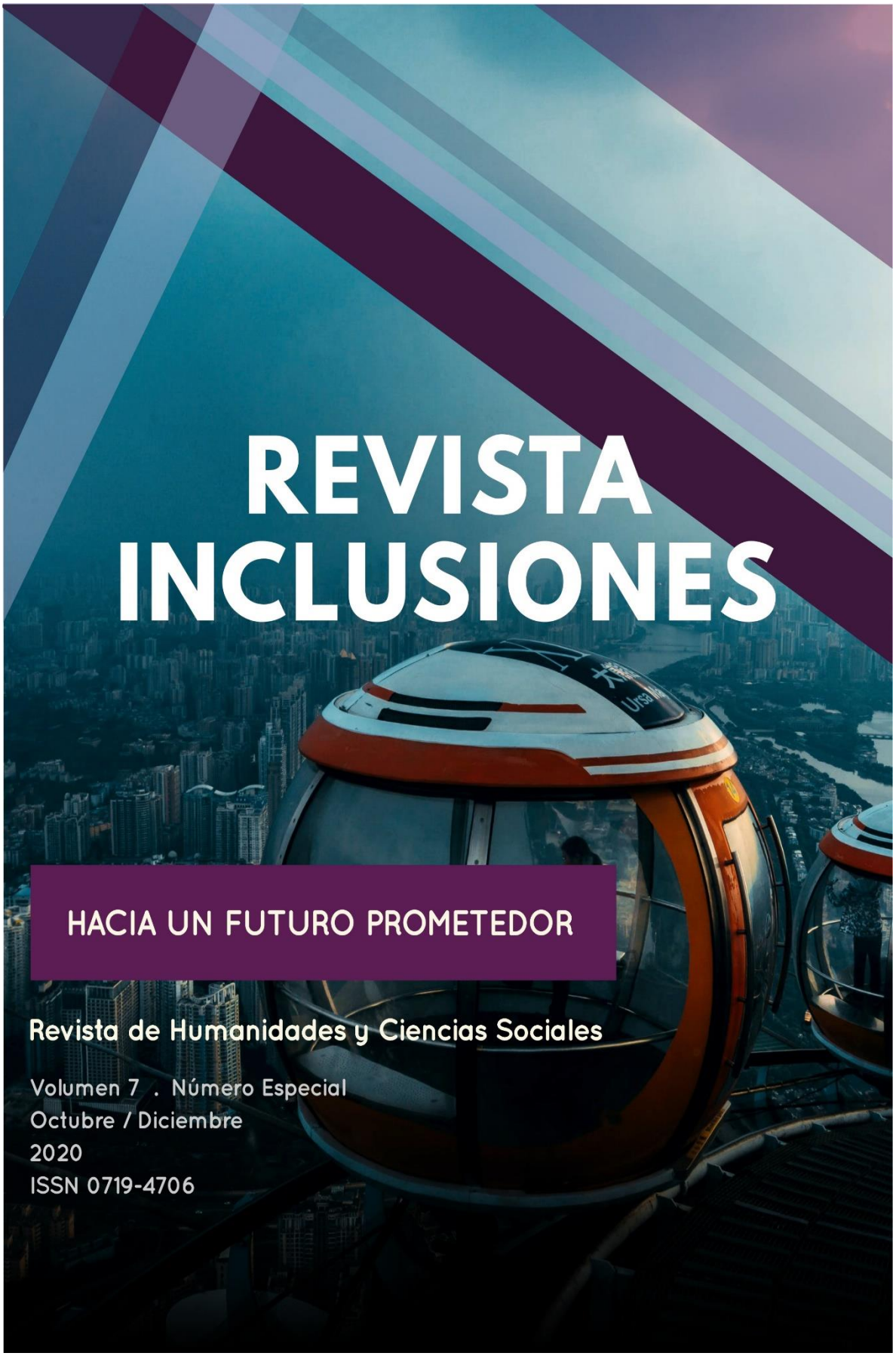

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PARAMETERS OF ENTERPRISE INNOVATION ACTIVITY ASSESSMENTS: ECONOMIC AND LEGAL ANALYSIS

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Abstract

The paper addresses the problem of selecting the most important parameters to assess efficient enterprise development and integration; a special aspect is the comprehensive legal and economic study of enterprise development performance analysis. The findings show that social and legal effects make the forecast background of the innovation process; it is also established that the application and calculation of expert assessments should be focused, as a principal condition, on an integral assessment and establishing a correlation between different factors, namely, economic, legal, information, and resource factors. The findings may be useful for practical and research support of the economic and legal operation in advancing enterprise activity.

