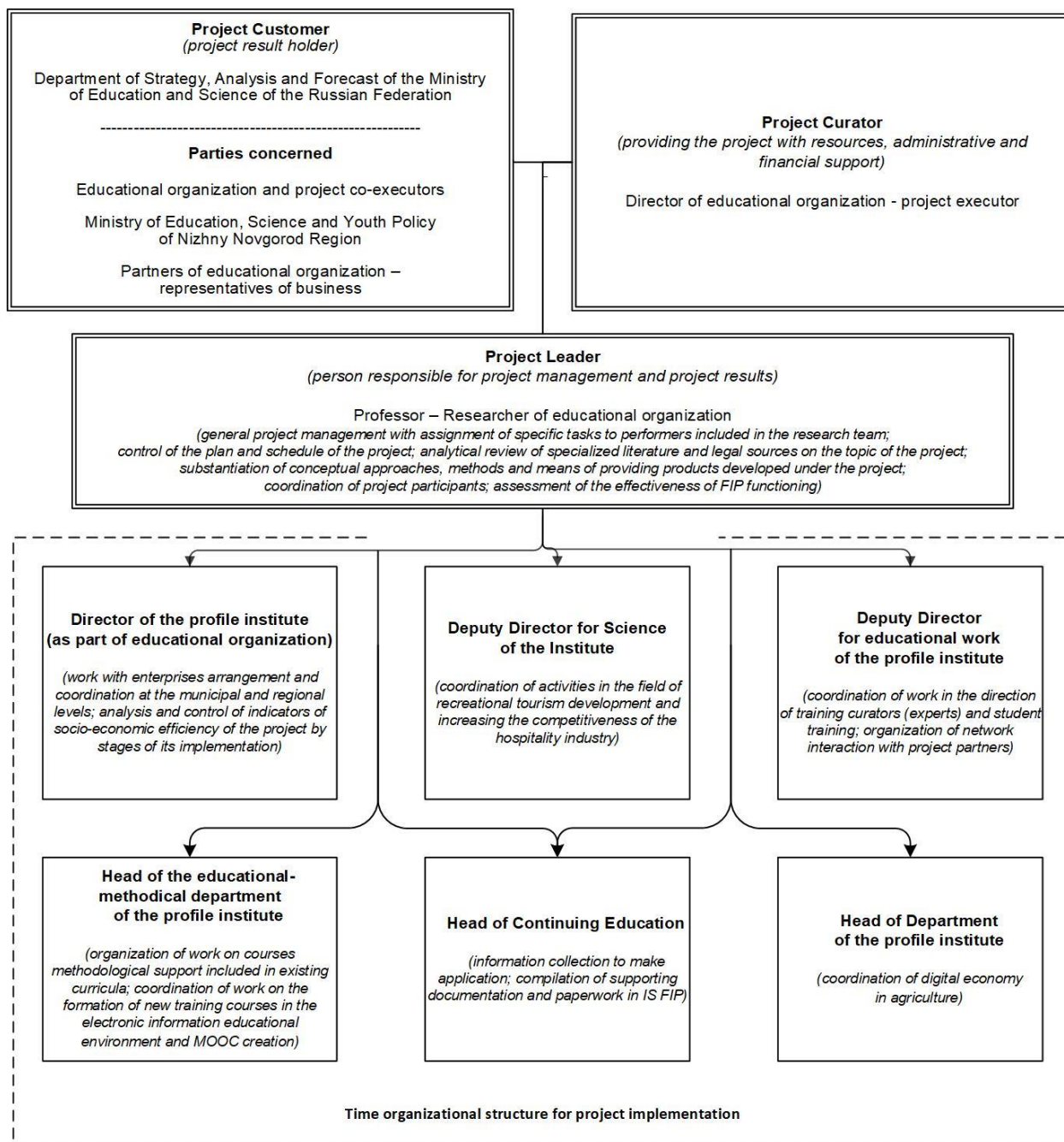


Figure 2 - The role structure of the enterprise support project to create an ecosystem of the digital economy to obtain the FIP status

Similarly to the stage presented in Table 1, from the perspective of project management, technical documentation for the project presented an explication of the subsequent processes of planning, organization of execution, control and completion of the project in accordance with State Standard R 54869-2011 “Project management. Requirements for project management”. However, to unleash the potential of project logistics, it should be noted that the results of the conversion of flows at various stages of project management as part of a specific study are presented, according to the author, from the perspective of the products of stream processes.

Imagine the product of the initiation process “Project Concept”, the mandatory elements of which are reflected in research activities of FIPs (Figure 3).

