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## CONCEPTUAL FRAMEWORK TO STUDY HUMAN CAPITAL IN TERRITORIAL AND INTERDISCIPLINARY DIMENSIONS

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### *Abstract*

The paper substantiates the relevance of conceptual framework to study and measure the quality of human capital in light of interdisciplinary and territorial approaches based on the analysis and critical reflection of foreign and domestic publications from different theoretic fields. The approaches bring out the conceptual content of the notion of human capital, its structure, and its potential in addressing the challenges of economic modernization in the context of a territorial approach based on interdisciplinary principles. An overview provides a rationale for the subject area, and clarifies the conceptual apparatus, research methods and tools. The approaches existing in scientific literature towards human capital are analyzed from the standpoint of a systematic and integrated approach enabling to combine different theoretical paradigms of sociology, psychology and economics. Human capital is conceptualized within a territorial approach based on poly-paradigm principles and a set of theoretic and empirical methods. This can yield a methodology for calculating the quality index of human capital and an integrated set of methodological instruments for collecting empirical data. Based on the integral index, a comprehensive assessment is planned to address human capital quality in the Kemerovo region and single-industry towns of the region. The findings will be encapsulated in the GIS system “Human capital of Kuzbass”. The value of the index is a criterion to differentiate single-industry towns with different quality of human capital and social potentials for modernization, which will significantly expand the awareness of the scenarios for the development of Kuzbass in a strategic period until 2035.

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**Keywords:** Human capital, resource region, single-industry town, modernization.



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## **1. Introduction**

A long-term basis for the growth of well-being and people's quality of life in the Russian Federation is a competitive innovative economy that relies on knowledge and human competences (human capital). The economic differentiation of Russian regions is associated with significant variation in the quality of human capital. Therefore, this leads to the issue of the territorial factor to be considered along with the implementation of modernization and innovative development. For Kuzbass, a resource region, the problem of assessing the quality of human capital is especially relevant in theoretical and practical terms. Kemerovo region is the leader in the number of single-industry towns (24 single-industry towns), which features industrial and production potential of the region. Sustainable development of the region as a whole depends on solving the problem of modernizing the economy of single-industry towns. However, systemic socio-economic indicators of the development of Kuzbass single-industry towns indicate that the potential for their modernization is faced with some serious bottlenecks, including those hampering the attraction of qualified staff able to tackle innovative modernization challenges, which reduces the investment attractiveness of the territory (Urban & Demchuk, 2018). Meanwhile, modernization of the economy of Kuzbass single-industry towns is directly related to the quality of human capital. This means that assessing the quality of human capital for structural changes and the development of high-tech industries in specific single-industry territories of the region becomes an important prerequisite for investment activity.

Traditionally, a human development index (hereinafter – the HDI) is used to assess human capital. However, HDI does not include important qualitative aspects of human development that characterize some activity components of human capital that are of particular importance for entrepreneurial and innovative activities. Moreover, it does not address local institutional factors affecting their formation and implementation.

## **2. Problem Statement**

An urgent scientific issue lies in the development of conceptual foundations and new tools applicable to examine human capital in the framework of interdisciplinary and territorial approaches. An overview of approaches to study human capital in the domestic and foreign scientific literature brings out the conceptual content of the notion of human capital, its structure, and its potential in addressing the challenges of economic modernization in the context of a territorial approach based on the principles of interdisciplinary research.

## **3. Research Questions**

A rationale for the relevance of a new conceptual approach towards human capital, focus on its subject area, research methods and tools, and refinement of the conceptual apparatus are possible based on theoretical analysis and critical reflection. In this regard, the subject of research is theoretical and methodological approaches towards human capital issues articulated in foreign and domestic scientific publications from different theoretic fields.

#### **4. Purpose of the Study**

The fundamental scientific goal of the paper is to develop theoretical and methodological foundations towards human capital in the resource region and build an integral quality index of human capital, including empirically measured quantitative and qualitative aspects of human development, significant for the implementation of modernization and innovative development of a resource-type region.