Keywords

Innovation activity – Assessment parameters – Economic and legal analysis – Legal regulation

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Introduction

The growing body of regulations at all levels of governance, the rapidly accelerating digitalisation of the economy, innovation activity of enterprises, and mechanisms of modernisation make a key factor driving radical structural economic shifts in industrially developed and developing countries, specifically, in Russia.

They specifically show in the growing investment in education and science, technological and organisational innovation, outpacing dynamics of high-tech industries with simultaneous technological advances in the traditional industries and emergence of new economic activities, etc.

The relevance and significance of this paper are associated with the need to administer efficient innovation policies to ensure better economic performance and specifically to enhance product competitiveness in external markets.

The objective of this paper is to study the digital potential and innovation activity and to identify problems occurring in the modern world and having an impact on the steady operation and development of national economies[1].

The research subject is concerned with the potential growth of innovation activity of Russian enterprises and industries pursuing advances toward West European market standards and enhancing competitiveness in the global market.

The applicability of research results lies in practical and research support of the economic and legal operation of business development. Novelty and relevance become clear from the cross-disciplinary approach of the study. On the one hand, innovation activity is addressed as an economic category representing the degree of effort committed by the management and staff in a developing and advancing innovation subject to the accumulated innovation potential. On the other hand, the innovator is analysed through the lens of law, which creates the need for a forecast profile as social and legal effects in the innovation process make the forecast background.

Materials and methods

The analysis for the paper relied on statistical and empirical methods used for primary quantitative data collection and their further measurement for studying major enterprise innovation effects. Innovation potential and innovation activity assessments integrate various indicators. There is the need to apply the expert method subject to a principal condition of providing an integral assessment. The resulting quantitative characteristics help to identify patterns and eliminate minor random fluctuations. The analysis for this paper also concerned the system of legal regulation as an efficient instrument of development of innovation-active enterprises and industries adopting new technologies and thus building up their positions in competitive market segments[2].

[1] N.C. Dalkey, O. Helmer-Hirschberg, “An Experimental Application of the Delphi Method to the Use of Experts”, Management Science Vol 9 num 3 (1962): 458-467.

[2] V. I. Kovalev, Upravlenie innovatsionnym razvitiem predpriyatiya s ispolzovaniem metoda dorozhnogo kartirovaniya. Aktualnye voprosy upravleniya i razvitiya ekonomiki (Moscow: Publishing House of the Budget and Treasury Academy, 2010).

As we progressed in this work, we engaged in broad discussions of innovation-related issues at various international research events[3] and as part of educational activities in respective specialisations during the defences of dissertations and monographs[4].

Results

Innovation occurs as a result of the application of research findings and elaborations meant to enhance production processes, economic, legal, and social relations in science, culture, education, and other areas of social life. This term can have different meanings in different contexts, depending on the specific purposes of measurements or analysis.

We emphasise[5] that innovation should be understood as a process combining several types of activities conducted by several subjects from one or several organisations involving the development (production, implementation, transfer) of new combinations of means and/or ends for an existing and/or new unit for its development (transformation)[6].

Item 4 on the agenda of the fifth session of the UN (New York, March, 2006) referred to "Innovation in governance and public administration" as a way to achieve global development goals, including the Millennium Development Goals. According to UN experts, public sector management innovation may be defined as the development of new policy designs and new standard operating procedures by public organizations to address public policy problems. Accordingly, a feasible working hypothesis is that enterprise innovation activities consist in searching for efficient and creative solutions to new problems or finding "new solutions to old problems".

Notably, the digital potential and innovation activity of enterprises do not provide "fixed" end results, representing instead an open process of finding solutions, which is advanced creatively by the decision-makers developing the system of combinations[7].

[3] M. L. Garcia y O. H. Bray, Fundamentals of Technology Roadmapping. Sandia National Laboratories. Retrieved from: https://prod-ng.sandia.gov/techlib-noauth/access-control.cgi/1997/970665.pdf y P. E. Miller y K. D. Swinehart, Technological Forecasting: A Strategic Imperative/JGBM. Retrieved from: http://www.jgbm.org/page/21%20Philip%20E.%20Miller%20.pdf

[4] V. Degtiarenko, Otsenka effektivnosti investitsionnykh proektov (Moscow: Ekspertnoe byuro, 1997); A. V. Chernysh, Institutsionalizatsiya gosudarstvennoi podderzhki innovatsii v Rossii 2000-kh godov: keis biznes-inkubatorov (Moscow, 2018); A. L. Miachin, Indeksy neodnorodnosti innovatsionnogo razvitiya (Moscow, 2017) y A. Iu. Iakovleva, Faktory i modeli formirovaniya i razvitiya innovatsionnykh ekosistem (Moscow. 2016).