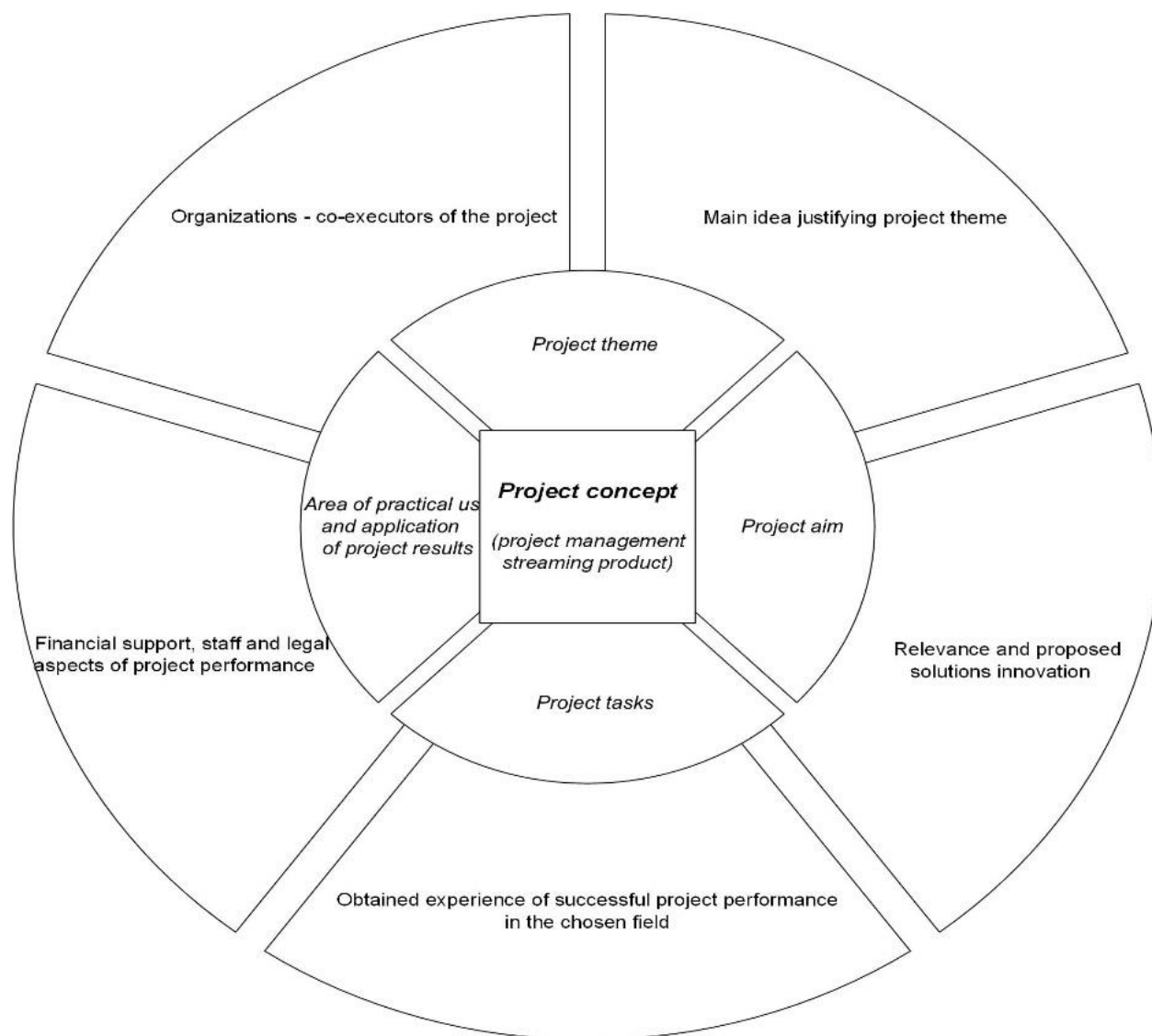


Figure 3 - Product components of the streamline process to initiate an enterprise support project to create an ecosystem of the digital economy as a FIP¹

¹ Compiled by the author on the basis of the materials of the information system for supporting the activities of federal innovation platforms [Informatsionnaya sistema..., www].

It is necessary to clarify that the components of this product are enshrined in the application, filled out by each applicant organization and included in the tender documentation.

The subject of the project participating in the competitive selection is the digital educational environment, the announced implementation period is 4 years (the project in the FIP status started in 2019, the completion will be 2022).

The goal of the project is to promote the establishment and development of the digital economy of the region; combining and coordinating the efforts of the university, other leading research and educational centers, government bodies, various organizations and companies in the implementation of research and development, international cooperation, educational, training, expert, innovative and other practical activities that contribute to the development of the digital economy in the Nizhny Novgorod region.

The tasks of the innovative educational project declared for its implementation (from the application submitted for competitive selection) include the following.

- 4) Conducting fundamental and applied research and development in various fields related to the development of digital economy.
- 5) Implementing scientific, educational, methodological, consulting, expert, editorial and other activities, including those associated with supporting the development and implementation of strategic planning documents in the field of digital economy development.
- 6) Developing mechanisms to coordinate the processes of the development of the digital economy in the Russian Federation; developing proposals to improve the legislation of the Russian Federation [Abdikeev et al., 2019], standardization and technical regulation; preparing and examining draft regulations promoting digital economy development.
- 7) Developing and popularizing innovative products in the field of the digital economy; promoting the development of educational programs of higher, professional and secondary education, taking into account the results of research in the field of the digital economy.
- 8) Providing staff training and retraining for the digital economy in close cooperation with state corporations and the real sector of the economy.
- 9) Collaborating with public authorities, research and educational centers, companies, other interested organizations in various areas of the digital economy.
- 10) Organizing and holding events, including international ones, on a wide range of issues related to digital economy development.
- 11) Carrying out educational activities, pre-university career guidance in the field of the digital economy; international cooperation.
- 12) Publishing intellectual activity results, commercializing them and creating of knowledge-intensive competitive goods (services) on their basis [Romanov, 2019].
- 13) Examining scientific, educational, methodological and reference literature.
- 14) Creating young professionals' team capable of becoming a catalyst for the development of industries, municipalities, rural areas of the region.

