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As a manuscript

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THE IMPACT OF COMPANIES' BUSINESS ACTIVITY AND THEIR FOCUS ON COOPERATION ON THE DEVELOPMENT OF INTER-ORGANIZATIONAL INNOVATIONS

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GENERAL CHARACTERISTICS OF THESIS RESEARCH

Statement and substantiation of the relevance of the research problem.

Today, the stability and competitiveness of the national economy is significantly dependent on the pace of technological development of the country, including the development and assimilation of new knowledge, the creation and adaptation of innovative products and solutions. The "Strategy of Scientific and Technological Development of the Russian Federation" calls scientific and technological development a key factor in the development of the country[1]; the "Concept of Technological Development for the period up to 2030", approved by the Government of the Russian Federation, emphasizes the need to support efforts to change and stimulate business innovation.[2]

In turn, rapid changes in market conditions and consumer preferences caused by the rapid development of technology are among the key challenges in terms of ensuring the competitiveness of companies.[3] The digitalization of most areas of human activity, the integration of artificial intelligence into business processes, the development of ecosystems or super-applications that combine many services and products into a single system, as well as the development of technically complex products, all this leads to the regular need for dynamic updates and the development of innovations in business.[4,5]

Despite the fact that innovations[6] are a significant source of competitive advantages, the process of their development is resource-intensive, time-consuming

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[1] Decree of the President of the Russian Federation No. 642 of December 1, 2016. (2016). *On the Strategy for Scientific and Technological Developmet of the Russian Federation*.

[2] Order of the Government of the Russian Federation No. 1315-r of May 20, 2023 (as amended on October 21, 2024). (2023). *On the approval of the Concept of Technological Development for the Period until 2030* (together with the *Concept of Technological Development for the Period until 2030*).

[3] Adams, R. (2024, January 25). From Access To Advantage: How Digital Equity Can Become Your Competitive Edge. *Forbes.* https://www.forbes.com/councils/forbesbusinesscouncil/2024/01/25/from-access-to-advantage-how-digital-equity-can-become-your-competitive-edge/

[4] McAgy, L. (2024, July 3). How Innovation Best Drives Business Growth. *Forbes*. https://www.forbes.com/councils/forbesbusinesscouncil/2024/07/03/how-innovation-best-drives-business-growth/;

[5] Mubarak, M. F., Jucevicius, G., Shabbir, M., Petraite, M., Ghobakhloo, M., & Evans, R. (2025). Strategic foresight, knowledge management, and open innovation: Drivers of new product development success. Journal of Innovation & Knowledge, 10(2), 100654.

[6] Innovation is the result of the development and implementation of new solutions in relation to the implementation entity, including changes to existing solutions that meet the commercial interests of this entity.

and often time-consuming. With the increasing complexity of innovation itself, the need for resources (information, financial, time, etc.) increases significantly and often exceeds the resource capabilities of one company, thereby actualizing the problem of finding and accessing external resources.

Partnerships with other organizations (market actors) are one of the key opportunities through which a focal company can increase its own innovation potential and can implement major innovative projects.[7] The paradigm of open innovation, as an alternative to intra-organizational innovation, is actively developing all over the world. Among large domestic companies, about 20% consider "joint creativity to be the most important factor in business growth" (Collective Intelligence: how open innovation helps to combat the shortage of technology, 2025). However, it should be emphasized that projects implemented by two or more organizations require participating companies to manage relationships within the project team and involve risks associated with such management.[8,9]

In academic discussion, the topic of the development of inter-organizational innovations is interdisciplinary and is located at the junction of two scientific fields: innovation management and industrial marketing.

From the standpoint of industrial marketing, the key theoretical concepts are relationship marketing as a global paradigm, and the network approach in marketing, which is part of relationship marketing, characterizing and explaining the totality of multiple relationships between companies. Relationship marketing in the context of the study of interorganizational relations has been actively developing over the past forty years (it is believed that this concept was introduced by Berry in 1983) as Western researchers such as F. Webster, K. Moeller, D. Coe, R. Brennan, L. Canning, R. McDowell, E. Gammesson and many others, as well as Russian

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[7] Shi, Y., Cui, T., & Kurnia, S. (2023). Value co-creation for digital innovation: An interorganizational boundary-spanning perspective. Information & Management, 60(5), 103817. https://doi.org/10.1016/j.im.2023.103817;

[8] Brea, E. (2023). A framework for mapping actor roles and their innovation potential in digital ecosystems. *Technovation*, *125*, 102783. https://doi.org/10.1016/j.technovation.2023.102783;

[9] Liu, H., Wei, S., & Bao, Y. (2024). Collaborative problemistic search capability and digital innovation: The moderating effects of IT capability and legal development. *Industrial Marketing Management*, *123*, 345–357. https://doi.org/10.1016/j.indmarman.2024.11.002

scientists such as M.A. Bek, O.A. Tretyak, S.P. Kushch, V.A. Rebyazina, M.M. Smirnova, A.G. Rozhkov, M.Y. Sheresheva, A.I. Kovalev and others.

At the beginning of the development of the concept of relationship marketing, its definition included interactions only with customers,[10] later other partners began to be included in the concept, which significantly expanded the perspective of industrial marketing development.[11] According to the map developed by Moeller and Halinen in 2000 and updated by Moller in 2013, relationship marketing can be divided into two areas: market [CRM, behavioral marketing], which is represented by research by such authors as A. Jenkinson, D. Peppers, M. Rogers, V. Kumar, K. Fill, S. McKee, E. Malthouse, P. Blattberg, R.M. Morgan, S.D. Hunt, and others. and the network direction (channel relationships, focal and strategic networks, as well as markets as networks and relationships between network actors), represented by the works of such researchers as K. Meller, A. Halinen, F. Kotler, R. Akhrol, O.A. Tretyak, S.P. Kushch, M.M. Smirnova, H. Hakansson, A. Lundgren, S. Lik., K. Mason, L. Rosenkopf, M. Schilling, and others.

Within the framework of the network approach in marketing, the topic of managing innovation networks and ecosystems has been actively developing in recent decades, the key difference between which is innovation goals. Research on innovative networks and ecosystems is actively developed by such authors as K. Meller, A. Radzivon, M.L. Bogers, G. Chesbro, T.S. Minssen, Najafi-Tavani, Z. Najafi-Tavani, P. Naude, P. Ogazi, E. Zeynalu, M. Zafar Yakub, M.Schastachich, J. Klike, D. Hendricks, J.. Windsperger, F.K. Steinbruch, L.D.S Nascimento and D.K. de Menezes. O. Keranen, H. Komulainen, T. Lehtimaki, P. Ulkuniemi and others. Researchers agree that with increasing economic and/or social connections, the likelihood of creating more insightful and diverse ideas increases, indicating a high potential for innovation in inter-organizational networks.

At the same time, the open innovation paradigm is developing in parallel within the framework of innovation management, the founder of which is considered

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[10] Buttle, F. A. (Ed.). (1996). *Relationship Marketing: Theory and Practice* (1st edition). SAGE Publications Ltd.
[11] Payne, A., & Frow, P. (2013). *Strategic Customer Management: Integrating Relationship Marketing and CRM*. Cambridge University Press. https://doi.org/10.1017/CBO9781139057417

to be Henry Chesbro. Over the past twenty years, the paradigm has been widely recognized by professional and academic communities around the world. Some of the most famous researchers in the field of open innovation are such researchers as G. Chesbro, J. West, W. Vanhaverbeke, M. Bogers. Within the framework of the idea of open innovation, the advantages of the concept of open innovation over the concept of closed innovation are actively discussed, including gaining access to new resources, the ability to create and integrate them,[12,13] obtaining new knowledge, joint knowledge generation and mutual learning,[14,15] the creation and modernization of technical systems for joint evolution.[16,17] With the strengthening of understanding of the benefits of the open innovation model, the issue of the ability to manage innovative projects involving a large number of organizations is becoming increasingly important.

In an effort to understand the phenomenon of interorganizational relations and the ability to manage them within the framework of the above paradigms, researchers are considering the question of what the life cycle of these relations is. Thus, researchers F.R. Dwyer, P.H. Schurr, P.H., C.O., have developed one of the fundamental approaches to dividing the life cycle of relationships into stages.[18] In the works of such researchers as M. Zineldin, D.I. Ford, L.E. Garde, H. Hakansson, I. Snehota, P. Klimas, and others, alternative approaches to understanding the life cycle of relationships have been proposed.; Another important area of research is the

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[12] Mota, J., & de Castro, L. M. (2019). Embedding of a new business as a cumulative process of combining different but complementary types of projects: The case of a project-based firm. *Industrial Marketing Management*, *80*, 188–200. https://doi.org/10.1016/j.indmarman.2017.12.003

[13] Maghssudipour, A., Lazzeretti, L., & Capone, F. (2020). The role of multiple ties in knowledge networks: Complementarity in the Montefalco wine cluster. *Industrial Marketing Management*, *90*, 667–678. https://doi.org/10.1016/j.indmarman.2020.03.021

[14] Mota, J., & de Castro, L. M. (2019). Embedding of a new business as a cumulative process of combining different but complementary types of projects: The case of a project-based firm. *Industrial Marketing Management*, *80*, 188–200. https://doi.org/10.1016/j.indmarman.2017.12.003

[15] Mudambi, R., Mudambi, S. M., Mukherjee, D., & Scalera, V. G. (2017). Global connectivity and the evolution of industrial clusters: From tires to polymers in Northeast Ohio. *Industrial Marketing Management*, *61*, 20–29. https://doi.org/10.1016/j.indmarman.2016.07.007

[16] Aarikka-Stenroos, L., Jaakkola, E., Harrison, D., & Mäkitalo-Keinonen, T. (2017). How to manage innovation processes in extensive networks: A longitudinal study. *Industrial Marketing Management*, *67*, 88–105. https://doi.org/10.1016/j.indmarman.2017.09.014

[17] Mudambi, R., Mudambi, S. M., Mukherjee, D., & Scalera, V. G. (2017). Global connectivity and the evolution of industrial clusters: From tires to polymers in Northeast Ohio. *Industrial Marketing Management*, *61*, 20–29. https://doi.org/10.1016/j.indmarman.2016.07.007

[18] Dwyer, F. R., Schurr, P. H., & Oh, S. (1987). Developing Buyer-Seller Relationships. *Journal of Marketing*, *51*(2), 11–27. https://doi.org/10.2307/1251126

study of individual stages of the life cycle and factors affecting relationships, presented in the works of G. Theng Lau, M. Guo, J.-L. Duanmu, F.M. Fai, P. Davis, P. Love, F.N.H. Ferreira, B. Cova, R. Spencer, J. F. Proens. and others.

Considering the life cycle of relationships, including those aimed at developing inter–organizational innovations, researchers agree that the first stage, the selection stage, is extremely important for determining the potential of future relationships. It is at this stage that the criteria for selecting partners who potentially should be most useful for joint activities are formed.

In previous studies, the topic of selecting partners to solve various business problems, including for the development of joint innovations, has been widely covered [see, for example: Wei et al., 2020; Jee & Sohn, 2020; Li et al., 2024].[19,20,21] Nevertheless, one of the most important problems of the proposed indicators for selecting partners for innovation development is to take into account the needs of only the focal firm, while the interest of a potential partner is not included in the selection criteria. At the same time, it should be noted that the selection of partners is always a two—way interaction, which in turn actualizes the task of taking into account the intention to develop interorganizational innovations not only of the focal company, but also of those companies that are being considered for involvement in such interorganizational cooperation. Failure to take this criterion into account can lead to increased transaction costs for the focal company associated with unpromising negotiations or ineffective agreements, as well as to a decrease in the potential of the relationship itself and explicit or implicit resistance to the processes involved in the development of inter-organizational innovations on the part of the partner.