[5] A. A. Drueva, Pravovoe polozhenie uchastnikov innovatsionnoi deyatelnosti: Dissertation (Moscow: Moscow State Law University (MSAL), 2014) y G. B. Kleiner; S. E. Shchepetova; M. A. Lapina; E. N. Sirota; L. S. Zviagin; D. S. Shmerling; G. A. Shcherbakov; M. K. Uandykova; S. G. Zbrishchak y Iu. V. Nikitochkina, Sistemnye mekhanizmy koordinatsii v innovatsionnoi ekonomike (Moscow, 2019).

[6] A. P. Shabanov y M. A. Arakelian, “Tekhnologiya kontrolya kachestva obsluzhivaniya trebovanii v organizatsionnykh strukturakh, predostavlyayushchikh uslugi massovogo kharaktera”, Biznes-informatika Vol: 3 num 17 (2011): 53-59 y M. I. Ablameiko; V. F. Nikonovich y V. N. Tamashevich, Glossarii po nauchnoi i innovatsionnoi deyatelnosti: Reference handbook (Minsk, 2004).

[7] M.V. Miasnikovich, N.B. Antonova, N.L. Nekhorosheva, Gosudarstvennoe regulirovanie innovatsionnoi deyatelnosti (Minsk, 2015)

In our view, certain conditions have to be in place and set forth in regulatory legal acts to make the ground for successful innovations and achievement of the desired practical outcomes in the economy. Nearly all companies possess innovation and regulatory potential, however, not all of them engage in innovation activities.

Some researchers support[8] our view that the innovator, defining the parameter of orderly legal existence, has to provide the society with a model of the potential outcome and ways of development of the adopted legal construction or an individual legal norm based on the following aspects of the forecast background: demographic, sociologic, sociocultural, and economic aspects[9].

Subsequently, we believe that innovation potential objectively reflects enterprise vitality, the borderline characteristics of various internal and external factors and, where collisions occur between factors, serves as a powerful resource for accelerating the process of enterprise development. Moreover, innovation potential of an enterprise comprises the combination of all resources (productive, regulatory, legal, financial, information, and market resources) and their capacity to be realised at the enterprise, regional, and national level to achieve specific goals in a rapidly changing external environment.

The approaches developed by researchers to assess innovation potential as a sum of isolated potentials mean the majority of authors produce the resulting indicator as an integral measure of innovation potential.

Thus, some researchers[10] approach innovation potential as three interrelated blocks comprising resources, support, and outcomes. Based on the above, the following system is proposed (Table 1).

Block of resources	**Block of support**
- technological potential - financial potential - legal potential - legal policy - talent resource - information potential - scientific and technical potential - management resource	- scientific and technical resource - management resource - legal support - information support - local legal regulation - innovation culture

Table 1
Components of enterprise innovation potential

[8] A. P. Albov y L. M. Kupriyanova, “Tsifrovoe pravo v tsifrovoi srede ekonomiki: problemy realizatsii i riski”, Ekonomika. Biznes. Banki Vol: 4 num 42 (2020) 8-20; L. M. Kupriyanova, “Razvitie potentsiala nesyrevogo sektora ekonomiki Rossii”, Mir novoi ekonomiki num 2 (2014): 6-12 y L. M. Kupriyanova, “Effektivnaya model kommertsializatsii intellektualnoi sobstvennosti”, Mir novoi ekonomiki Vol: 13 num 1 (2019): 104-110.

[9] L. V. Goloskokov, Gosudarstvo, Konstitutsiya, Rodina: k poiskam natsionalnoi idei i novoi doktriny gosudarstva (Moscow: Prospekt, 2015) y A. A. Rubinshtein, Rol informatsionnykh tekhnologii v razvitii malogo predprinimatelstva v APK (Moscow: 2009).

[10] L. K. Shamina, “Sistema pokazatelei otsenki innovatsionnogo potentsiala predpriyatiya”, Nauchno-tekhnicheskie vedomosti Sankt-Peterburgskogo gosudarstvennogo politekhnicheskogo universiteta. Ekonomicheskie nauki Vol: 1 num 114 (2011): 128-132.

The proposed system of assessment indicators is substantiated by us based on the capability to assess potential components by individual blocks and make the most effective choices of innovation behaviour and innovation development. Assessment indicators are based on the indicators of legal regulation, accounting reports, and calculations and assessment of financial and economic indicators[11].

This substantiates the need for a focused analysis of innovation and economic indicators. An integral assessment allows harnessing the advantages of all approaches to determining innovation potential and uncovering the dialectic of its development[12]. Thus, assessments should be based on indicators combined into six groups (Table 2).