The field of the practical use and application of innovative educational project results includes the following.

- 1) Municipal authorities—the development of a system for digital economy application.
- 2) Agricultural organizations—the application of the best practices in the digital economy in the agricultural sector.
- 3) The development of recreational tourism and the competitiveness of the hospitality industry.
- 4) Supervision.

5) The development of digital literacy of all population segments.

The implementation of activities in the FIP status will allow for developing priority projects for educational and scientific activities of an university:

- smart farming—smart (digital) farming [Vaganova et al., 2020];
- developing and transferring “end-to-end” digital technologies: data mining, data processing and storage, cloud technologies, augmented reality [Korneeva, Kraineva, Fedoseeva, 2020; Vasilenko, Linkov, Tokareva, 2020];
- ensuring information security of the activities of municipalities;
- smart villages—the development of scientific and methodological conditions for the creation of platforms in rural areas that are attractive for living, the placement of new industries, cultural and recreational facilities [Fedotova et al., 2020; Vartanova, Drobot, 2018];
- smart small towns—a smart small town, a digital municipality (managing municipal facilities: utilities, energy, education, medicine based on the principles of the digital economy) [Oztemel, Gursev, 2020].

In accordance with the project roadmap, the novelty of the proposed solutions consists in the following [Grishin, Timirgaleeva, 2019; Karpunina et al., 2019; Vial, 2019]:

- creating—through network interaction with relevant competence centers—the knowledge base of the digital economy [Novikova et al., 2019], taking into account historical, cultural, social, demographic and economic characteristics of the Nizhny Novgorod region;
- training curators (experts) and providing educational and methodological support on current issues of the digital economy for municipal and, above all, rural areas of the Nizhny Novgorod region.

Prospects for project development after the completion of the implementation period are as follows:

- advisory, informational and organizational support of digitalization projects in the pilot districts of the Nizhny Novgorod region;
- the development and replication of a digitalization model of municipal (rural) districts of other regions of the Russian Federation using the Nizhny Novgorod region as an example;
- the introduction of the course “Fundamentals of the Digital Economy”, developed and tested during project implementation, into the curriculum.

Discussion

The presented research allows the author to formulate a statement that it is possible and necessary to apply the concept of logistics in such a field of activity as project management, especially given its effectiveness in transforming an educational organization [Kuzminov, Sorokin, Froumin, 2019] and project-oriented logistics system development [Izzah, Liu, Cheng Jack, 2016].

The logistics approach makes it possible (1) to streamline the procedure for participation of an educational organization in competitive selections, grant activities, networking in terms of the organization of scientific research; (ii) to improve management quality with the optimal ratio of information and time resources, as well as performers’ workflows with a clear distribution of responsibility and resources and to organize effective interaction among stakeholders [Fabbe-Costes, 2018]. In addition, the development of certain project thinking in an educational organization during the initiation and further implementation of projects with state support, and the performance of business contracts lead to a reduction in the time to develop documentation (both input and output).

National projects task implementation in terms of education development, and in terms of overall

economy digitalization, according to the author, should involve managerial functions in project environment development in an educational organization that is integrated into all spheres of its activities [Adshead, Quillinan, 2017], especially in the scientific one. Research projects, which form a basis for technology transfer, capitalization of intellectual work and commercialization of scientific developments [Levina et al., 2016; Levina et al., 2019], require a change in their management approaches in terms of information and analytical support, effective documentation of application preparation procedures, project management and reporting documentation. In addition, logistical support for research projects based on the use of digitalization tools, as well as projects in the digital economy, must be quickly adapted to changing environmental conditions. Besides, the expansion or functional shift of shareholders' roles and the scale of their tasks should be focused on project performers with differentiated digital skills with a clear distinction between roles and responsibility for project results. The development of theoretical and methodological foundations and the availability of practical cases for solving promising tasks of digitalization project logistics flows and project management processes will allow for achieving the objectives of state programs to create a digital economy ecosystem and foster the introduction of digital tools, implementing the leading research agenda in educational activities of organizations as centers of digital competencies.