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[19] Wei, F., Feng, N., Yang, S., & Zhao, Q. (2020). A conceptual framework of two-stage partner selection in platform-based innovation ecosystems for servitization. *Journal of Cleaner Production*, *262*, 121431. https://doi.org/10.1016/j.jclepro.2020.121431

[20] Jee, S. J., & Sohn, S. Y. (2020). Patent-based framework for assisting entrepreneurial firms' R&D partner selection: Leveraging their limited resources and managing the tension between learning and protection. *Journal of Engineering and Technology Management*, *57*, 101575. https://doi.org/10.1016/j.jengtecman.2020.101575

[21] Li, R., Zhang, M., Yin, S., Zhang, N., & Mahmood, T. (2024). Developing a conceptual partner selection framework for matching public–private partnerships of rural energy internet project using an integrated fuzzy AHP approach for rural revitalization in China. *Heliyon*, *10*(10), e31096. https://doi.org/10.1016/j.heliyon.2024.e31096

It is also important to emphasize that the intention of companies to develop interorganizational innovations, as a criterion, is quite complex for its external assessment, and therefore the problem of developing an approach to assessing the intention of companies to develop interorganizational innovations, which will be based on internal factors influencing such an intention, is relevant.

The purpose and objectives of the study.

The purpose of this study is to develop a scientifically based approach to assessing the intention of potential partners to develop inter-organizational innovations based on the factors of the company's internal environment.

To achieve this goal, the following list of tasks was formulated:

- based on an integrative analysis of the literature, to develop a terminological research apparatus, to define the boundaries of interpretation of key concepts;

- to identify and analyze the theoretical foundations of the problem of establishing inter-organizational cooperation for the development of inter-organizational innovations, within the framework of the key concepts of relationship marketing and open innovation;

- to determine and justify the importance of the partner selection stage for the development of inter-organizational innovations; - to determine the role of taking into account the intention of potential partners to participate in such inter-organizational relations when selecting partners for building the potential of inter-organizational relations;

- identify the factors influencing the intention of companies (potential partners) to develop inter-organizational innovations;

- to develop a conceptual and empirical research model;

- based on the results of quantitative research, to identify the peculiarities of the influence of factors of the internal environment of companies on their intention to develop inter-organizational innovations;

- to develop practical recommendations for companies interested in selecting partners for the development of interorganizational innovations, taking into account

the intention of potential partners to develop interorganizational innovations based on an assessment of the factors of the internal environment of the partners.

Subject and object of research.

The object of the research is companies operating in the Russian market. The subject of the research is an approach to selecting partners for the development of inter-organizational innovations based on an assessment of the factors of the company's internal environment.

Hypotheses posed in the framework of the study.

The intention in this study is interpreted from the perspective of the Theory of planned behavior. This theory was presented by Icek Ajzen as a theoretical framework that describes and predicts an individual's behavior, based on determining his intention to behave in a certain way, which is considered a key predictor of behavior.[22] In the current dissertation research, the provisions of this theory are adapted and used to analyze the intention of companies to develop inter-organizational innovations. Two factors that, according to the provisions of this theory, have a positive effect on intention have been adapted as two independent variables for the organizational level: "attitude to interorganizational innovation" and "subjective norm". The first construct implies the representation of the expected result from the behavior in question. The second construct describes the representation of the opinion of surrounding organizations about the behavior in question. [23,24]

Based on the provisions of the theory of planned behavior and taking into account their conceptual adaptation to the level of analysis of the company, the following hypotheses were formulated:

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[22] Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

[23] Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

[24] Solovyov, I. V., Kushch, S. P., & Malikov, T. R. (2024). The influence of companies' focus on cooperation on the development of inter-organizational innovations. Bulletin of the Moscow University. Series 6. Economics, 0(1), Article 1 (in Russian).

H1: A positive attitude towards the development of inter-organizational innovations increases the company's intention to develop inter-organizational innovations.

H2: A subjective norm that presupposes a positive attitude of surrounding organizations towards the development of interorganizational innovations has a positive effect on the company's intention to develop interorganizational innovations.

In this study, business activity and the companies' focus on cooperation[25] were conceptualized as internal factors influencing the intention of companies to develop interorganizational innovations, which can be used as indicators for assessing the intention of companies to develop interorganizational innovations.

The connection between business activity and the intention to develop inter-organizational innovations is based on the idea that dynamically developing organizations that face a regular need to update their business processes, on the one hand, will be more adapted to changes and will be more inclined to innovate, and on the other hand, they will also be inclined to scale their own resource capabilities. at the expense of external resources.

The identification of predictors of intention based on the theory of planned behavior made it possible to expand this study and draw attention to the conceptual mediation of the relationship between business activity and the intention of companies to develop interorganizational innovations by the variable "attitude to the development of interorganizational innovations". Thus, the following two hypotheses were formulated:

H3: The high level of business activity of a company positively influences the intention of companies to develop inter-organizational innovations.

H4: The attitude towards cooperation for the development of innovation is an intermediary (mediator) between the level of business activity and the intention of companies to develop inter-organizational innovations.

[25] The term "cooperation" is introduced in this work to denote cooperation between organizations that go beyond the implementation of traditional supply contracts. Thus, in this paper, cooperation is understood as a form of inter-organizational cooperation that does not include cooperation in the implementation of traditional supply contracts.

The connection between companies' focus on cooperation and the intention to develop interorganizational innovations is based on an idea presented in the theory of organizational routines: companies tend to create certain procedural knowledge and patterns in the process of carrying out their own activities, which include not only physical embodiments (guides, manuals, samples, etc.), but also a way of thinking.[26,27] Since changes can be perceived by companies as costs, the increase of which will negatively affect the level of value from the planned behavior, the presence of organizational routines related to the management of interorganizational cooperation will reduce the need for changes and lead to an increase in the intention of companies to develop interorganizational innovations.

Also, as in the case of business activity, the conceptual mediation of the relationship between cooperation orientation and the intention of companies to develop interorganizational innovations by the variable "attitude to the development of interorganizational innovations" was formulated. Thus, the following two hypotheses were formulated:

H5: The company's high focus on cooperation to solve its business problems positively influences the intention of companies to develop inter-organizational innovations.

H6: The attitude towards cooperation for the development of innovation is an intermediary between the orientation of companies towards cooperation and the intention of companies to develop inter-organizational innovations.

The theoretical basis and methodological basis of the research.

This research is based on the scientific work of reputable Russian and international researchers in the field of industrial marketing, innovation management and economics, statistical databases (including Rosstat, SPARK, etc.), regulatory documents (including federal laws, letters and explanations from government

[26] Maroun, W., & Duboisée de Ricquebourg, A. (2024). How auditors identify and report key audit matters—An organizational routines perspective. *The British Accounting Review*, *56*(2], 101263. https://doi.org/10.1016/j.bar.2023.101263

[27] Solovyov, I. V., Kushch, S. P., & Malikov, T. R. (2024). The influence of companies' focus on cooperation on the development of inter-organizational innovations. Bulletin of the Moscow University. Series 6. Economics, 0(1), Article 1 (in Russian).

authorities, etc.), official websites of international and domestic organizations and associations of organizations (including X5 Retail Group, RUSSOF, Bank of Russia, OECD, etc.), universities (including HSE University, Corporate Finance Institute).

In this dissertation, empirical research is primarily of a confirmatory nature. It is aimed at rigorous verification of pre-formulated hypotheses and obtaining reliable, statistically sound results. It should be noted that within the framework of empirical research, two separate empirical models are being developed, one of which examines the impact of business activity on companies' intention to develop inter-organizational innovations, the other examines the impact of cooperation orientation on companies' intention to develop inter-organizational innovations.

It should also be emphasized that empirical verification of models was carried out only for inter-organizational technological innovations. This focus is due to the fact that technological innovation is often the goal of inter-organizational cooperation. Limiting the research framework in the empirical part to one type of innovation made it possible to achieve accurate formulations of the questions in the questionnaire and avoid ambiguity in the interpretation of the answers, which increased the accuracy of the results.

To collect the primary data, a survey is used among top managers and specialists in the field of managing relations with external organizations and in the field of innovation management representing domestic companies. The snowball method for testing one empirical model and quota sampling for testing the second empirical model are used as methods of attracting respondents (data collection for the second empirical model was carried out by the involved agency).

Statistical data processing includes evaluation of the consistency and reliability of constructs (calculation of the Alpha-Kronbach index, AVE, CR), evaluation of the discriminant validity of constructs (calculation of HTMT ratios, Fornell-Larker test), statistical evaluation of the error of the general method (Harman test), checking the presence of links between constructs (correlation analysis), checking the influence of independent variables are replaced by dependent variables

(multiple regression method, PLS-SEM analysis) and mediation verification (PLS-SEM analysis, bootstrap analysis).

Widespread and recognized software is used for data processing: IBM SPSS 20, AMOS 23, macro PROCESS for SPSS and R Studio.

The scientific novelty of the dissertation research lies in conceptualizing the role of companies' intention to develop interorganizational innovations as a significant factor influencing the potential of future relationships and in developing an approach to assessing companies' intention to develop interorganizational innovations based on an assessment of the company's internal environment factors.

The main results of this study, which reflect the scientific novelty, are:

1. Based on the analysis of scientific literature, the importance of the role of the intention of potential partners to develop interorganizational innovations for building the potential of interorganizational relations was conceptualized. To analyze the intention of companies, an adaptation of the provisions of the theory of planned behavior, which was developed to predict the behavior of individuals, is proposed. Within the framework of adaptation, two predictors of companies' intention to develop inter-organizational innovations were identified and conceptualized: the subjective norm and the attitude towards behavior.

2. The thesis develops a scientifically based conceptual model of the impact of companies' business activity and their focus on cooperation on the intention of companies to develop inter-organizational innovations. An approach has been developed to assess the intention of companies to develop inter–organizational innovations based on an assessment of the factors of the company's internal environment - business activity and the companies' focus on cooperation.

3. The results of two quantitative studies, including testing of two empirical models, confirmed the existence of a positive direct influence of the constructs "company orientation to cooperation", "attitude of companies to interorganizational innovations" and "subjective norm" on the variable "intention of companies to develop interorganizational innovations". A partial mediation of the relationship between the focus on cooperation and the intention to develop inter-organizational

innovations was found. In other words, the influence of this predictor on the intention of companies to develop interorganizational innovations is partly explained by a change in the level of attitudes towards interorganizational innovations, which, in turn, changes the intention of these companies to develop interorganizational innovations. Additionally, a complete mediation of the relationship between the business activity of companies and their intention to develop inter-organizational innovations was found.

The main provisions submitted for defense.

1. The study conceptualizes the role of the intention of potential partners to develop inter-organizational innovations as a significant factor in determining the potential of inter-organizational relations in the field of innovation development. The paper explains that a company, as an integral economic agent, can act as a subject of behavior and a subject of intention. Due to the similarity of the behavior of companies and individuals noted by scientists, an adaptation of the provisions of the theory of planned behavior is proposed to analyze the intention of companies. As part of the adaptation, a conceptualization of two predictors has been developed that influence companies' intention to develop inter-organizational innovations: subjective norm and attitude to behavior.

2. The paper proposes an approach to assessing the intention of companies to develop inter–organizational innovations based on an assessment of the factors of the company's internal environment - business activity and the companies' focus on cooperation. The conceptual model of the study includes two levels of predictors of companies' intention to develop inter-organizational innovations (predictors with direct and indirect influence). The first level presupposes a direct link and includes the influence of subjective norms and attitudes towards inter-organizational innovations on the intention of companies to develop such inter-organizational innovations. The first level predictors are difficult to evaluate externally when selecting partners, so a second level of predictors has been developed, which assumes an indirect relationship and includes the indirect influence of business activity and companies' focus on cooperation on companies' intention to develop

interorganizational innovations (the mediator is the attitude towards interorganizational innovations).

