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**THE CONCEPT
OF INTELLECTUAL CAPITAL MANAGEMENT
IN REGIONAL DEVELOPMENT**

Specialty 08.00.05 – Economics and national economy management
(regional economy)

ABSTRACT
of the thesis presented for the degree of doctor of Economics

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Main results of P.Yu. Makarov's dissertation

“The Concept of Intellectual Capital Management in Regional Development”

P.Yu. Makarov's thesis for the degree of doctor of Economics in the specialty 08.00.05 – Economics and management of the national economy: regional economy – is a comprehensive study of the problem of intellectual capital activation in Russian Federation's regional development.

The relevance of the research topic is determined by the increasing importance of intellectual capital as a factor of regional development. In particular, the need to intensify the use of intellectual capital in regional development directly follows from the purpose of the Strategy for Scientific and Technological Development of the Russian Federation (“ensuring the country's independence and competitiveness by creating an effective system for building up and using of the nation's intellectual potential”). The problem of intellectual capital management is pointed in the subprogram “Development of national intellectual capital” of the state program of the Russian Federation “Scientific and technological development of the Russian Federation”. The key role of intellectual resources has been repeatedly expressed by the President of the Russian Federation, representatives of the government, business and academia.

At the same time, the understanding of the term “intellectual capital” that has developed in theory and practice is underdeveloped for its application at the regional level. Views on the content of this term are often formulated without taking into account the level of national economy organization (organizational, spatial, etc.). The very concept of “intellectual capital of the region” is not formulated in the literature and regulatory documents. Meanwhile, the range of phenomena covered by the term “intellectual capital” is studied from the standpoint of various economic disciplines, which leads to terminology confusion and complicates its meaningful definition.

In its turn, a practice of intellectual capital management in regional development is presented by scattered cases and poorly systematized in the scientific literature. In fact, a scientifically based approach to the regional

intellectual capital management has not been formed, and there is no certainty about the actual object of administrative influence.

As a result of the above, the mechanisms of the intellectual capital reproduction and activation in regional development still unstudied, and the lack of systemacity in the regional intellectual capital management causes doubts about the sufficiency of existing management tools, which creates a need for their systematization and revision.

Thus, in fact, to date, no methodology and tools have been formed through which representatives of the authorities and other participants in the formation of the development strategy of the Russian Federation and its regions could carry out an impact on intellectual capital to use it in socio-economic development. In view of the above, the intellectual capital of Russia and the federal subjects of Russia is not reflected in development plans and does not fully contribute to the country's competitiveness and its economic growth.

The foregoing causes necessity of the development of theoretical and methodological recommendations for the regional intellectual capital management, which constitutes the concept of intellectual capital management in regional development.

The object of the research is intellectual capital, considered at different levels of the national economy spatial organization: regional (the federal subjects of Russia and administrative-territorial units of other countries) and national (Russian Federation and other countries).

The subject of the research is organizational and economic relations arising in the process of formation and activation of intellectual capital in regional development.

The purpose of the study is to develop theoretical and methodological provisions for the regional intellectual capital management, which together constitute the concept of intellectual capital management in regional development.

In accordance with the research purpose, the following **objectives** are defined:

- 1) determine the economic meaning of intellectual capital and its place among the terms denoting the intangible factors of the development of the region; to

- identify invariant characteristics of intellectual capital, which make it possible to determine the range of phenomena related to intellectual capital;
- 2) formalize the concept of “regional intellectual capital” by developing its structural model and describing its relations to intellectual capitals at other levels of the national economy;
 - 3) elaborate scientifically grounded approach, indicating the direction of decision-making on the management of intellectual capital in regional development, and justify the role of the system of intellectual capital reproduction as an object of managerial influence;
 - 4) identify the basic components of the mechanism of regional intellectual capital reproduction, through which it is possible to activate the processes of intellectual capital reproduction and use it in regional development;
 - 5) develop a toolkit that provides support for the stages of decision-making on intellectual capital management in regional development.

The scientific novelty of the research is in the fact that the concept of intellectual capital management in regional development has been developed and tested, contributing to the development of the federal subjects of Russia. The details of the scientific novelty of the research are as follows. The concept includes theoretical, methodological and instrumental blocks. The theoretical block is represented by a system of views on the management of intellectual capital in regional development, formed from its definitions and models and a reproductive approach to management. The methodological block includes a system of principles for managing intellectual capital in regional development. The instrumental block is represented by a system of tools for the development and decision-making for the intellectual capital management in regional development.

1. The definition of intellectual capital has been formulated, according to which it is defined as a set of intangible objects, properties and connections of the socio-economic system, perceived by the subjects of management as a source of value creation through participation in the processes of social and economic reproduction at different levels of the national economy.

This definition reflects the invariant characteristics of intellectual capital: intangibility, the ability to create value, belonging to the system, involvement in the social reproduction processes and assessment as a way of emergence. The definition allows us to determine the place of intellectual capital among the concepts that characterize the intangible factors of regional development: intellectual property, knowledge, intangible resources, human capital, etc. Among these concepts, intellectual capital is the broadest term, since most of the other categories can be considered as its components. This leads to the need to clarify the range of phenomena attributed to intellectual capital in any particular case.