References

1. Abdikeev N.M. et al. (2019) *Real'nyi sektor ekonomiki v usloviyakh novoi promyshlennoi revolyutsii* [The real sector of the economy in the context of the new industrial revolution]. Moscow: Kogito-Tsentr Publ.
2. Adshead M., Quillinan B. (2017) Having it all? Transferring community-oriented research principles to teaching and learning to develop better university engagement. *Educational action research*, 25 (1), pp. 35-55. DOI: 10.1080/09650792.2015.1124044
3. Akhmetshin E.M., Romanov P.Y., Zakieva R.R., Zhminko A.E., Aleshko R.A., Makarov A.L. (2019) Modern approaches to innovative project management in entrepreneurship education: a review of methods and applications in education. *Journal of entrepreneurship education*, 22 (1). Available at: <https://www.abacademies.org/articles/modern-approaches-to-innovative-project-management-in-entrepreneurship-education-a-review-of-methods-and-applications-in-education-8010.html> [Accessed 13/04/20].
4. Busse C., Wallenburg C.M. (2011) Innovation management of logistics service providers: foundations, review, and research agenda. *International journal of physical distribution and logistics management*, 41 (2), pp. 187-218.
5. Durst S., Evangelista P. (2018) Logistics knowledge management: state of the art and future perspectives. *Knowledge management research and practice*, 16 (4), pp. 427-434. DOI: 10.1080/14778238.2018.1525038
6. Fabbe-Costes N. (2018) Logistics knowledge creation in joint industry-academia research projects: the importance of dialogue and co-construction. *Knowledge management research and practice*, 16 (4), pp. 464-476. DOI: 10.1080/14778238.2018.1486788
7. Fedotova G.V., Gorlov I.F., Glushchenko A.V., Slozhenkina M.I., Natyrov A.K. (2020) Trends of scientific and technical development of agriculture in Russia. *Proceedings of the 9th national scientific and practical conference "Digital economy: complexity and variety vs. rationality"*. Springer. DOI: 10.1007/978-3-030-29586-8_23
8. Fugate B.S., Autry C., Davis-Sramek B., Germain R. (2012) Does knowledge management facilities logistics-based differentiation? The effect of global manufacturing reach. *International journal production economics*, 139 (2), pp. 496-509.
9. Goryacheva I.A. (2015) *Razvitie metodologii upravleniya logisticheskimi protsessami v usloviyakh neopredelennosti. Doct. Diss.* [Developing the methodology of managing logistics process in the context of uncertainty. Doct. Diss.] Saratov.
10. *GOST R 54869-2011. Natsional'nyi standart Rossiiskoi Federatsii. Proektnyi menedzhment. Trebovaniya k upravleniyu proektom* [State Standard R 54869-2011 "Project management. Requirements for project management"]. Available at: <https://docs.cntd.ru/document/1200089604> [Accessed 13/04/20].
11. *GOST R ISO 21500-2014. Natsional'nyi standart Rossiiskoi Federatsii. Rukovodstvo po proektnomu menedzhmentu* [State Standard R ISO 21500-2014 "Guidance on project management"]. Available at: <https://docs.cntd.ru/document/1200118020> [Accessed 13/04/20].
12. Grishin I., Timirgaleeva R. (2019) The digital economy of the region: a distributed infrastructure of the industry ecosystem. *Proceedings of the 24th FRUCT conference*. Moscow, pp. 624-631.
13. *Informatsionnaya sistema soprovozhdeniya deyatel'nosti federal'nykh innovatsionnykh ploshchadok* [The information