3. The results of the first quantitative study indicate that companies with a positive attitude to the development of interorganizational innovation and the belief that their surrounding companies have a positive attitude to the development of interorganizational innovation have a higher level of intention to develop interorganizational innovation than companies with a negative attitude to the development of interorganizational innovation and the belief that their surrounding companies They have a negative attitude towards the development of inter-organizational innovations. Additionally, it was found that business activity does not directly affect the intention of companies to develop interorganizational innovations, but at the same time has an indirect effect through attitudes towards the development of interorganizational innovations. In other words, companies with high business activity are generally more positive about inter-organizational innovation, which in turn increases their intention to develop inter-organizational innovation.

4. In the second quantitative study, it was once again confirmed that companies with a positive attitude to the development of interorganizational innovations and the belief that their surrounding companies have a positive attitude to the development of interorganizational innovations have a higher level of intention to develop interorganizational innovations than companies with a negative attitude to interorganizational innovations and the belief that their surroundings companies have a negative attitude towards the development of inter-organizational innovations. It was also found that companies with a high level of cooperation orientation have a higher level of intention to develop inter-organizational innovations than companies with a low level of cooperation orientation. Additionally, it was found that this dependence is partly due to the fact that companies that are strongly cooperative are generally more positive about inter-organizational innovation, which in turn increases their intention to develop inter-organizational innovation.

5. Companies interested in selecting partners for the development of inter-organizational innovations should consider the possibility and necessity of assessing the intention of potential partners to develop inter-organizational innovations. Such companies should take into account the business activity of their partners and their focus on cooperation, as indicators indicating a higher level of intention of potential partners to develop inter-organizational innovations. This will allow companies to select effective partners to participate in joint innovation activities and increase the potential of such relationships.

Theoretical and practical significance.

From the point of view of theoretical significance, this study makes a significant contribution to the development of such research areas as open innovation management in the field of innovation management and the development of inter-organizational cooperation for the development of innovations in the field of industrial marketing. The study conceptualizes the construct "organizational intention", as well as two predictors "subjective norm" and "attitude to behavior" and suggests using them when evaluating potential partners to involve them in the development of interorganizational innovations. The approach to assessing the intention of organizations to take certain actions is new and may become an important aspect of the development of research areas on company behavior management.

Taking into account the indicated complexity of the external assessment of the intention of companies to develop interorganizational innovations, two factors of the internal environment of the company were developed and tested that influence the intention of organizations to develop interorganizational innovations, which are proposed to be used as indicators of the assessment of intention. The identified links also make a significant contribution to the development of the previously mentioned research areas, as well as serve as the foundation for the further development of an integrated system of indicators for evaluating potential partners for the development of inter-organizational innovations.

From the point of view of practical application, a set of recommendations has been developed for companies, which includes both elements aimed at expanding understanding of the problems associated with the selection of partners for the development of interorganizational innovations, the introduction of new projects or practices (as a basis for developing solutions), and a direct solution to the problem of selecting partners for the development of interorganizational innovations. Recommendations for government agencies and industry associations aimed at increasing understanding of the problem of encouraging companies to develop inter-organizational innovations were also proposed.

The research results can also be used as part of the implementation of academic disciplines in industrial marketing and open innovation.

Approbation of research results

The results of this study were presented in the form of reports at the following scientific events:

1. 2023 AMA Winter Academic Conference (Nashville). 6.02.2023. Report: Analysis of network effects in industrial networks: geographical approach
2. The 18th International Conference on Operations and Supply Chain Management (Shanghai). 19.07.2024 - 21.07.2024. Report: Application of the theory of planned behavior to study the intentions of companies to cooperate in the development of innovations
3. Round table discussion "Development of cooperation among participants in the supply chains of Russian companies in modern business conditions". Graduate School of Business HSE University. 26.04.2024.
4. 11th International GSOM Economy&Management Conference 2024 (EMC 2024) (St. Petersburg). 1.10.2024 - 5.10.2024. Report: Network effects in the management of interorganizational networks: choosing a partner using equilibrium formulas

THE MAIN PROVISIONS SUBMITTED FOR DEFENSE

1. The study conceptualizes the role of the intention of potential partners to develop inter-organizational innovations as a significant factor in determining the potential of inter-organizational relations in the field of innovation development. The paper explains that a company, as an integral economic agent, can act as a subject of behavior and a subject of intention. Due to the similarity of the behavior of companies and individuals noted by scientists, an adaptation of the provisions of the theory of planned behavior is proposed to analyze the intention of companies. As part of the adaptation, a conceptualization of two predictors has been developed that influence companies' intention to develop inter-organizational innovations: subjective norm and attitude to behavior.

Based on an analytical review of the academic literature, the study characterized the high importance of the correct selection of partners for the development of interorganizational innovations, since it is at this stage that the potential for interorganizational cooperation is formed.

One of the key problems of existing approaches to assessing potential partners for inter-organizational cooperation in the field of innovation development was identified as the lack of inclusion of potential partners' intention to develop inter-organizational innovations and the lack of approaches to its assessment. The lack of consideration of potential partners' intention to develop interorganizational innovations or a low level of this intention can lead to increased transaction costs for the focal company associated with futile negotiations and agreements that may be less effective due to the partner's explicit or implicit resistance to the processes involved in the development of interorganizational innovations.

In part, the problem of not accounting for companies' intentions to engage in inter-organizational cooperation to develop inter-organizational innovations is explained by the fact that approaches to selecting partners for such a task are based on approaches to identifying partners to solve traditional market problems (buying

and selling goods and services). When selecting partners for the implementation of classical market relations, the partner's interest is considered to be unconditionally positive, provided that the result of the interactions is strictly defined and involves benefits for both parties. Nevertheless, considering the development of inter-organizational innovations as the goal of inter-organizational cooperation, it is necessary to emphasize that not all companies may be interested in such cooperation.

Accordingly, when selecting partners for inter-organizational innovation in the field of inter-organizational innovation development, companies should take into account not only the compliance of potential partners with project goals and their own needs, but also their intention to participate in this kind of inter-organizational relations. If companies have the intention to cooperate and do not experience coercion in the negotiation process, then this can have a positive impact on both the inter-organizational relations themselves, as well as on the trust and commitment of the partners to these relations.[28]

Consideration of companies' behavior and their intention to act accordingly has raised the issue of determining the level of analysis.

This study examines individual economic and managerial theories (game theory, transaction cost theory, contract theory) and research approaches in which the company acts as an integral subject of behavior. It was found that if the focus of the study is aimed at analyzing the company's position in the market or in another economic system, its reputation and responsibility as a legal entity, as well as its external assessment, the analysis should be carried out at the company level, as an integrated economic agent. Based on this conclusion, and taking into account the fact that the focus of the current study is aimed at studying the phenomenon of interorganizational innovation, namely, at the stage of selecting partners (companies) for the development of interorganizational innovation, it was decided to consider the behavior of the company as an integral market agent with which relationships can potentially be established.

[28] Dwyer, F. R., Schurr, P. H., & Oh, S. (1987). Developing Buyer-Seller Relationships. Journal of Marketing, 51(2), 11–27. https://doi.org/10.2307/1251126

Based on previous practices for assessing the intention or willingness of companies to take any action used to study the behavior of consumer companies in B2B markets (e.g. Casidy & Nyadzayo, 2019; Niroomand & Jenkins, 2020; Nyadzayo et al., 2020)[29], the possibility of evaluating these aspects has been conceptualized, in which An approach was developed to assess a company's intention to develop inter-organizational innovations based on the theory of planned behavior.

Based on the provisions of the theory, two key precursors that shape the intention of companies to develop interorganizational innovations were conceptualized: the attitude to planned behavior and the subjective norm. These precursors represent the generalized opinion of the subject about the positivity of the result of such behavior (attitude to the planned behavior) and how this behavior is evaluated by "significant others" (subjective norm).[30]

To assess the intention of companies to develop interorganizational innovations and its predecessors, an approach adopted among researchers studying the behavior of companies (e.g. Casidy & Nyadzayo, 2019; Liu & Fan, 2018; Nyadzayo et al., 2020)[31] is used, according to which company representatives can assess the position of the company as an integrated unit operating on in the market, in matters of the company's attitude to something, intention and willingness to take any action. It can also be argued that the more a company representative is aware of

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[29] Casidy, R., & Nyadzayo, M. (2019). Drivers and outcomes of relationship quality with professional service firms: An SME owner-manager perspective. *Industrial Marketing Management*, *78*, 27–42. https://doi.org/10.1016/j.indmarman.2017.09.011; Niroomand, N., & Jenkins, G. P. (2020). Estimation of households' and businesses' willingness to pay for improved reliability of electricity supply in Nepal. *Energy for Sustainable Development*, *55*, 201–209. https://doi.org/10.1016/j.esd.2020.02.006; Nyadzayo, M. W., Mohan, M., & Casidy, R. (2020). Relationship factors and firms' willingness-to-pay: A comparison of east-west settings. *Industrial Marketing Management*, *91*, 397–410. https://doi.org/10.1016/j.indmarman.2020.10.005

[30] Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

[31] Casidy, R., & Nyadzayo, M. (2019). Drivers and outcomes of relationship quality with professional service firms: An SME owner-manager perspective. *Industrial Marketing Management*, *78*, 27–42. https://doi.org/10.1016/j.indmarman.2017.09.011; Nyadzayo, M. W., Mohan, M., & Casidy, R. (2020). Relationship factors and firms' willingness-to-pay: A comparison of east-west settings. *Industrial Marketing Management*, *91*, 397–410. https://doi.org/10.1016/j.indmarman.2020.10.005; Liu, X., & Fan, Y. (2018). Business perspective to the national greenhouse gases emissions trading scheme: A survey of cement companies in China. *Energy Policy*, *112*, 141–151. https://doi.org/10.1016/j.enpol.2017.10.019

the processes being studied in his company, the more accurate the assessment of the company's planned behavior in this direction will be.

2. The paper proposes an approach to assessing the intention of companies to develop inter–organizational innovations based on an assessment of the factors of the company's internal environment - business activity and the companies' focus on cooperation. The conceptual model of the study includes two levels of predictors of companies' intention to develop inter-organizational innovations (predictors with direct and indirect influence). The first level presupposes a direct link and includes the influence of subjective norms and attitudes towards inter-organizational innovations on the intention of companies to develop such inter-organizational innovations. The first level predictors are difficult to evaluate externally when selecting partners, so a second level of predictors has been developed, which assumes an indirect relationship and includes the indirect influence of business activity and companies' focus on cooperation on companies' intention to develop interorganizational innovations (the mediator is the attitude towards interorganizational innovations).

To identify indicators for assessing companies' intention to develop interorganizational innovation, two key prerequisites were developed: factors should be conceptually related to the intention to develop interorganizational innovation and the precursors of this intention (generalized assessments); factors should be internal so that they can serve as indicators of a particular company's intention.

Based on the interpretation of the predecessor of the intention, "attitude to planned behavior", as related to the expected result, which is perceived as positive, valuable, and satisfying the needs of the subject of the intention, it was necessary to determine for which companies the value of these actions would be the highest. The value for the company is formed based on the correlation of the benefits of the planned behavior and the costs of its implementation.

