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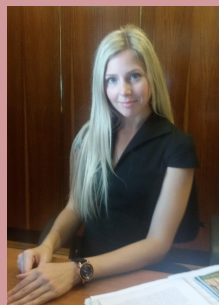
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FORMATION OF INTELLECTUAL POTENTIAL OF AN INDUSTRIAL
ENTERPRISE: RESOURCE CONSTRAINTS AND INNOVATION-ORIENTED
BUSINESS PARTNERSHIP

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The research Researched is the enterprise' intellectual potential essence as a precondition for its innovative development; defined are such development components. Investigated and typologised are the factors and resources as well as limitations of industrial enterprises' intellectual potential formation. The business partnership possibilities and features for innovative-oriented industrial enterprises are substantiated.

The main tendencies are analyzed with relevant industrial enterprises innovation activity priorities and the Ukrainian higher education institutions' scientific researches directions are highlighted. The innovation-oriented industrial enterprises and higher education institutions intellectual needs are generalized. Assessed is the applicability of the innovation-oriented enterprise business partnership models in partnership to the higher education institutions for the industrial enterprise intellectual potential formation.

An integrative theoretical and methodical approach to the industrial enterprise intellectual potential formation (under conditions of limited resources) through its business partnership with innovation-oriented higher education institutions is proposed. The principles, functional and indicators system for innovation-oriented business partnership, and its organizational and economic mechanism components are substantiated. Elaborated and developed are the recommendations for assessing the higher education institutions intellectual potential in order to establish the potential business partnership with an enterprise.

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Formation of intellectual potential of an industrial enterprise: resource constraints and innovation-oriented business partnership. Monograph (In Ukrainian). [Моногр.] / S.V. Filyppova, K.I. Tkach, V.Yu. Vasylieva. – Schweinfurt: Time Realities Scientific Group UG (haftungsbeschränkt), 2018. – 210 p.

Досліджено сутність інтелектуального потенціалу підприємства як умови його інноваційного розвитку, визначено його складові. Досліджено та типологізовано чинники і ресурсні обмеження формування інтелектуального потенціалу промислових підприємств. Обґрунтовано можливості і особливості бізнес-партнерства для інноваційно-орієнтованих промислових підприємств.

Висвітлено основні тенденції та пріоритети інноваційної діяльності промислових підприємств, напрямів наукових досліджень закладів вищої освіти України. Узагальнено інтелектуальні потреби інноваційно-орієнтованих промислових підприємств та закладів вищої освіти. Оцінено застосовність моделей бізнес-партнерства інноваційно-орієнтованого підприємства з закладами вищої освіти для формування інтелектуального потенціалу промислового підприємства. Запропоновано інтегративний теоретико-методичний підхід до формування інтелектуального потенціалу промисловим підприємством в умовах ресурсних обмежень шляхом його бізнес-партнерства з інноваційно-орієнтованими закладами вищої освіти.

Обґрунтовано принципи, функціонал та систему показників інноваційно-орієнтованого бізнес-партнерства, складові його організаційно-економічного механізму. Розроблено рекомендації та методику оцінки інтелектуального потенціалу закладів вищої освіти як потенційних бізнес-партнерів підприємства.

Авторський внесок: вступ, пп. 2.1-2.3 в частині постановки завдань та визначення напрямків дослідження – д.е.н., проф. С.В. Філіппова, д.е.н. Ткач К.І., В.Ю. Васильєва, інші розділи та підрозділи – В.Ю. Васильєва.

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SUMMARY

This thesis is devoted to the development of theoretical and methodological basis and recommendations for the industrial enterprise intellectual potential formation under restricted intellectual resources through a business partnership with innovation-oriented higher education institutions.

Substantiated is that as a result of rapid innovational changes and innovation space globalization the enterprise intellectual potential role changed significantly, the intellectual potential transforming into a dominant condition of enterprises innovative development. The intellectual potential embodies a system of intellectual resources mutually interconnected and interacting. That system includes five relationships types: target, functional, structural, communication, activity- and development-related. These are the enterprise's internal capabilities implemented in combination with the environment-provided opportunities in absence of restrictions.

Identified are two levels of intellectual resources formation: individual (person as the resource holder and carrier) and corporate (project group, division, enterprise as such), engaged into intellectual resources creation process. Thus the individual level embraces a set of individual characteristics of a person, reflecting his ability to creative ideas and solutions in certain functional areas (design, construction, analysis, promotion, etc.). These are professional and personal competencies of such person: general and professional knowledge, skills and abilities (professional), intellectual abilities and motivation (personal). Then the corporate level includes a set of collective characteristics specific to and used by the enterprise (project group, subdivision) to achieve certain goals that turns into the enterprise intellectual capital, which provides the capital owner with certain benefits. This is the competence of the enterprise (project group, division): artificial intelligence tools, information and communication resources, corporate management.

Due to the intellectual resources lack and the need to attract these from outer sources expedient is to allocate intellectual potential components on the "location-integration" basis, i.e. both local and integrative ones.

Classified are the industrial enterprises intellectual potential forming process factors and resource constraints. The use of compensatory and critical impact signs allowed the allocation of resources that: a) can and can never be offset; b) are critical for the business partnership and its participants. In most cases the enterprises' local resources can never be compensated at all or quickly compensated. Their integration is more harmful than beneficial, while integrative ones create the effect of synergy, saving time and cost.