- system for supporting the activities of federal innovation platforms]. Available at: <https://fip.expert> [Accessed 13/04/20].
14. Izzah N., Liu Y., Cheng Jack K. (2016) A review of logistics management related knowledge management. *Science international*, 29 (2), pp. 527-531.
 15. Karpunina E.K., Shurchkova J.V., Konovalova M.E., Levchenko L.V., Borshchevskaya E.P. (2019) Opportunities of advanced development of the digital economy ecosystem. *Proceedings of the 33rd International Business Information Management Association Conference (IBIMA 2019)*. Granada, pp. 7454-7461.
 16. Korneeva E.N., Kraineva R.K., Fedoseeva O.Yu. (2020) Sovremennaya ekonomika: industriya 4.0 i rol' obrazovaniya dlya ee razvitiya [Modern economy: Industry 4.0 and the role of education for its development]. *Vestnik Volzhskogo universiteta im. V.N. Tatishcheva* [Bulletin of the Volzhsky University], 2 (1), pp. 122-130.
 17. Kraynova O.S. (2020) Logistics transfer to marketing activity outsourcing: setting project objectives through key performance indicators. *Proceedings of the international scientific conference "Far East Con" (ISCFEC 2020). Series: Advances in economics, business and management research*, 128, pp. 2507-2515. DOI: 10.2991/aebmr.k.200312.350
 18. Kubasova T.I. (2009) Logisticheskoe obespechenie investitsionno-stroitel'nykh proektov [Logistics support for investment and construction projects]. *Izvestiya Irkutskoi gosudarstvennoi ekonomicheskoi akademii* [Bulletin of Irkutsk State Academy of Economics], 2, pp. 65-68.
 19. Kubasova T.I. (2009) *Resursnyi faktor logistiki v upravlenii ipotechno-stroitel'nymi proektami* [The resource factor of logistics in the management of mortgage and construction projects]. Irkutsk.
 20. Kuzminov Ya., Sorokin P., Froumin I. (2019) Generic and specific skills as components of human capital: new challenges for education theory and practice. *Foresight and STI governance*, 13 (2), pp. 19-41. DOI: 10.17323/2500-2597.2019.2.19.41
 21. Levina E.Y., Bodina E.A., Artemova E.G., Kiryakova A.V., Ogorodnikova V.V., Matvievskaia E.G., Kriskovets T.N., Kashina S.G. (2019) University intellectual capital formation and development. *Humanities and social sciences reviews*, 7 (4), pp. 1100-1107.
 22. Levina E.Y., Voronina M.V., Rybolovleva A.A., Sharafutdinova M.M., Avilova V.V., Zhandarova L.F. (2016) The concepts of informational approach to the management of higher education's development. *International journal of environmental and science education*, 11 (17), pp. 9913-9922.
 23. *Metodologiya funktsional'nogo modelirovaniya IDEFO* [IDEFO functional modeling methodology]. Available at: <https://nsu.ru/smk/files/idef.pdf> [Accessed 13/04/20].
 24. Novikova E.N., Patrick E., Parakhina V.N., Ustaev R.M. (2019) Human capital in digital economy: modern trends and innovative development opportunities. *Proceedings of the international scientific and practical conference "Contemporary issues of economic development of Russia: challenges and opportunities" (CIEDR 2018)*. Future Academy, pp. 793-802. DOI: 10.15405/epsbs.2019.04.86
 25. *O sbore zayavok na uchastie v otbore federal'nykh innovatsionnykh ploshchadok: pis'mo Minobrnauki Rossii ot 06.07.2018 № 02-657* [On collecting applications for participation in the selection of federal innovation platforms: Letter of the Ministry of Education and Science of the Russian Federation No. 02-657 of July 6, 2018]. Available at: <https://www.garant.ru/products/ipo/prime/doc/71884936/> [Accessed 13/04/20].
 26. *O Strategii razvitiya informatsionnogo obshchestva v Rossiiskoi Federatsii na 2017-2030 gody: ukaz Prezidenta RF ot 09.05.2017 № 203* [On the Strategy for the development of the information society in the Russian Federation for 2017-2030: Decree of the President of the Russian Federation No. 203 of May 9, 2017]. Available at: http://www.consultant.ru/document/cons_doc_LAW_216363/ [Accessed 13/04/20].
 27. *Ob obrazovanii v Rossiiskoi Federatsii: feder. zakon Ros. Federatsii ot 29.12.2012 № 273-FZ: prinyat Gos. Dumoi Feder. Sobr. Ros. Federatsii 21.12.2012: odobr. Sovetom Federatsii Feder. Sobr. Ros. Federatsii 26.12.2012* [On education in the Russian Federation: Federal Law of the Russian Federation No. 273-FZ of December 29, 2012]. Available at: http://www.consultant.ru/document/cons_doc_LAW_140174/ [Accessed 13/04/20].
 28. *Ob utverzhdenii Poryadka formirovaniya i funktsionirovaniya innovatsionnoi infrastruktury v sisteme obrazovaniya: prikaz Minobrnauki Rossii ot 23.07.2013 № 611* [On approving the Procedure for the formation and functioning of an innovative infrastructure in the education system: Order of the Ministry of Education and Science of the Russian Federation No. 611 of July 23, 2013]. Available at: http://www.consultant.ru/document/cons_doc_LAW_150864/ [Accessed 13/04/20].
 29. *Ob utverzhdenii programmy "Tsifrovaya ekonomika Rossiiskoi Federatsii": rasporyazhenie Pravitel'stva RF ot 28.07.2017 № 1632-r* [On approving the program "The digital economy of the Russian Federation": Order of the Russian Government No. 1632-r of July 28, 2017]. Available at: http://www.consultant.ru/document/cons_doc_LAW_221756/ [Accessed 13/04/20].
 30. *Ob utverzhdenii Strategii sotsial'no-ekonomicheskogo razvitiya Nizhegorodskoi oblasti do 2035 goda: postanovlenie Pravitel'stva Nizhegorodskoi oblasti ot 21.12.2018 № 889* [On approving the Strategy for socioeconomic development of the Nizhny Novgorod region until 2035: Decree of the Government of the Nizhny Novgorod region No. 889 of December 21, 2018]. Available at: <https://docs.cntd.ru/document/465587311> [Accessed 13/04/20].
 31. Oztemel E., Gursev S. (2020) Literature review of Industry 4.0 and related technologies. *Journal of intelligent manufacturing*, 31, pp. 127-182. DOI: 10.1007/s10845-018-1433-8