Accepting the idea that the development of interorganizational innovations as a core value involves expanding the resource potential of companies and the ability

to quickly improve their internal processes, and considers as the main costs the costs of creating new processes and replacing old ones, the costs of managing new interorganizational interactions, the following assumption was conceptualized: companies with a high level of business activity, That is, dynamically developing countries will inevitably face the need for regular changes., due to the increase in the scale of business activities, as well as the need for additional resources, and therefore the perceived value of inter-organizational innovations for them will be higher than for companies with low business activity. Also, taking into account the costs that negatively affect the perceived value of the planned behavior, it was concluded that reducing the number of potential changes can also have a positive impact on companies' intention to develop inter-organizational innovations. A similar idea is found in the approach that studies organizational routines.[32] Based on the latter conclusion, it was suggested that if a company uses inter-organizational collaboration to solve business problems not related to the fulfillment of traditional supply contracts, then the complexity of organizational changes at the beginning of the development of inter-organizational innovations will decrease in relation to companies that do not use inter-organizational collaboration to solve their business problems."[33]

Thus, six hypotheses were developed (Table 1), which are also illustrated in the conceptual model (Figure 1):

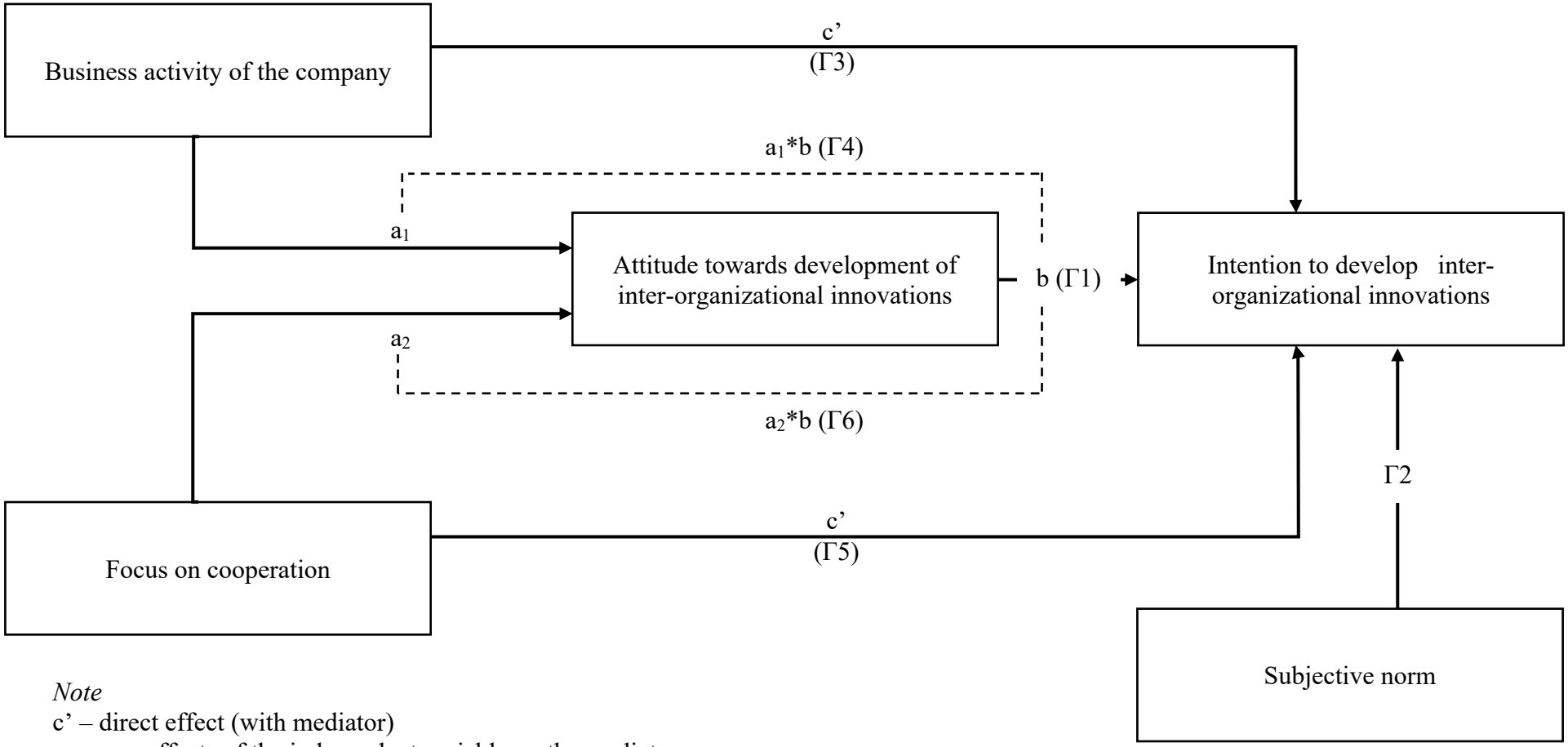
[32] Maroun, W., & Duboisée de Ricquebourg, A. (2024). How auditors identify and report key audit matters—An organizational routines perspective. *The British Accounting Review*, *56*(2), 101263. https://doi.org/10.1016/j.bar.2023.101263

[33] Solovyov, I. V., Kushch, S. P., & Malikov, T. R. (2024). The influence of companies' focus on cooperation on the development of inter-organizational innovations. Bulletin of the Moscow University. Series 6. Economics, 0(1), Article 1 (in Russian).

Table 1 – Hypotheses of the study

Hypothesis 1 (H1)	A positive attitude towards the development of inter-organizational innovations increases the company's intention to develop inter-organizational innovations.
Hypothesis 2 (H2)	A subjective norm that presupposes a positive attitude of surrounding organizations towards the development of interorganizational innovations has a positive effect on the company's intention to develop interorganizational innovations.
Hypothesis 3 (H3)	The high level of business activity of the company positively influences the intention of companies to develop inter-organizational innovations.
Hypothesis 4 (H4)	The attitude towards cooperation for the development of innovation is an intermediary (mediator) between the level of business activity and the intention of companies to develop inter-organizational innovations.
Hypothesis 5 (H5)	The company's high focus on cooperation to solve its business problems positively influences the intention of companies to develop inter-organizational innovations.
Hypothesis 6 (H6)	The attitude towards cooperation for the development of innovations is an intermediary between the orientation of companies towards cooperation and the intention of companies to develop inter-organizational innovations.

Source: compiled by the author



Note
c' – direct effect (with mediator)
a_1 и a_2 – effects of the independent variable on the mediator
b – effect of the mediator on the dependent variable, taking into account the influence of the independent variable
a_1*b и a_2*b - indirect effects (with mediator)

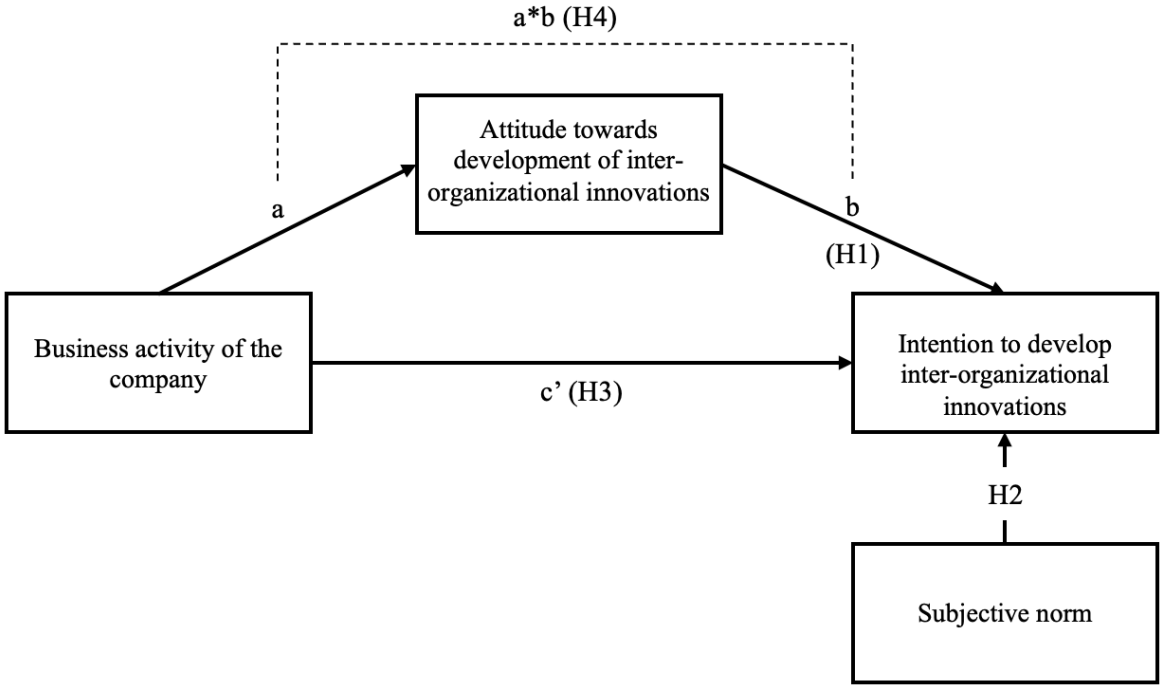
Figure 1 - Conceptual research model

Source: compiled by the author

3. The results of the first quantitative study indicate that companies with a positive attitude to the development of interorganizational innovation and the belief that their surrounding companies have a positive attitude to the development of interorganizational innovation have a higher level of intention to develop interorganizational innovation than companies with a negative attitude to the development of interorganizational innovation and the belief that their surrounding companies They have a negative attitude towards the development of inter-organizational innovations. Additionally, it was found that business activity does not directly affect the intention of companies to develop interorganizational innovations, but at the same time has an indirect effect through attitudes towards the development of interorganizational innovations. In other words, companies with high business activity are generally more positive about inter-organizational innovation, which in turn increases their intention to develop inter-organizational innovation.

Based on the conceptual model of the study, two empirical models were developed, the first of which included an assessment of the impact of companies' business activity, attitudes towards the development of interorganizational innovations, and subjective norms on companies' intention to develop interorganizational innovations (Figure 2).

Data for the analysis and testing of the first empirical model was collected through an online survey in March-April 2025. The sample included responses from 81 respondents, who were representatives of companies such as top managers, middle managers, specialists and experts from domestic companies who make decisions or influence decision-making on managing relations with external companies or on the development of innovations.



Note
c' – direct effect (with mediator)
a – effect of the independent variable on the mediator
b – effect of the mediator on the dependent variable, taking into account the influence of the independent variable
a*b - indirect effect (with mediator)

Figure 2 - Empirical research model, including business activity of the company

Source: compiled by the author

Based on the analysis of the data obtained, the consistency of measurements within the constructs was confirmed by calculating the Alpha-Kronbach coefficient. The values for all constructs exceeded the proposed threshold of 0.70.[34] The values of the average extracted variance (AVE>0.50) and composite reliability (CR>0.70) were satisfactory for all constructs.[35]

Correlation analysis revealed a significant correlation between all the considered constructs (Table 2).

[34] Taber, K. S. (2018). The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. *Research in Science Education*, *48*(6), 1273–1296. https://doi.org/10.1007/s11165-016-9602-2
[35] Shrestha, N. (2021). Factor Analysis as a Tool for Survey Analysis. *American Journal of Applied Mathematics and Statistics*, *9*, 4–11. https://doi.org/10.12691/ajams-9-1-2

Table 2 - Descriptive statistics and cross-correlations of the studied variables

The construct	AVE (sqrt)	Mean, point	Standard deviation, point	Correlation values with the first three constructs		
				1	2	3
1. Intention to develop inter-organizational innovation	0,83	3,31	1,28		0,83**	0,72**
2. The subjective norm	0,80	3,1	1,07	0,83**		0,71**
3. Attitude towards the development of inter-organizational innovations	0,88	3,63	1,19	0,72**	0,71**	
4. Business Activity Index		3,6	1,16	0,45**	0,45**	0,41**
Note – A correlation value marked with two stars "**" means that the significance level is below 0.01; a correlation value marked with 1 star "*" means that the significance level is below 0.05; a correlation value without stars means that the significance level is above 0.05						

Source: compiled by the author

The discriminant validity of the constructs was also assessed using the Fornell-Larker test and the HTMT ratios coefficient, according to which the "subjective norm" and "attitude to interorganizational innovation", as well as the constructs "intention to develop interorganizational innovation" and "attitude to interorganizational innovation" are quite different from each other (good discriminant validity). However, the constructs "intention to develop interorganizational innovations" and "subjective norm" show increased correlation. In this study, low discriminant validity may be caused by an insufficient sample, which does not have sufficient power to detect differences between constructs (when testing the second model on a larger sample, the discriminant validity of these constructs is good).