A distinctive feature of the proposed definition is that it is based on the results of statistical-semasiological analysis of the practice of using the term “intellectual capital” (while the existing definitions are based on citing the “classics” or deductive logical constructions) and allows to identify and take into account the main essential signs of this phenomenon, taking into account the actual practice of using the term. The proposed view of the intellectual capital place among the concepts that characterize the intangible factors of regional development is distinguished by an emphasis on its interdisciplinarity and an indication of the relationship with terms denoting intangible factors of regional development.

Thus, the metadisciplinarity of the definition is provided, which makes it possible to form a basis for the study of intellectual capital at different levels of the national economy.

2. The structural model has been developed that formalizes the concept of “regional intellectual capital” and characterizes its relationship with intellectual capitals at other levels of national economy.

According to the proposed model, at the regional level, intellectual capital includes the intellectual capital of the region as a spatial socio-economic system and the aggregated intellectual capital of organizations and individuals operating on its territory (in the private and public sectors, in civil society and communities, etc.). The intellectual capital of smaller spatial systems (e.g. municipalities) can also be considered in the structure of the region's intellectual capital.

The proposed model differs from the approach that dominates in the scientific literature, which consists in a generalized study of the intellectual capital components without taking into account of relationships between the levels of national economy. Its difference lies in the fact that it reveals the content of the “regional intellectual capital” as a separate term (in the literature it is considered by analogy with the organizational intellectual capital) and reflects the assumed interrelationships of the intellectual capitals at different levels of the national economy (the literature does not disclose the issue of intellectual capitals interconnection in systems of different scales).

The thoughts on regional intellectual capital reflected in this model constitute the theoretical basis of the concept being developed.

3. Proposed and substantiated an approach to the management of the region's intellectual capital. The proposed approach is a set of views on the intellectual capital management in regional development, based on the assumption that the real object of managerial influence within “regional intellectual capital management” is the system of intellectual capital reproduction.

The distinctive features of this approach are as follows.

First, it points to the reproduction system as a real object of managerial influence (as opposed to the interpretation of the phrase “intellectual capital management” used in scientific literature, where which intellectual capital itself is understood as an object of influence).

Secondly, in addition to relying on general theoretical premises (intangibility and multi-subject nature of the regional intellectual capital, which naturally limit the possibilities of influencing it); the approach is substantiated by empirical data. The examples of managerial decisions presented in various cases reflect their focus not directly on intellectual capital, but on its carriers, conditions for implementation, etc. Analysis of statistical data shows that at present the largest gap between developed and developing countries falls on the indicators of the reproduction system of intellectual capital, and not on estimates of intellectual capital components themselves.

Pointing to the actual object of managerial influence, the proposed approach makes it possible to increase the effectiveness of measures to form and activate intellectual capital in regional development.

4. The composition and content of the regional intellectual capital reproduction system has been determined. According to the proposed model, this system includes four components: subjects (participants in the intellectual capital management), objects (resources involved in the intellectual capital reproduction), processes (directly reproduction processes) and environment (environmental factors affecting the reproduction processes). At the same time, each component of the system is also systemic in nature, representing a hierarchical structure of different scales systems, corresponding to different levels of national economy.

The distinctive characteristics of the proposed model are that, firstly, it is developed from the standpoint of a systems approach (existing similar models are represented by a process approach) and assumes a multiplicity and multidirectionality of reproduction processes, their participants and resources (other similar models assume a single process).

The result obtained allows determining and concretizing the set of objects of administrative influence in the intellectual capital management in regional development.

5. The basic components of the regional intellectual capital reproduction mechanism are revealed. The reproduction mechanism is treated as a set of interactions between elements of the intellectual capital reproduction system, ensuring the functioning of regional intellectual capital reproduction processes.

The basic components of the mechanism is a set of combinations of the regional intellectual capital reproduction system elements (subjects, objects, processes and environment), which can affect the nature and direction of reproduction processes.

A distinctive feature of the identified basic components is that, using them as a basis for creating intellectual capital reproduction mechanisms, it is possible to regulate the interaction between the intellectual capital reproduction system

components, taking into account a regional specific. (The existing developments propose only typical universal mechanisms and solutions).

The basic components, thus, make it possible to activate the regional intellectual capital reproduction processes and productive use of it in regional development.

6. A system of principles for managing intellectual capital in regional development has been developed, which constitutes the core of the methodological part of the concept being formed.

The resulting system includes the following principles: the principle of certainty in the composition of intellectual capital; the principle of expediency in determining the composition of intellectual capital; the principle of the regional intellectual capital hierarchy; the principle of the regional intellectual capital reproduction system management; the principle of multi-subject management of the regional intellectual capital; the principle of integrating intellectual capital management; the principle of intellectual capital dynamics.

A distinctive feature of the proposed system of principles is that, on its basis, positive and normative conclusions about the intellectual capital management in regional development are combined, while the scientific literature states a lack of normative research. The existing similar sets of principles, in turn, are not relying on positive data.