32. *Proekt "Effektivnaya guberniya" startoval v Nizhegorodskoi oblasti* [The project "Effective province" was launched in the Nizhny Novgorod region]. Available at: <https://pravda-nn.ru/news/proekt-effektivnaya-guberniya-startoval-v-nizhegorodskoj-oblasti/> [Accessed 13/04/20].
33. *Protokol zaochnogo zasedaniya Komissii po voprosam formirovaniya i funktsionirovaniya innovatsionnoi infrastruktury v sisteme obrazovaniya № D02-4/02pr ot 07.11.2018* [Minutes of the correspondence meeting of the Commission on the formation and functioning of an innovative infrastructure in the education system No. D02-4/02pr of November 7, 2018]. Available at: <https://fip.expert/storage/documents/protocol02-4-02.pdf> [Accessed 13/04/20].
34. Romanov E.V. (2019) Otsenka effektivnosti deyatelnosti vuzov: protivorechiya i paradoksy. Chast' I [Assessing the effectiveness of the activities of universities: contradictions and paradoxes. Part 1]. *Obrazovanie i nauka* [Education and science], 21 (9), pp. 9-48. DOI: 10.17853/1994-5639-2019-9-9-48
35. Sataeva D., Kraynova O., Pavlova L. (2020) "Process Factory" project as a tool of logistics management in a lean university. *Proceedings of the International Conference on Economics, Management and Technologies 2020 (ICEMT 2020). Series: Advances in economics, business and management research*, 139, pp. 481-485. DOI: 10.2991/aebmr.k.200509.086
36. Sataeva D.M., Komleva V.Sh. (2020) Akkreditatsiya po standartam WorldSkills [Accreditation according to the WorldSkills standards]. *Standarty i kachestvo* [Standards and quality], 4, pp. 74-80.
37. Toporovskii V.P. (2019) Vnedrenie federal'nykh proektov v praktiku organizatsii srednego professional'nogo obrazovaniya: dostizheniya i problemy [Introducing federal projects into the practice of the organizations of secondary vocational education: achievements and problems]. *Obrazovanie: resursy razvitiya. Vestnik LOIRO* [Education: development resources. Bulletin of Leningrad Regional Institute of Education Development], 3, pp. 6-10.
38. Vaganova O.V., Solovjeva N.E., Aulov Y.L., Prokopova L.I. (2020) Transformation of agriculture through digitalization, innovative solutions, and information technologies. *Proceedings of the III international scientific and practical conference "Digital economy and finances" (ISPC-DEF 2020). Series: Advances in economics, business and management research*, 137, pp. 65-68. DOI: 10.2991/aebmr.k.200423.015
39. Vartanova M.L., Drobot E.V. (2018) Perspektivy tsifrovizatsii sel'skogo khozyaistva kak prioriternogo napravleniya importozameshcheniya [Prospects for the digitalization of agriculture as a priority area of import substitution]. *Ekonomicheskie otnosheniya* [Journal of international economic affairs], 8 (1). DOI: 10.18334/eo.8.1.38881
40. Vasilenko N., Linkov A., Tokareva O. (2020) The interaction between innovative technologies in the course of the institutionalization of the digital economy. *Proceedings of the III international scientific and practical conference "Digital economy and finances" (ISPC-DEF 2020). Series: Advances in economics, business and management research*, 137, pp. 44-48. DOI: 10.2991/aebmr.k.200423.010
41. Vial G. (2019) Understanding digital transformation: a review and a research agenda. *Journal of strategic information systems*, 28 (2), pp. 118-144. DOI: 10.1016/j.jsis.2019.01.003
42. Voronina N.A. et al. (2020) *Upravlencheskie, logisticheskie i tsifrovye instrumenty razvitiya sovremennykh sotsial'no-ekonomicheskikh sistem* [Management, logistics and digital tools for developing modern socioeconomic systems]. Saratov.
43. Walker D.H.T. (2016) Reflecting on 10 years of focus on innovation, organizational learning and knowledge management literature in a construction project management context. *Construction innovation*, 16 (2), pp. 114-126. DOI: 10.1108/CI-12-2015-0066
44. Zakharov P.N., Posazhennikov A.A., Zakharova Z.A. (2020) Open innovations as a tool of interaction between universities and business structures in the digital economy. *Proceedings of the 9th national scientific and practical conference "Digital economy: complexity and variety vs. rationality"*. Springer. DOI: 10.1007/978-3-030-29586-8_35

Логистический подход к управлению проектами по поддержке предприятий с целью создания экосистемы цифровой экономики

Крайнова Ольга Сергеевна

Кандидат экономических наук, доцент,
Институт пищевых технологий и дизайна (филиал),
Нижегородский государственный инженерно-экономический университет,
603062, Российская Федерация, Нижний Новгород, ул. Горная, 13;
e-mail: kraynovaos@mail.ru

Аннотация

Автором выявляются возможности логистики в потоковых процессах управления проектами. Обосновывается необходимость логистического подхода к исследовательской деятельности образовательной организации, реализующей в России проект по поддержке предприятий с целью развития экосистемы цифровой экономики в статусе федеральной инновационной площадки. Для обоснования выдвинутых автором предположений используются методы сравнительного анализа, теории логистики и синергетики, общенаучные методы, аналитический обзор научной литературы, а также содержания нормативных документов, обобщение, синтез и аналогия. Подходы к измерению представлены как системно-синергетические, потоково-процессные, ресурсоориентированные; в частности, применяются концепция интегрированной логистики и концепция координации контроллинга и управления проектами. В статье представлены результаты моделирования потоковых процессов управления проектами на основе полученных данных. Подробно описан процесс инициации проекта. Обоснована необходимость рассмотрения в качестве объекта управления. Процессы потоковой передачи проектов объединяют практические инструменты управления логистикой, а также методологию управления проектами. Анализ показывает, что результаты преобразования потока на различных этапах управления проектом должны быть представлены как продукты потоковых процессов. Результаты исследования могут быть применены в деятельности образовательных и научно-исследовательских организаций для совершенствования средств и методов управления проектами и создания основанного на знаниях конкурентоспособного продукта (услуг) в рамках проектно-ориентированных логистических систем.

Для цитирования в научных исследованиях

Крайнова О.С. A logistics approach to enterprise support project management with a view to creating a digital economy ecosystem // Экономика: вчера, сегодня, завтра. 2022. Том 12. № 9А. С. 382-396. DOI: 10.34670/AR.2022.68.67.022

Ключевые слова

Логистический подход, потоковые процессы, цифровая экономика, управление проектами, логистические системы.