It is proved that the innovation-oriented industrial enterprises business partnership peculiarities determine the goals of their innovation development, innovative strategies and resource constraints. The business partnership for such enterprises is, essentially, a combination of relationships having different nature in innovation (technology, product) developing terms and the innovation process organization (arrangement and regulation of participants' relationships) that promotes innovation development or goals on the basis of continuous innovation search, development and expertise innovative ideas, development of their implementation ways. Evolved are the following partnership types: a) sectoral, regional, national, international; b) sectoral (industrial, engineering, research, etc.) and multi-vector (by directions).

The assessment of business partnership models applicability has proven their limited ability to strategically form the intellectual potential of innovation-oriented industrial enterprise with higher education institutions. Proved is that the existing typical business partnership models (concerns, temporary inter-corporate cooperation forms, etc.), as well as forms of cooperation with higher education institutions (departmental branches, joint research laboratories, complexes and centers, etc.) are complicatedly adapting to changes in the business needs and functional.

The new type innovation-oriented business partnership is substantiated, which has advantages, since it integrates critical influence resources. Its purpose is not only to consolidate various participants efforts in the innovation process for technical testing and research, including the innovative search and implementation of innovative ideas in technology or products, but also the development of an innovation strategy for all participants including the business processes reengineering, their goals, procedures, results coordination.

Industrial enterprises' innovative activity main tendencies and results cross-sectoral comparative assessment to the directions of scientific researches carried out by higher education institutions of Ukraine has shown that their priorities and orientation are different, and the innovation cooperation volume and effectiveness are decreased. These changes take into account the industrial enterprises and higher education institutions intellectual needs typology by adding innovation-oriented needs to the group uniting them as identical, contradictory and supporting.

The reasons, hindering the enterprises innovative cooperation with of higher education institutions are identified: at the micro level this is their separation from the business needs; higher education institutions' scientific researches spontaneous initiation; their innovation infrastructure slow development, slow mechanisms of scientific and technical developments commercialization; and at the macro level it is the legislative framework imperfection to stimulate innovation and intellectual activity; inconsistency of state policy.

The elaborated integrative theoretical and methodical approach to the industrial enterprise intellectual potential formation under conditions of resource constraints shall be implemented through its business partnership with innovation-oriented higher education institutions. Its application allows comprehending systematically the innovative development of all these processes subjects in the long run thus integrating scarce critical influence intellectual resources of enterprises and higher education institutions.

The main ideas of the proposed integrated theoretical and methodical approach to the industrial enterprise intellectual potential formation under conditions of resource constraints through its business partnership with innovation-oriented higher education institutions, allow being substantiated three assumptions. The first one: under limited resources conditions the intellectual potential is formed through a combination of efforts by: a) the person-innovator, acting as the bearer of personal intellectual potential; b) the organization where such person is employed (industrial enterprise, HEI, etc.), acting as the bearer of corporate intellectual potential; c) the state, being the guarantor of both personality and enterprise development; d) society and institutional formations.

The second assumption is that higher education institutions can not in principle, compete with high-tech enterprises in innovations production, therefore the innovation should not be competition but innovative cooperation through an innovation-oriented business partnership following the proposed its formation model.

The third assumption: the HEI innovative orientation confirms the presence of: a) the innovation development goals system; b) the developed innovative infrastructure; c) application of intellectual work stimulation methods and support to innovations introduction; d) the developed innovative functional (scientific research generation, commercialization of scientific developments, developments patenting and licensing, international cooperation with foreign and domestic scientific and technological community, systemic educational innovations, entrepreneurial education presence.

Proposed are the three criteria for finding common goals and business partnership goal-setting: a) the field where the innovation-oriented partnership or its activity result may beat the world's standards, i.e. the mission; b) the correct concept of activity model constructing, in other words, an adequate partnership business model; c) the right people at right places that does mean adequate use of the business partnership participants' intellectual resources. The innovation-oriented business partnership principles, functional and indicators system are substantiated. As innovation-oriented business partnership principles proposed are: adherence to the value-oriented approach in the business partnership functional formation; innovation development continuity; long-term innovative cooperation. The innovation-oriented business partnership functional is formed by: a) scientific research generation; b) scientific developments commercialization; c) educational activity modernization and entrepreneurial education introduction; d) technologies patenting and licensing; e) interaction with foreign and domestic educational and scientific innovative environment.

The proposed list of its organizational and economic mechanism components will allow creating the innovation-oriented partnership economic basis and managerial levers of enterprises innovation activity stimulation also effective for their innovative cooperation with external partners. Recommendations on the assessment higher education institutions intellectual potential as prospective business partners with regard to their scientific activity and thematic rating are developed. This will strengthen grounds in justifying the enterprise's business partners selection, professional intellectual basis for outsourcing engineering, technical testing and research, thus providing the strategic long-term basis of the business partnership.

The proposed scientific and methodical approaches with the elaborated theoretical and methodological grounds and recommendations for the industrial enterprise intellectual potential formation under the conditions of limited intellectual resources through business partnership with innovation-oriented higher education institutions take into account the world experience of innovative business cooperation with the economy educational sector, increasing both productivity and justification of business partnership.

Key words: formation, intellectual potential, industrial enterprise, limited resources, innovation-oriented business partnership, higher education institution, theoretical and methodological approach, performance, evaluation, indicators system, recommendations.

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