During the confirmation analysis (Figure 3). A good consistency of the model was found ($x2\ [29] = 92.6$, $p < 0.01$, CFI = 0.92, IFI = 0.93, RMSEA = 0.17). The rather high RMSEA coefficient is explained by a small sample, while other indicators indicate a fairly high consistency of the model. To increase the consistency of the model, it takes into account the correlation of residuals, which is probably due to the use of formulations similar in content within the framework of the measured constructs.

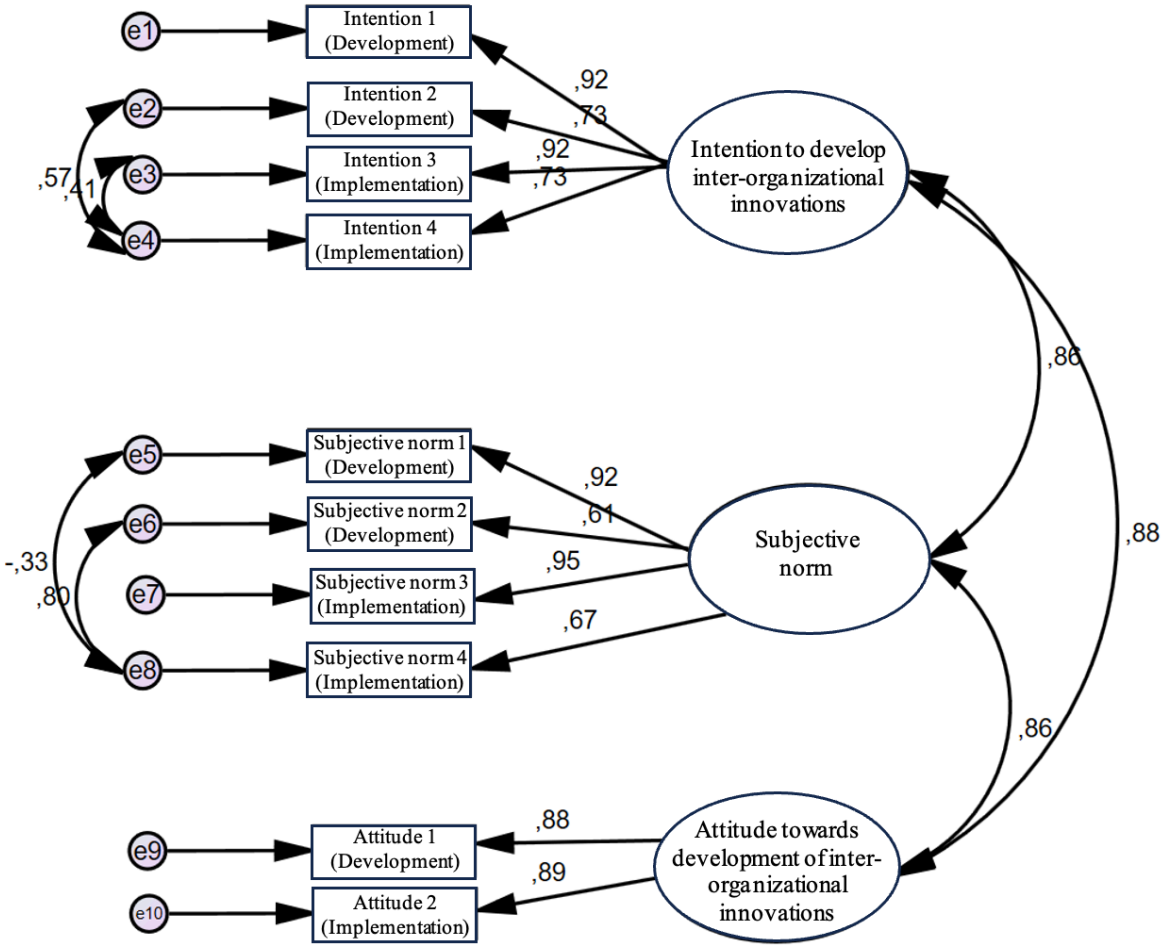


Figure 3 – The results of the confirmation analysis

Source: compiled by the author

To statistically control the systematic error of the general method, the Harman method was used, the results of which showed that the first extracted factor explains 65.76% of the variance, which exceeds the conditional threshold of 50%. However, it should be noted that the Harman test does not take into account the structure of the model and the conceptual independence of constructs. It should also be noted that the results may have been affected by the small sample size.

To test the effect of independent variables on the dependent, the multiple linear regression method (Tables 3 and 4) and the partial least squares structural modeling method (PLS-SEM) are used (Figure 4).

Table 3 – Results of multiple regression

Multiple correlation coefficient R	Coefficient of determination R^2	Adjusted coefficient of determination Adj.R^2	Standard error (SE)	F-statistics	Significance (P)
0,871	0,759	0,749	0,501	80,753	0,000
Note: The dependent variable is the intention of companies to develop inter-organizational innovations.					

Source: compiled by the author

Table 4 – Influence of predictors in the framework of multiple regression

Predictor	Coefficient B	Standard error (SE)	t- statistics	Significance (P)
Subjective norm	0,609	0,080	7,575	0,000
Attitude towards development of inter-organizational innovations	0,257	0,081	3,152	0,002
Business activity	0,637	0,364	1,753	0,084
Note: The dependent variable is the intention of companies to develop inter-organizational innovations.				

Source: compiled by the author

According to the data in Table 18, it can be concluded that the model is statistically significant and explains 75.9% of the variance of the dependent variable. Based on the data in table 19, it is confirmed that there is a direct influence of subjective norms and attitudes towards the development of interorganizational innovations on the intention of companies to develop interorganizational innovations. According to the data obtained, business activity does not have a statistically significant direct impact on a company's intention to develop interorganizational innovations, which does not contradict the assumption that business activity can indirectly influence a company's intention to develop interorganizational innovations through its attitude to the development of interorganizational innovations.

After constructing the multiple regression, the partial least squares structural modeling method (PLS-SEM) was used (Figure 4).

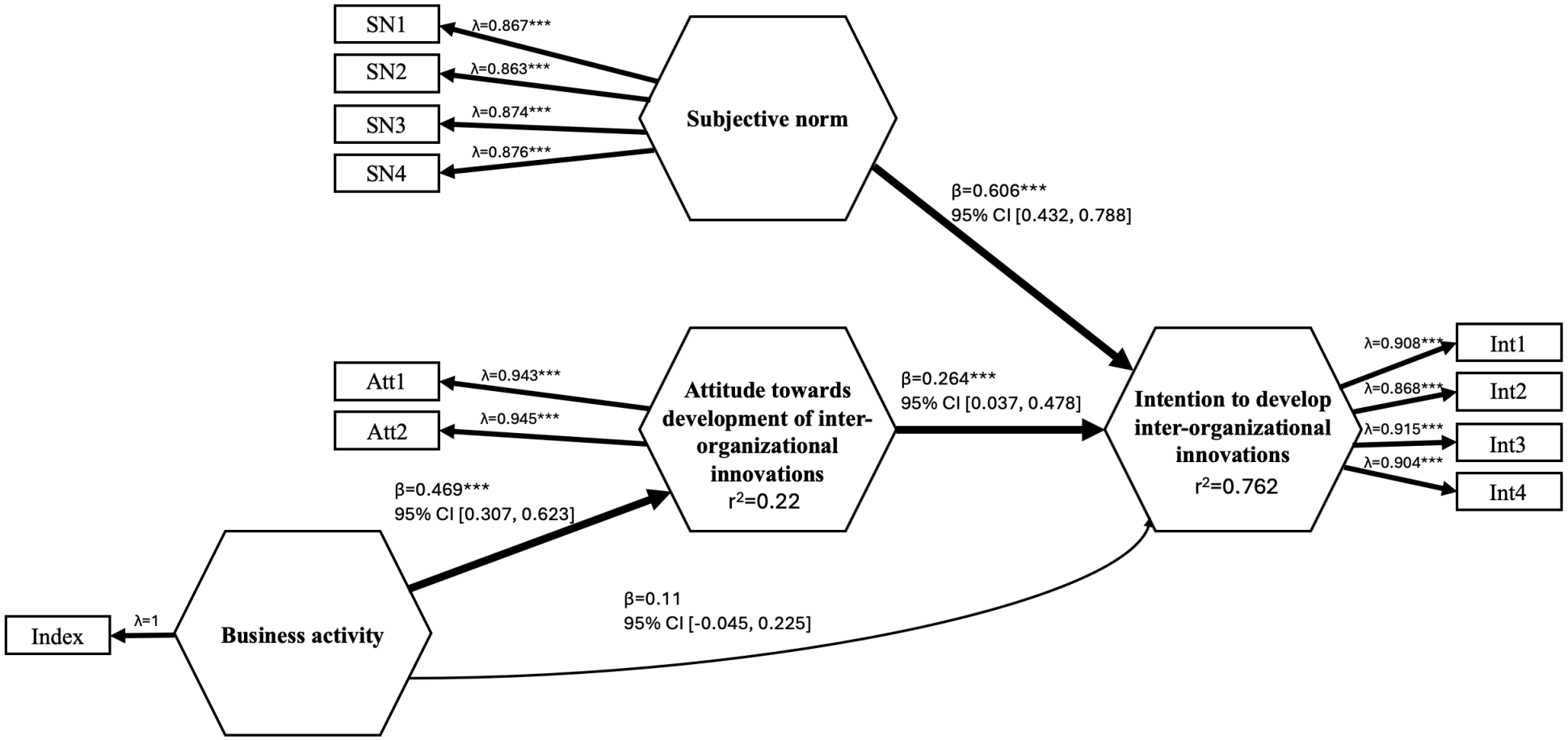


Figure 4 - Structural model (SEM) of the factors influencing the intention to develop inter-organizational innovations

Source: compiled by the author

The results of the Structural Equation Model (SEM) are consistent with the results of previous analysis methods, including the results of multiple regression. The factor loadings of all constructs are very high, which indicates a high consistency of the indicators and their strong connection with the constructs. A statistically significant direct influence of subjective norms and attitudes towards the development of interorganizational innovations on the intention of companies to develop interorganizational innovations was found. Just as in the assessment of multiple regression, no direct statistically significant influence of business activity on intention was found, however, this analysis revealed and confirmed the expected mediation effect (that is, business activity does not directly affect companies' intention to develop interorganizational innovations, but indirectly through its influence on attitudes towards interorganizational innovations).

After constructing and evaluating the structural model (SEM), the significance of indirect effects was verified using bootstrap analysis (Tables 5 and 6).

It should be emphasized separately that in the framework of bootstrap analysis, the revealed direct statistically significant influence of business activity on the intention of companies to develop interorganizational innovations is due to the absence of a subjective norm in this model.

Table 5 - Regression analysis in bootstrap analysis

Name of the variable	Coefficient B	Standard error (SE)	t- statistics	Significance (P)	Coefficient of determination (R^2)
Regression of the ratio from the business activity index	2,64	0,56	4,72	0,00	0,22
Regression of intention from attitude, taking into account business activity	0,64	0,08	7,74	0,00	0,58
Regression of intention from business activity, taking into account the attitude	1,15	0,47	2,46	0,00	0,58

Source: compiled by the author

Table 6 – Bootstrap analysis of mediation (indirect effect)

Analysis results	Indirect effect	Standard error (SE)	The lower limit of the confidence interval (95%) (BootL95% CI)	Upper limit of the confidence interval (95%) (BootU95%CI)
Bootstrap analysis results for indirect effect	1,70	0,43	0,92	2,62

Source: compiled by the author

Thus, based on the analysis described above, three of the four hypotheses tested in this quantitative study were confirmed. The third hypothesis (H3) about the presence of a direct positive impact of a company's business activity on the intention of this company to develop inter-organizational innovations has not been empirically confirmed in the full model. The final statistical model is shown in Figure 5.