Библиография

1. Абдикеев Н.М. и др. Реальный сектор экономики в условиях новой промышленной революции. М.: Когито-Центр, 2019. 427 с.
2. Варганова М.Л., Дробот Е.В. Перспективы цифровизации сельского хозяйства как приоритетного направления импортозамещения // Экономические отношения. 2018. Т. 8. № 1. DOI: 10.18334/eo.8.1.38881
3. Воронина Н.А. и др. Управленческие, логистические и цифровые инструменты развития современных социально-экономических систем. Саратов, 2020. 161 с.
4. Горячева И.А. Развитие методологии управления логистическими процессами в условиях неопределенности: дис. ... д-ра экон. наук. Саратов, 2015. 394 с.
5. ГОСТ Р 54869-2011. Национальный стандарт Российской Федерации. Проектный менеджмент. Требования к управлению проектом. URL: <https://docs.cntd.ru/document/1200089604>
6. ГОСТ Р ИСО 21500-2014. Национальный стандарт Российской Федерации. Руководство по проектному менеджменту. URL: <https://docs.cntd.ru/document/1200118020>
7. Информационная система сопровождения деятельности федеральных инновационных площадок. URL: <https://fip.expert>
8. Корнеева Е.Н., Крайнева Р.К., Федосеева О.Ю. Современная экономика: индустрия 4.0 и роль образования для

- ее развития // Вестник Волжского университета им. В.Н. Татищева. 2020. Т. 2. № 1. С. 122-130.
9. Кубасова Т.И. Логистическое обеспечение инвестиционно-строительных проектов // Известия Иркутской государственной экономической академии. 2009. № 2. С. 65-68.
 10. Кубасова Т.И. Ресурсный фактор логистики в управлении ипотечно-строительными проектами. Иркутск, 2009. 158 с.
 11. Методология функционального моделирования IDEF0. URL: <https://nsu.ru/smk/files/idef.pdf>
 12. О сборе заявок на участие в отборе федеральных инновационных площадок: письмо Минобрнауки России от 06.07.2018 № 02-657. URL: <https://www.garant.ru/products/ipo/prime/doc/71884936/>
 13. О Стратегии развития информационного общества в Российской Федерации на 2017-2030 годы: указ Президента РФ от 09.05.2017 № 203. URL: http://www.consultant.ru/document/cons_doc_LAW_216363/
 14. Об образовании в Российской Федерации: федер. закон Рос. Федерации от 29.12.2012 № 273-ФЗ: принят Гос. Думой Федер. Собр. Рос. Федерации 21.12.2012; одобр. Советом Федерации Федер. Собр. Рос. Федерации 26.12.2012. URL: http://www.consultant.ru/document/cons_doc_LAW_140174/
 15. Об утверждении Порядка формирования и функционирования инновационной инфраструктуры в системе образования: приказ Минобрнауки России от 23.07.2013 № 611. URL: http://www.consultant.ru/document/cons_doc_LAW_150864/
 16. Об утверждении программы «Цифровая экономика Российской Федерации»: распоряжение Правительства РФ от 28.07.2017 № 1632-р. URL: http://www.consultant.ru/document/cons_doc_LAW_221756/
 17. Об утверждении Стратегии социально-экономического развития Нижегородской области до 2035 года: постановление Правительства Нижегородской области от 21.12.2018 № 889. URL: <https://docs.cntd.ru/document/465587311>
 18. Проект «Эффективная губерния» стартовал в Нижегородской области. URL: <https://pravda-nn.ru/news/proekt-effektivnaya-guberniya-startoval-v-nizhegorodskoj-oblasti/>
 19. Протокол заочного заседания Комиссии по вопросам формирования и функционирования инновационной инфраструктуры в системе образования № Д02-4/02пр от 07.11.2018. URL: <https://fip.expert/storage/documents/protocol02-4-02.pdf>
 20. Романов Е.В. Оценка эффективности деятельности вузов: противоречия и парадоксы. Часть I // Образование и наука. 2019. Т. 21. № 9. С. 9-48. DOI: 10.17853/1994-5639-2019-9-9-48
 21. Сатаева Д.М., Комлева В.Ш. Аккредитация по стандартам WorldSkills // Стандарты и качество. 2020. № 4. С. 74-80.
 22. Топоровский В.П. Внедрение федеральных проектов в практику организаций среднего профессионального образования: достижения и проблемы // Образование: ресурсы развития. Вестник ЛОИРО. 2019. № 3. С. 6-10.
 23. Adshead M., Quillinan B. Having it all? Transferring community-oriented research principles to teaching and learning to develop better university engagement // Educational action research. 2017. Vol. 25. No. 1. P. 35-55. DOI: 10.1080/09650792.2015.1124044
 24. Akhmetshin E.M., Romanov P.Y., Zakieva R.R., Zhminko A.E., Aleshko R.A., Makarov A.L. Modern approaches to innovative project management in entrepreneurship education: a review of methods and applications in education // Journal of entrepreneurship education. 2019. Vol. 22. No. 1. URL: <https://www.abacademies.org/articles/modern-approaches-to-innovative-project-management-in-entrepreneurship-education-a-review-of-methods-and-applications-in-education-8010.html>
 25. Busse C., Wallenburg C.M. Innovation management of logistics service providers: foundations, review, and research agenda // International journal of physical distribution and logistics management. 2011. Vol. 41. No. 2. P. 187-218.
 26. Durst S., Evangelista P. Logistics knowledge management: state of the art and future perspectives // Knowledge management research and practice. 2018. Vol. 16. No. 4. P. 427-434. DOI: 10.1080/14778238.2018.1525038
 27. Fabbe-Costes N. Logistics knowledge creation in joint industry-academia research projects: the importance of dialogue and co-construction // Knowledge management research and practice. 2018. Vol. 16. No. 4. P. 464-476. DOI: 10.1080/14778238.2018.1486788
 28. Fedotova G.V., Gorlov I.F., Glushchenko A.V., Slozhenkina M.I., Natyrov A.K. Trends of scientific and technical development of agriculture in Russia // Proceedings of the 9th national scientific and practical conference “Digital economy: complexity and variety vs. rationality”. Springer, 2020. DOI: 10.1007/978-3-030-29586-8_23
 29. Fugate B.S., Autry C., Davis-Sramek B., Germain R. Does knowledge management facilities logistics-based differentiation? The effect of global manufacturing reach // International journal production economics. 2012. Vol. 139. No. 2. P. 496-509.
 30. Grishin I., Timirgaleeva R. The digital economy of the region: a distributed infrastructure of the industry ecosystem // Proceedings of the 24th FRUCT conference. Moscow, 2019. P. 624-631.
 31. Izzah N., Liu Y., Cheng Jack K. A review of logistics management related knowledge management // Science international. 2016. Vol. 29. No. 2. P. 527-531.
 32. Karpunina E.K., Shurchkova J.V., Konovalova M.E., Levchenko L.V., Borshchevskaya E.P. Opportunities of advanced development of the digital economy ecosystem // Proceedings of the 33rd International Business Information