The proposed system of principles in a concise form expresses the methodological approach to the intellectual capital management in regional development, characterizing the approach to understanding the essence and content of intellectual capital, pointing to the actual object of management and its multi-subject nature.

7. Proposed an instrumental solution to the problem of non-transparency of the relationship between decisions aimed at intellectual capital and the results of its analysis, which is characteristic of the intellectual capital management practice in regional development.

The proposed solution consists in using a tool based on the morphological matrices method and represents a matrix in which the key factors of the regional intellectual capital reproduction are matched in pairs, in order to develop and detail management decisions.

A distinctive feature of the proposed solution is that it provides instrumental support for such stages of development and decision-making as: identification (generation) of decision alternatives; alternatives assessment and selection - both are not covered by existing intellectual capital management tools.

The application of the morphological matrices method provides a clear transition from the results of the regional intellectual capital analysis to decisions on activating it. Thus allows solving issues concerned with the use of intellectual capital resources in regional development.

8. Formed a toolkit for the decision-making on the intellectual capital management in regional development. A toolkit is a system of tools structured on the basis of a model of decision-making stages (identification and assessment of intellectual capital, development of criteria and goals for decision-making, identification (generation) of alternatives, assessment and selection of alternatives, implementation and control). The toolkit is intended for methodological support in the development of solutions for the management of intellectual capital of the federal subjects of Russia and its use in regional development.

The proposed toolkit differs from existing analogues in that it covers the full cycle of decision-making (currently existing tools are either single or cover an incomplete cycle) and suggests the possibility of choosing tools in accordance with the decision-making conditions (existing sets of tools are immutable sets).

The toolkit is applicable as a methodological basis for managing intellectual capital in regional development.

Approbation of research results. The research result were accepted for use by the Committee for Economic Development and the Committee for Project Activities of the Vladimir Region as part of the tools for elaboration of long-term development

documents (strategies, programs, projects) when designing the trajectory of regional socio-economic development.

The results obtained were also used in the research activities of the Vladimir branch of RANEPA on the following topics: “Development of a place brand management system based on the intellectual capital model” (2016); “Development of a project management model for place branding” (with financial support from the Administration of the Vladimir region in accordance with the Order of the Governor of the Vladimir region No. 546r “On the allocation of grants to young scientists in 2017”); “Development of approaches to managing the reproduction of the regional intellectual capital” (2017); “Intellectual capital in the socio-economic development of the region: management tools” (2020).

The research results are applied in the work of the workshop “Vladimir-2050: Intangible Resources of Regional Development” as part of the implementation of the Plan of Scientific Activities of the Vladimir Branch of the RANEPA (2019-2020).

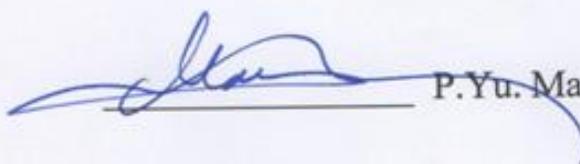
The research results were presented and approved at the International Scientific Conferences: “GCPMED 2019 - Global Challenges and Prospects of the Modern Economic Development” (Samara, 2019); “The 21st Century from the Positions of Modern Science: Intellectual, Digital and Innovative Aspects” (Nizhny Novgorod, 2019) and “The Future of the Global Financial System: Downfall or Harmony” (Cyprus, Limassol, 2019); the International Scientific Seminar “Theory and Practice of Social Management” (China, Kunming, 2016); the International Scientific and Practical Conference “Actual Problems of Management in the Russian Federation: Qualitative Improvement of Economic Management” (St. Petersburg, 2014); the XVI International Scientific and Practical Conference “Theory and Practice of Modern Science” (Moscow, 2014); XI, XII, XIII, XIV, XV, XVI and XVII interregional scientific and practical conferences “Strategic management: theory, practice and problems” (Vladimir, 2013-2019); interregional scientific and practical conferences “Russian statehood in the XXI century: models and prospects of socio-political development” (Vladimir, 2017-2018); the interregional scientific and practical conference “Modern trends in the

development of management and public administration" (Oryol, 2016); the VI All-Russian scientific and practical conference "Sustainable development of territories: theory and practice" (Sibay , 2014); the international scientific and practical conference "Scientific research. Theory and Practice" (Poland, Wroclaw, 2012); the II International Scientific and Practical Conference "Russia and Europe: Linking Culture and Economy" (Czech Republic, Prague, 2012).

The theoretical and methodological provisions formulated in the study were used in the educational process of the Vladimir branch of the RANEPA for master degree students in the disciplines "Strategic programming", "Strategic forecasting and planning at the regional and municipal levels".

Publications. On the topic of this research, 72 scientific works have been published. Among the publications, 22 papers were published in scientific journals included in the list of peer-reviewed publications recommended by the Higher Attestation Commission of the Ministry of Science and Higher Education of the Russian Federation, 7 papers- included in the Scopus and Web of Science databases, and 2 articles - in journals recommended by the Academic Council of the RANEPA for the publications on economic sciences.

The dissertation consists of an introduction, four chapters, a conclusion; the work includes 32 tables, 48 figures, a list of used literature of 320 titles and 9 applications.



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