Group	Indicators
Production component (PC)	Fixed asset value and degree of wear and tear
	Production capacity utilisation degree
	Availability of material and commodity and fuel and energy resources
Scientific and technical component (STC)	Fixed asset operability coefficient
	Fixed asset renewal coefficient
	Capital/labour ratio
Financial component (FC)	Ratio of research and development spending in proportion to innovation income
	Ratio of fixed capital investment in proportion to sales
	Research intensity of the product
	Ratio of intellectual property
	Share of spending on talent development in the total research and development spending
	State sources of research and development funding
Talent component (TC)	Share of staff engaged in research and development in proportion to total staff
	Share of degree-level staff in proportion to total staff
	Share of doctors, candidates, post-graduates in proportion to total employee count at the enterprise
Information and legal component (ILC)	Spending on staff and information activities
	Regulatory framework in place to facilitate the enterprise's innovation-driven advance Developed local legal acts easing the integration of various innovation trends Information and legal support sufficiency of the enterprise
Market component (MC)	Share of innovative products in proportion to total production output
	Profitability of innovative products
	Competitiveness of new products

Table 2

System of indicators of enterprise innovation potential assessment

Calculations of isolated quantitative potentials, the constituents of enterprise innovation potential, are based on the total of the respective values of indicators[13]:

[11] L. M. Kupriyanova y T. Kh. Usmanova, “Analiz Pokazatelei Intellektualnoi Sobstvennosti”, Ekonomika. Biznes. Banki num 9 (2016): 9-23.

[12] D. G. Fedotenkov y A. A. Padalko, “Investitsionno-innovatsionnyi potentsial kak osnova razvitiya ekonomiki regiona”, Molodoi uchenyi Vol: 3 (2014): 565-572.

[13] A. N. Tsybulyak y N. B. Kultin, Indeks Khirsha kak pokazatel innovatsionnogo potentsiala predpriyatiya: Proceedings of the students' research conference "Informatika i kibernetika" (St. Petersburg: Polytechnical University Publishing House, 2015).

$$PC = PC1 + PC2 + PC3 \quad (1)$$

where PC is the production component of enterprise innovation potential.

The same method is used to calculate all further potential values. The integral indicator is used for comprehensive enterprise innovation potential assessment, which is calculated as follows:

$$EIP = \sqrt[6]{PC * STC * FC * TC * ILC * MC} \quad (2)$$

Importantly, beyond enterprise innovation potential assessment, the analysis should also include the indicators of innovation potential utilisation in terms of innovation activity and innovation potential utilisation performance. The respective method will be discussed in further papers following a comprehensive study and collection of verifiable evidence, as the analysis of enterprise innovation potential and its utilisation is a focused, industry-specific, and relatively compact problem, subject to the identification of the most significant and informative indicators and suitable for practical application.

Discussion

In our view, the assessment of innovation potential should be approached as an economic category captured in legal regulatory documents. A new system of indicators to assess enterprise innovation performance needs to be developed and put to use to ensure the optimal profiling of enterprise innovation activity and objective input to support managerial decision-making[14]. An important element of this system is the comprehensive innovation in all forms of law supporting enterprise innovation potential (endogenous innovation, reception of law, reform of law)[15]. It should be also understood that the system of indicators of innovation activity levels should be optimised to ensure proper and plain elaborations on the integral assessment. The system of indicators should meet the following requirements: where possible, its components may form a dynamic statistical series, which is important for assessing the influence on other indicators; beyond assessing the end result, proposals should be made as to a set of improvement measures for principal indicators; the indicators should be normalised —standard values and industry coefficients should be provided; standards should be selected to provide for maximum acceptable variance ranges[16].

Conclusion

The proposed approach to enterprise innovation potential and innovation activity assessments is to integrate the whole economic potential in its calculation, including specifically financial, legal, and accounting constituents, the potential of internal business

[14] Decree of the RF Government no 2227-R “On the strategy of innovative development of the Russian Federation for the period up to 2020”. December 8, 2011. Retrieved from: http://government.ru/docs/9282/ y N. V. Gorodnikova, L. M. Gokhberg, K. A. Ditkovskii, Indikatory innovatsionnoi deyatel'nosti: statisticheskii sbornik (Moscow: NIU HSE, 2018).

[15] Iu. A. Tikhomirov, “Effektivnost zakona: ot tseli k rezultatu”, Zhurnal rossiiskogo prava num 4 (2009).

[16] L.M. Kupriyanova, “Effektivnaya model kommertsializatsii intellektualnoi sobstvennosti”, Mir novoi ekonomiki Vol: 13 num 1 (2019): 104-110.

processes, and enterprise talent development. As long as the principal objective of this study concerns the development of a unified system of assessment indicators, typical enterprise indicators applicable to all industries should be determined for each of the discussed potential components. The efficiency of innovation potential assessments depends on properly selected and justified criteria and indicators. Practising a regular procedure of innovation potential assessment would be useful to identify the drawbacks in enterprise operations and to eliminate them.

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