- Management Association Conference (IBIMA 2019). Granada, 2019. P. 7454-7461.
33. Kraynova O.S. Logistics transfer to marketing activity outsourcing: setting project objectives through key performance indicators // Proceedings of the international scientific conference "Far East Con" (ISCFEC 2020). Series: Advances in economics, business and management research. 2020. Vol. 128. P. 2507-2515. DOI: 10.2991/aebmr.k.200312.350
 34. Kuzminov Ya., Sorokin P., Froumin I. Generic and specific skills as components of human capital: new challenges for education theory and practice // Foresight and STI governance. 2019. Vol. 13. No. 2. P. 19-41. DOI: 10.17323/2500-2597.2019.2.19.41
 35. Levina E.Y., Bodina E.A., Artemova E.G., Kiryakova A.V., Ogorodnikova V.V., Matvievskaia E.G., Kriskovets T.N., Kashina S.G. University intellectual capital formation and development // Humanities and social sciences reviews. 2019. Vol. 7. No. 4. P. 1100-1107.
 36. Levina E.Y., Voronina M.V., Rybolovleva A.A., Sharafutdinova M.M., Avilova V.V., Zhandarova L.F. The concepts of informational approach to the management of higher education's development // International journal of environmental and science education. 2016. Vol. 11. No. 17. P. 9913-9922.
 37. Novikova E.N., Patrick E., Parakhina V.N., Ustaev R.M. Human capital in digital economy: modern trends and innovative development opportunities // Proceedings of the international scientific and practical conference "Contemporary issues of economic development of Russia: challenges and opportunities" (CIEDR 2018). Future Academy, 2019. P. 793-802. DOI: 10.15405/epsbs.2019.04.86
 38. Oztemel E., Gursev S. Literature review of Industry 4.0 and related technologies // Journal of intelligent manufacturing. 2020. Vol. 31. P. 127-182. DOI: 10.1007/s10845-018-1433-8
 39. Sataeva D., Kraynova O., Pavlova L. "Process Factory" project as a tool of logistics management in a lean university // Proceedings of the International Conference on Economics, Management and Technologies 2020 (ICEMT 2020). Series: Advances in economics, business and management research. 2020. Vol. 139. P. 481-485. DOI: 10.2991/aebmr.k.200509.086
 40. Vaganova O.V., Solovjeva N.E., Aulov Y.L., Prokopova L.I. Transformation of agriculture through digitalization, innovative solutions, and information technologies // Proceedings of the III international scientific and practical conference "Digital economy and finances" (ISPC-DEF 2020). Series: Advances in economics, business and management research. 2020. Vol. 137. P. 65-68. DOI: 10.2991/aebmr.k.200423.015
 41. Vasilenko N., Linkov A., Tokareva O. The interaction between innovative technologies in the course of the institutionalization of the digital economy // Proceedings of the III international scientific and practical conference "Digital economy and finances" (ISPC-DEF 2020). Series: Advances in economics, business and management research. 2020. Vol. 137. P. 44-48. DOI: 10.2991/aebmr.k.200423.010
 42. Vial G. Understanding digital transformation: a review and a research agenda // Journal of strategic information systems. 2019. Vol. 28. No. 2. P. 118-144. DOI: 10.1016/j.jsis.2019.01.003
 43. Walker D.H.T. Reflecting on 10 years of focus on innovation, organizational learning and knowledge management literature in a construction project management context // Construction innovation. 2016. Vol. 16. No. 2. P. 114-126. DOI: 10.1108/CI-12-2015-0066
 44. Zakharov P.N., Posazhennikov A.A., Zakharova Z.A. Open innovations as a tool of interaction between universities and business structures in the digital economy // Proceedings of the 9th national scientific and practical conference "Digital economy: complexity and variety vs. rationality". Springer, 2020. DOI: 10.1007/978-3-030-29586-8_35