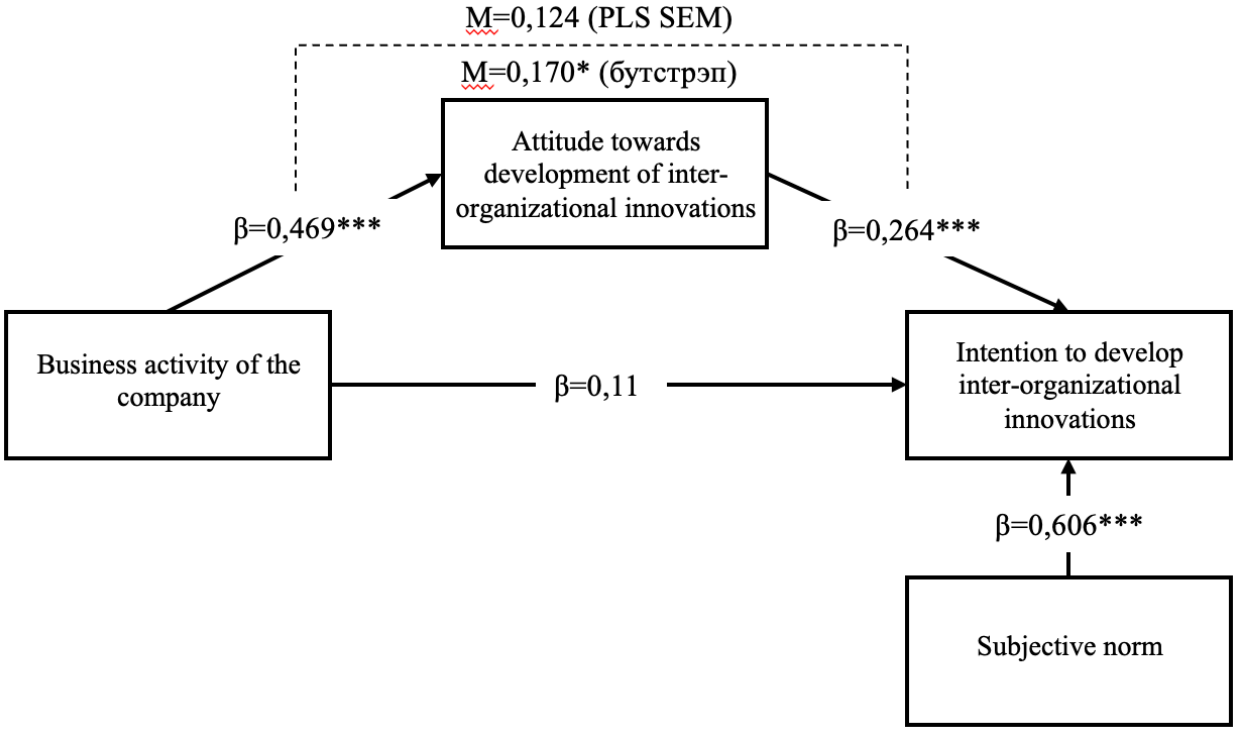


Figure 5 - Hypothesis testing results

Source: compiled by the author

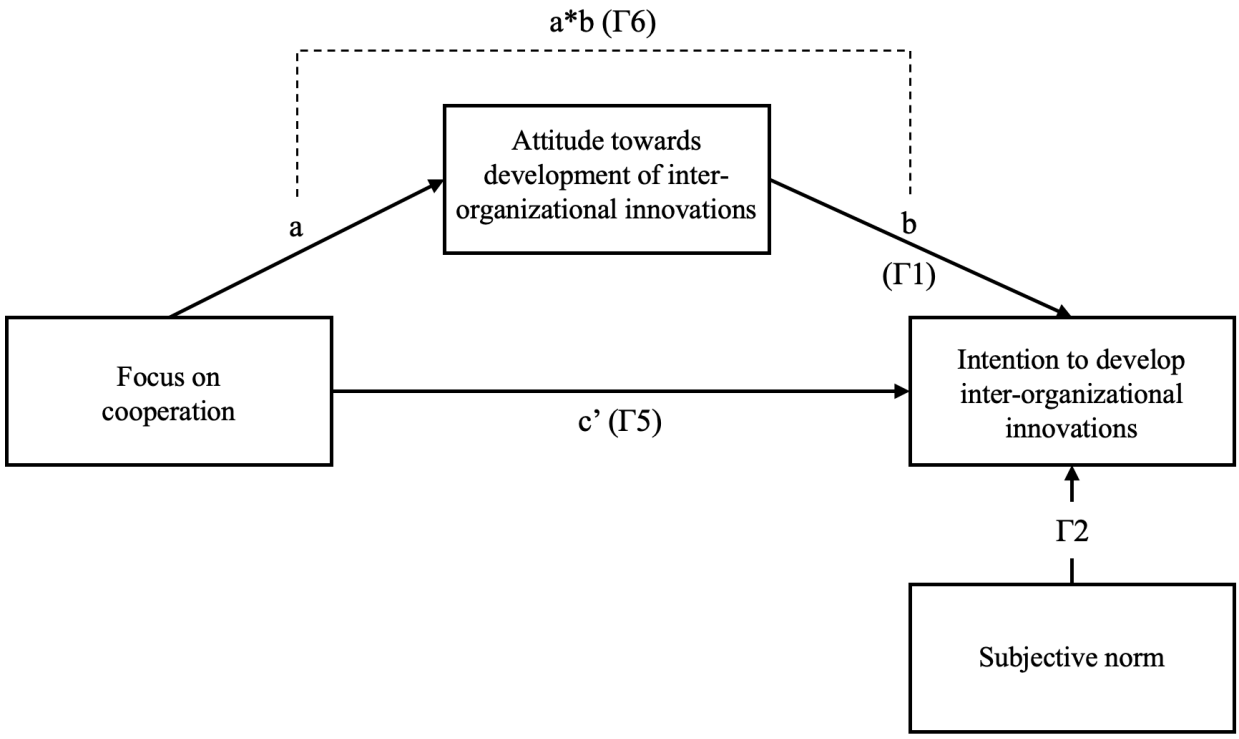
4. In the second quantitative study, it was once again confirmed that companies with a positive attitude to the development of interorganizational innovations and the belief that their surrounding companies have a positive attitude to the

development of interorganizational innovations have a higher level of intention to develop interorganizational innovations than companies with a negative attitude to interorganizational innovations and the belief that their surroundings companies have a negative attitude towards the development of inter-organizational innovations. It was also found that companies with a high level of cooperation orientation have a higher level of intention to develop inter-organizational innovations than companies with a low level of cooperation orientation. Additionally, it was found that this dependence is partly due to the fact that companies that are strongly cooperative are generally more positive about inter-organizational innovation, which in turn increases their intention to develop inter-organizational innovation.

The second empirical research model included an assessment of the impact of companies' focus on cooperation, attitudes towards the development of interorganizational innovations, and subjective norms on companies' intention to develop interorganizational innovations (Figure 6).

The testing data of the second empirical model was collected through an online survey in March-April 2024. The sample included responses from 165 respondents, who were representatives of companies such as top managers, middle managers, specialists and experts of domestic companies who make decisions or influence decision-making on managing relations with external companies or on the development of innovations.[36]

[36] Solovyov, I. V., Kushch, S. P., & Malikov, T. R. (2024). The influence of companies' focus on cooperation on the development of inter-organizational innovations. Bulletin of the Moscow University. Series 6. Economics, 0(1), Article 1 (in Russian).



Note
c' – direct effect (with mediator)
a – effect of the independent variable on the mediator
b – effect of the mediator on the dependent variable, taking into account the influence of the independent variable
a*b - indirect effect (with mediator)

Figure 6 - Empirical research model, including business activity of the company

Source: adapted from (Solovyov, Kushch, Malikov, 2025)[37]

Based on the analysis of the data obtained, the consistency of measurements within the constructs was confirmed by calculating the Alpha-Kronbach coefficient. As in the first check, the values for all constructs exceeded the proposed threshold of 0.70.[38] The values of the average extracted variance (AVE>.50) and composite reliability (CR>.70) were satisfactory for all constructs.[39]

"Significant correlation values were found between all the considered constructs (Table 7)."

[37] Solovyov, I. V., Kushch, S. P., & Malikov, T. R. (2024). The influence of companies' focus on cooperation on the development of inter-organizational innovations. Bulletin of the Moscow University. Series 6. Economics, 0(1), Article 1 (in Russian).
[38] Taber, K. S. (2018). The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. *Research in Science Education*, *48*(6), 1273–1296. https://doi.org/10.1007/s11165-016-9602-2
[39] Solovyov, I. V., Kushch, S. P., & Malikov, T. R. (2024). The influence of companies' focus on cooperation on the development of inter-organizational innovations. Bulletin of the Moscow University. Series 6. Economics, 0(1), Article 1 (in Russian).

Table 7 - Descriptive statistics and cross-correlations of the studied variables

The construct	AVE (sqrt)	Mean, point	Standard deviation, point	Correlation values with the first three constructs		
				1	2	3
1. Intention to develop inter-organizational innovation	0,707	3,48	0,99		,54**	,64**
2. The subjective norm	0,762	3,13	1,07	,54**		,48**
3. Attitude towards the development of inter-organizational innovations	0,787	3,63	1,04	,64**	,48**	
4. Focus on cooperation		3,11	1,22	,43**	,16*	,33**
Note – A correlation value marked with two stars "**" means that the significance level is below 0.01; a correlation value marked with 1 star "*" means that the significance level is below 0.05; a correlation value without stars means that the significance level is above 0.05						

Source: adapted from (Solovyov, Kushch, Malikov, 2025) [40]

The discriminant validity of the constructs was also evaluated using the Fornell-Larker test and the HTMT ratios coefficient, according to which the discriminant validity of all constructs, without exception, is good, there is no overestimated correlation.

After evaluating the discriminant validity, a confirmatory factor analysis was performed to verify the compliance of the entire model (whether the model explains all the total variance, all the relationships in the presented data) (Figure 7).

[40] Solovyov, I. V., Kushch, S. P., & Malikov, T. R. (2024). The influence of companies' focus on cooperation on the development of inter-organizational innovations. Bulletin of the Moscow University. Series 6. Economics, 0(1), Article 1 (in Russian).

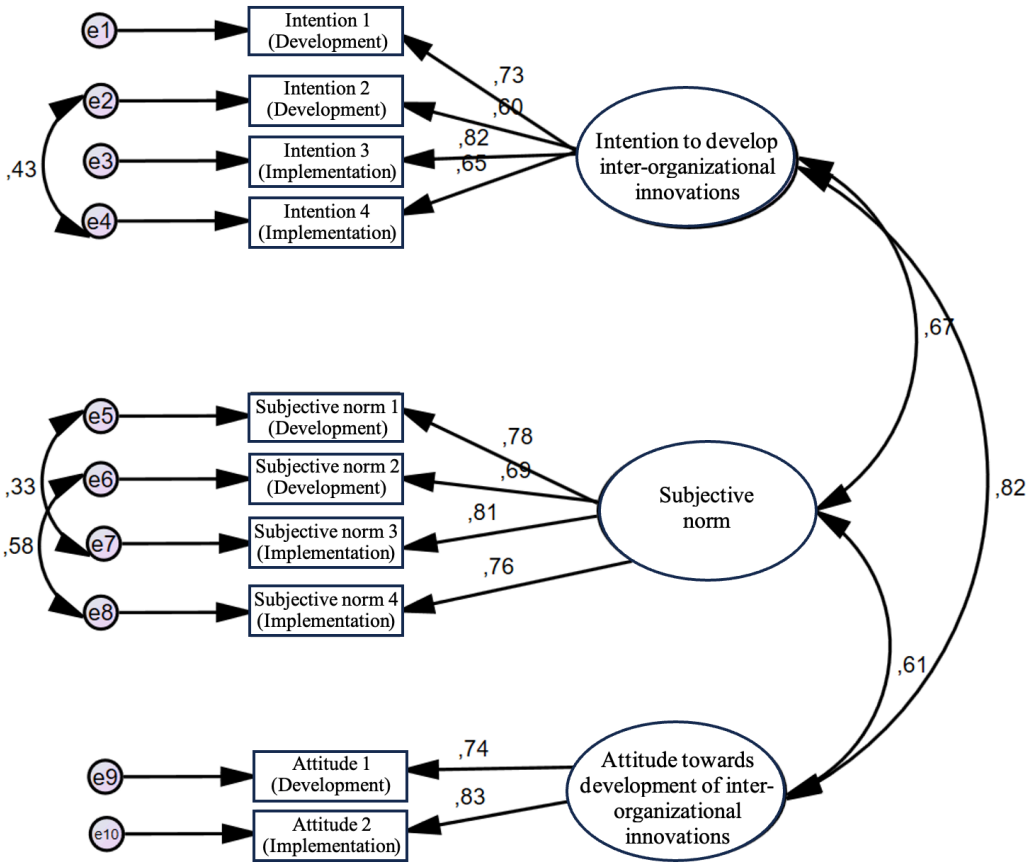


Figure 7 – The results of the confirmation analysis

Source: adapted from (Solovyov, Kushch, Malikov, 2025) [41]

"During the confirmation analysis, a good consistency of the model was revealed (x2 [29] = 54.4, p < 0.01, CFI = 0.97, IFI = 0.97, RMSEA = 0.07). To increase the consistency of the model, it takes into account correlations of residuals. The high correlation between the residuals of some questions is most likely due to the use of identical formulations within the measured constructs." [42]

It should be emphasized separately that the indicators of model consistency in confirmatory factor analysis (CFI, IFI, RSMEA), when testing the model on the second sample, which was twice as large as the first, showed better values than on the first. These results confirm the correctness of the earlier assumption that the

[41] Solovyov, I. V., Kushch, S. P., & Malikov, T. R. (2024). The influence of companies' focus on cooperation on the development of inter-organizational innovations. Bulletin of the Moscow University. Series 6. Economics, 0(1), Article 1 (in Russian).

[42] Solovyov, I. V., Kushch, S. P., & Malikov, T. R. (2024). The influence of companies' focus on cooperation on the development of inter-organizational innovations. Bulletin of the Moscow University. Series 6. Economics, 0(1), Article 1 (in Russian).

model consistency results that were not completely satisfactory during the first test could be related to a small sample.

Just as in the testing of the first model, the Harman test was used to verify the error of the Common Method Bias, extracting one factor, according to which the probability of error of the general method is quite low.

To test the influence of independent variables on the dependent one, as in testing the first model, the multiple linear regression method (Tables 8 and 9) and the partial least squares structural modeling method (PLS-SEM) are used (Figure 8).

Table 8 – Results of multiple regression

Multiple correlation coefficient R	Coefficient of determination R^2	Adjusted coefficient of determination Adj.R^2	Standard error (SE)	F-statistics	Significance (P)
0,735	0,541	0,532	0,684	63,178	0,000
Note: The dependent variable is the intention of companies to develop inter-organizational innovations					

Source: compiled by the author

Table 9 – Influence of predictors in the framework of multiple regression

Predictor	Coefficient B	Standard error (SE)	t- statistics	Significance (P)
Subjective norm	0,306	0,061	5,012	0,000
Attitude towards development of inter-organizational innovations	0,409	0,064	6,418	0,000
Focus on cooperation	0,208	0,046	4,504	0,000
Note: The dependent variable is the intention of companies to develop inter-organizational innovations				

Source: compiled by the author

According to the data in table 25, the model is statistically significant and explains 54.1% of the variance of the dependent variable; it also confirms the presence of a direct influence of the subjective norm, attitudes towards the development of interorganizational innovations and a focus on cooperation on intention.

Next, the method of structural modeling based on partial least squares (PLS-SEM) was used (Figure 8).

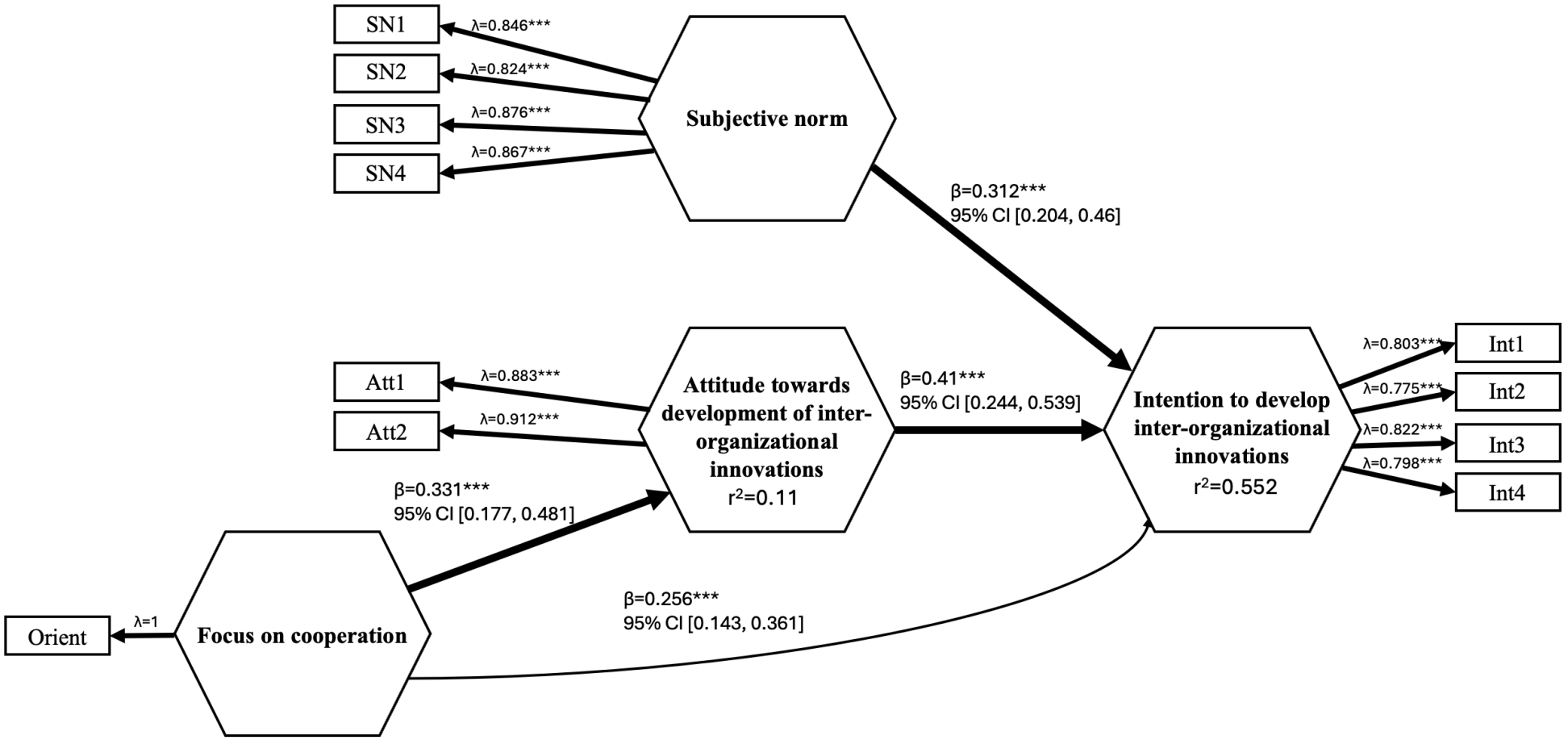


Figure 8 - Structural model (SEM) of the factors influencing the intention to develop inter-organizational innovations

Source: compiled by the author

The results of the Structural Equation Model (SEM) are consistent with the results of the previous analysis. The factor loadings of all constructs are very high, which indicates a high consistency of the indicators and their strong connection with the constructs. A statistically significant direct influence of all three independent variables on the intention of companies to develop inter-organizational innovations was found. Additionally, this analysis revealed and confirmed the alleged mediation effect (that is, the focus on cooperation partially affects the intention of companies to develop interorganizational innovations not directly, but indirectly through the influence on attitudes towards interorganizational innovations).

After constructing the structural model (SEM), the significance of indirect effects was verified using bootstrap analysis (Tables 10 and 11), which confirmed the statistical significance of the indirect effect.

Table 10 - Regression analysis in bootstrap analysis

Name of the variable	Coefficient B	Standard error (SE)	t- statistics	Significance (P)	Coefficient of determination (R^2)
Regression of the relationship from the cooperation orientation index	0,27	0,06	4,46	0,00	0,11
Regression of intention from attitude, taking into account the focus on cooperation	0,56	0,06	9,17	0,00	0,47
Regression of intention from a cooperative orientation, taking into account the attitude	0,21	0,05	4,23	0,00	0,47

Source: adapted from (Solovyov, Kushch, Malikov, 2025) [43]

Table 11 – Bootstrap analysis of mediation (indirect effect)

Analysis results	Indirect effect	Standard error (SE)	The lower limit of the confidence interval (95%) (BootL95% CI)	Upper limit of the confidence interval (95%) (BootU95%CI)
Bootstrap analysis results for indirect effect	0,15	0,04	0,07	0,25

Source: adapted from (Solovyov, Kushch, Malikov, 2025) [44]

[43] Solovyov, I. V., Kushch, S. P., & Malikov, T. R. (2024). The influence of companies' focus on cooperation on the development of inter-organizational innovations. Bulletin of the Moscow University. Series 6. Economics, 0(1), Article 1 (in Russian).

[44] Solovyov, I. V., Kushch, S. P., & Malikov, T. R. (2024). The influence of companies' focus on cooperation on the development of inter-organizational innovations. Bulletin of the Moscow University. Series 6. Economics, 0(1), Article 1 (in Russian).

Thus, three of the four hypotheses tested in this quantitative study were fully confirmed. The sixth hypothesis (H6) on mediation of the relationship between the focus on cooperation and the intention to develop interorganizational innovations by the construct "attitude to the development of interorganizational innovations" was partially confirmed (partial mediation was found). The final statistical model is shown in Figure 9.

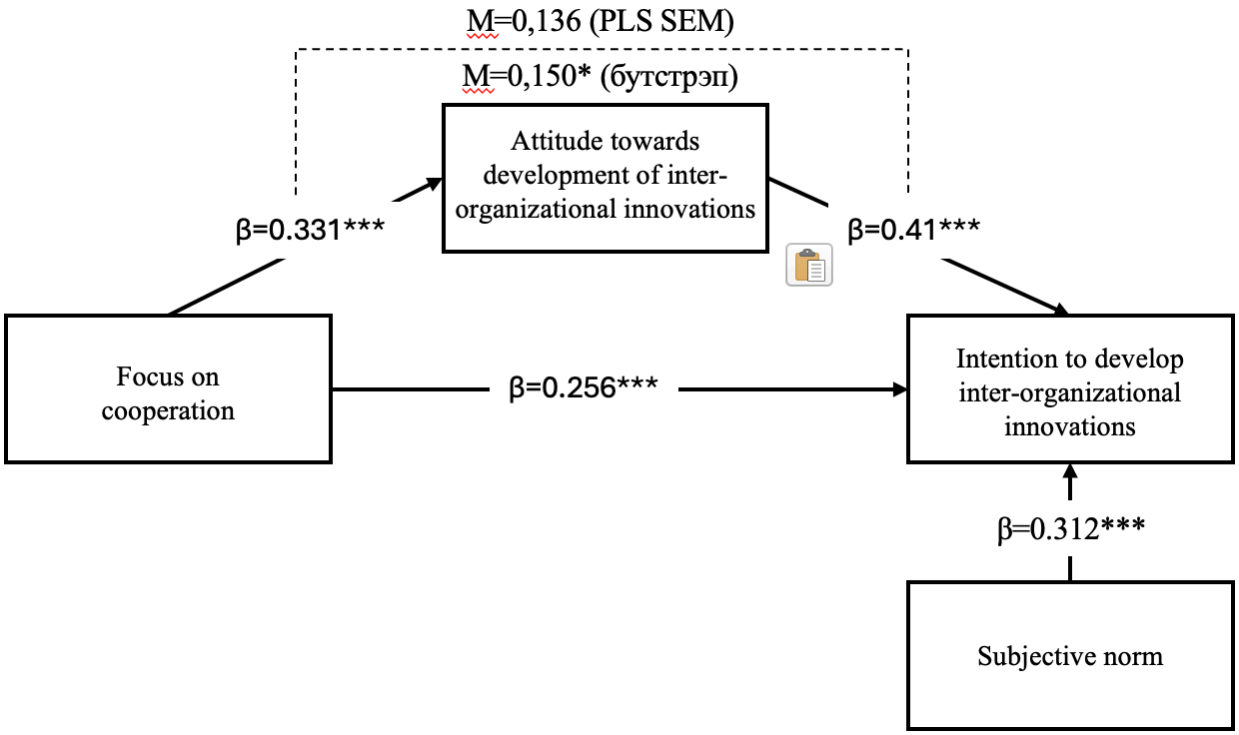


Figure 9 - Hypothesis testing results

Source: compiled by the author

5. Companies interested in selecting partners for the development of inter-organizational innovations should consider the possibility and necessity of assessing the intention of potential partners to develop inter-organizational innovations. Such companies should take into account the business activity of their partners and their focus on cooperation, as indicators indicating a higher level of intention of potential partners to develop inter-organizational

innovations. This will allow companies to select effective partners to participate in joint innovation activities and increase the potential of such relationships.

In this study, the approach proposed in (Setkute & Dibb, 2025)[45] is used to form practical recommendations, which is based on the definition and description of management consequences in four meta-categories.: "What?", "Why?", "How?" and "Who?". Based on the recommendations (Setkute & Dibb, 2025)[46], the practical recommendations in this study are presented in a separate subsection, using a clear structure and visualization element to present them (Table 12).

Table 20 presents the key recommendations and management implications developed based on the results obtained.

From the perspective of companies, the research results can be useful for solving two management tasks: the need to select the "right" partners for the development of inter-organizational innovations, cooperation with which will be effective, and determining the internal parameters of the company that can affect the perception of new projects and the formation of project plans.

Also, from the point of view of practical application of the results, the discovered dependence of the intention to develop interorganizational innovations on the subjective norm may be of interest to government agencies implementing tasks in the field of developing the country's innovation potential (for example, the Ministry of Economic Development, the Ministry of Finance), and industry associations to develop policies to stimulate companies' efforts to develop interorganizational innovations, taking into account the identified impact. Involving a large number of companies in such activities can have a chain effect and attract even more companies.

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[45] Setkute, J., & Dibb, S. (2025). From theory to practice: Practical implications as a translational bridge between research relevance and impact. *Industrial Marketing Management*, *125*, 131–149. https://doi.org/10.1016/j.indmarman.2024.12.017

[46] Setkute, J., & Dibb, S. (2025). From theory to practice: Practical implications as a translational bridge between research relevance and impact. *Industrial Marketing Management*, *125*, 131–149. https://doi.org/10.1016/j.indmarman.2024.12.017

Table 12 – Practical recommendations and management implications of the study

Who?	Managerial problem	What?	Why	Recommendation	Consequences
Companies	The need to select the "right" partners for the development of inter-organizational innovations, cooperation with which will be effective	A conceptual study with a focus on forming the basis for practitioners' thinking in the present about management decisions related to the development of inter-organizational innovations	Expanding understanding of the problem	To consider the current approach to selecting partners for the development of inter-organizational innovations. To understand the possibility and necessity of assessing the intention of companies to develop inter-organizational innovations when establishing or continuing cooperation in this area, taking into account the assessment of business activity and the orientation of companies towards cooperation.	Identification of the most effective vectors and approaches to the development of the partner selection system for the development of inter-organizational innovations.
			Problem solving	When selecting partners to develop joint innovations, companies should take into account the business activity of partners and their focus on cooperation, as indicators indicating a higher level of intention of potential partners to develop inter-organizational innovations.	Reducing the risk of transaction costs for the focal company associated with unpromising negotiations and the conclusion of contracts that may be less effective due to explicit or implicit resistance on the part of the partner to the processes involved in the development of inter-organizational innovations.

Table 3 – continuation of the table

Who?	Managerial problem	What?	Why	Recommendation	Consequences
Companies	What internal parameters of the company can influence the perception of new projects and the formation of project plans?	A conceptual study with a focus on forming the basis for practitioners' thinking in the present about management decisions related to the development of inter-organizational innovations	Expanding understanding of the problem	When developing a new project, planning any actions, and/or introducing new practices to solve a variety of tasks at the company level, it is necessary to take into account how the company treats this behavior and how the company understands the attitude of other organizations (competitors, partners, suppliers, customers, etc.) to this action.	Developing solutions to improve attitudes towards planned behavior within the company before introducing new practices, before presenting new ideas and projects, to increase the intention to implement this behavior.
Government agencies (e.g., Ministry of Digital Development, Communications and Mass Media of the Russian Federation; Ministry of Economic Development of the Russian Federation)	An increase in the number of companies developing inter-organizational innovations to increase the country's innovation potential	A conceptual study with a focus on forming the basis for practitioners' thinking in the present about management decisions related to the development of inter-organizational innovations	Expanding understanding of the problem	When developing measures to encourage companies to participate in the development of inter-organizational innovations, take into account the importance of the influence of the business environment of companies on their intention to participate in such activities. Involving a large number of companies in such activities can have a chain effect and attract even more companies.	Development of the most effective measures to stimulate the development of inter-organizational innovations, leading to the involvement of more companies in this activity.

Table 3 – continuation of the table

Who?	Managerial problem	What?	Why	Recommendation	Consequences
Industry associations	Stimulating the development of industry innovations	A conceptual study with a focus on forming the basis for practitioners' thinking in the present about management decisions related to the development of inter-organizational innovations	Expanding understanding of the problem	To review and rethink the current approach to industry initiatives in the field of innovation development, taking into account the importance of the influence of the business environment of companies on their intention to participate in such activities. Strengthen the emphasis in initiatives on the approval of activities for the development of inter-organizational innovations.	Development of the most effective measures to stimulate the development of inter-organizational innovations in industries, leading to the involvement of more companies in this activity.

Source: compiled by the author

THE MAIN CONCLUSIONS

Confirmation of hypotheses about the direct and indirect influence of companies' focus on cooperation on the intention of companies to develop interorganizational innovations, as well as the indirect influence of business activity on the same intention of companies to develop interorganizational innovations allows us to conclude that when selecting partners for the development of joint innovations, companies should take these parameters into account as indicators indicating a more high level of intention of potential partners to develop inter-organizational innovations. Including the intention of potential partners to be involved in the project in the selection criteria will avoid unnecessary transaction costs for the focal company associated with unpromising negotiations and the conclusion of contracts that may be less effective due to the partner's explicit or implicit resistance to the processes involved in the development of inter-organizational innovations.

Also, within the framework of this study, an adaptation of the theory of planned behavior, developed by Isaac Eisen, was proposed to study the behavior of individuals, for the level of analysis of an organization or part of an organization. The adapted model was also tested in this study, and hypotheses about the influence of subjective norms and the company's attitude to planned behavior on the intention to develop interorganizational innovations (in both empirical models) were confirmed. These results are important for understanding that the attitude to something at the organizational level also depends on how the company treats this behavior and how the company understands the attitude of other companies (competitors, partners, suppliers, customers, etc.) to this action. Based on the results obtained, two important assumptions can be formulated, in particular:

- if a company articulates the idea that inter–organizational innovation is "effective", "a good method" and other positive beliefs, then the intention to develop inter-organizational innovation will be higher than with the opposite beliefs.;

- if a company believes that inter-organizational innovations are being developed by other companies, and partners are interested in such projects and will

perceive them positively, then the intention to develop inter-organizational innovations will also be higher than with the opposite belief.

The first assumption is closely related to the themes of corporate culture and previous company experience. There are many studies on these topics in the academic literature, including the impact of these constructs on the behavior of companies. Nevertheless, it should be emphasized that the connections of these constructs with behavior can be expressed more or less, depending on the behavior itself. That is why the conclusions we have drawn about the dependence of companies' intentions to develop interorganizational innovations on attitudes towards interorganizational innovations themselves within the company are so significant. First, the results obtained are an important element of a research discussion about what exactly the attitude towards interorganizational innovation depends on, how an organization can influence it, and what influence can be exerted on the behavior of an organization through a change in attitude towards this behavior. Secondly, the results obtained are extremely valuable for companies, from the point of view of taking into account the relationship of attitude and intention when developing projects for the development of inter-organizational innovations. In other words, companies or employees initiating such projects should take into account the attitude towards such projects within the company when planning their launch.

The second assumption is reflected in institutional theory, according to one of the key issues of which, companies, despite all their efforts to achieve uniqueness, eventually become very similar to each other. As part of the development of this issue, 3 institutional isomorphisms were identified [DiMaggio & Powell, 1983], which underlie the similarity of the behavior of organizations. One of these isomorphisms is mimetic (imitative), which is reflected in the adapted model of the theory of planned behavior as a construct of "subjective norm". The revealed dependence of the intention of companies to develop inter-organizational innovations on how other companies relate to this activity makes a certain

contribution to the development of institutional theory, confirming its provisions and emphasizing its applicability, including for the innovative activities of companies.

The discovered relationship between the subjective norm and the intention of companies to develop interorganizational innovations is also a significant result, in terms of expanding understanding of the factors influencing the intention to develop interorganizational innovations and in terms of developing approaches to selecting partners for the development of interorganizational innovations. In particular, this result indicates the potentially significant role of analyzing the environment (supply chain) of a potential partner and from the point of view of the industry specifics of the company involved in identifying partners with the highest intention to develop inter-organizational innovations. If the development of inter-organizational innovations is unusual for an industry, then a potential partner from this industry will have a lower level of intention to develop inter-organizational innovations than a partner from an industry for which the development of inter-organizational innovations is more typical.

Thus, within the framework of this study, important results were obtained in terms of understanding the predictors of companies' intention to develop inter-organizational innovations. The study expands the discussion on approaches to selecting partners for the development of interorganizational innovations and suggests taking into account the intention of companies to participate in this activity as an opportunity to reduce transaction costs associated with unpromising negotiations and the conclusion of contracts that may be less effective due to explicit or implicit resistance on the part of the partner to the processes involved in the development of interorganizational innovations.

LIST OF PUBLICATIONS ON THE TOPIC OF THE DISSERTATION

The main results of the dissertation research have been published in three articles of scientific journals, all of which are included in the lists of recommended HSE journals. The total volume of the main publications was 5.2 pp. (the author's contribution 3.75 pp.).

1. Solovyov I.V. Industrial Marketing in the Context of Innovation Development: Review and Research Agenda // Russian Management Journal. 2022. Vol. 20. No. 3. P. 413-440.

2. Solovyov I. V., Shaidullin A. I. The prospect of applying the theory of network effects to manage interorganizational networks // Journal of the New Economic Association. 2024. Vol. 2. No. 63. pp. 12-33. (in Russian)

3. Solovyov I.V., Kushch S.P., Malikov T. R. The influence of companies' focus on cooperation on the development of interorganizational innovations // Bulletin of the Moscow University. Series 6: Economics. 2025. Vol. 60. No. 1. pp. 107-128 (in Russian)