#### **5. Research Methods**

The paper analyzes scientific literature from the standpoint of a systematic, integrated approach based on a multi-theory principle (Yadov, 2003). This implies appealing to various conceptual ideas and conclusions of sociologists, economists, psychologists, etc. and bringing them together, thereby expanding opportunities for better awareness of conceptual provisions outlined by the authors. The methods used to analyze scientific publications involve: descriptive – based on the identification of key concepts, diachronic – aimed at exploring an issue through its historical development, axiomatic – enabling to logically approach new positions and statements through scientific provisions (axioms), and deconstruction – based on the interpretation of a scientific text without distortion of its main idea.

#### **6. Findings**

Both in Russian and foreign literature there is no generally accepted definition of the term “human capital” (Gvozdeva & Kazakova, 2017).

The well-known Western economists and sociologists, including Theodore Schulz, Gary Becker, Edward Denison, Robert Solow, John Kendrick, Simon Kuznets, Solomon Fabricant, Stanley Fisher, Robert Lucas and others, initially contributed to the development of modern theory of human capital as a key source of economic growth. Thus, Gary Becker viewed human capital as a combination of human skills, knowledge and motivations. This capital is used in the process of production and consumption. It is shaped through the investment in people in the form of costs for education, training of the labor force in production, protection of health, migration and search for information on prices and incomes (Becker, 2003).

Since the early 1990s, human capital as a factor in the market transformation of the economy and competitiveness of Russian society is becoming a focus of research by domestic scientists. The most famous are the works by Zaslavskaya (2004), Koritsky (2005), Yadov (2003) and others.

Economics highlights a traditional challenge being the impact of human capital on labor productivity, production efficiency, and the economic return on investment in humans. The concept of human capital focuses a subject area of research on the valuation of its measurement. It is about the way human capital and its individual components are used in social production, the way they affect the growth of labor productivity, income, production efficiency, what is the return on investment in human capital, the way it can produce new assets, etc. In economic psychology, the emphasis is on the number and quality of people who have necessary medical indicators – psychological, intellectual, cultural, professional, which allow them to compete (Roshchina, 2008). In economic sociology, the concept of

human capital is examined in close relation of economic and social processes in the context of the general societal transformation of Russian society

The scientific literature along with the concept of human capital employs the concept of human potential. In the economic literature, the concepts of human capital and human potential are often identified or the concept of human potential is incorporated in the concept of human capital (Pereverzeva, 2011). Human capital that is not directly used in the production of goods can be represented as human potential. A human becomes capital when he or she is an agent of economic activity, and investments in him or her begin to make a profit.

Human potential is rather a sociological concept. The very term “human potential” in its linguistic form contains the concept of feasibility and, hence, is more preferable (Mokronosov & Krutin, 2017). In the framework of the economic and sociological approach, the attention of researchers is concentrated on the concept of human potential as a crucial factor for the viability of a society that integrally characterizes human resources as a subject of its own reproduction and development (Zaslavskaya, 2004). However, in sociological and economic literature there is no agreement on the terms “human capital” and “human potential” and their criterion distinction, which would give rise to use these concepts as identical.

From the viewpoint of activism concepts, human capital can be understood as social capital. In the interpretation of one of the founders of this concept, Bourdieu (1985), social capital that is one of many capitals is “accrued actual or virtual resources acquired by individuals or groups through the possession of more or less institutionalized relationships of mutual acquaintance and recognition” (p. 47). Coleman (1988) considers social capital as a potential for mutual trust and mutual assistance, which is purposefully shaped as obligations and expectations, information channels and social norms.

In their endeavors to examine human capital, sociologists emphasize the activity, energy, business qualities of social actors, the predominance of innovative or traditional forms of thinking and work methods, as well as objective possibilities of actors to unlock their social and creative capacity, and to lead an active, full, healthy life. In other words, it is about activity (intrinsic) features of the subject, which serve as a decisive factor in the creation of one or another quality of human capital, thus reflecting the level of activity in the growth of labor competitiveness (Zaslavskaya, 2004). In this regard, an activity component of human capital becomes a necessary condition for assessing its quality. A theoretical and methodological approach needs to be grounded to study and measure an activity component of human capital through a territorial factor.

The features and quality of human capital are deemed to depend on a set of institutional factors (Gvozdeva & Kazakova, 2017; Zaslavskaya, 2004, etc.). The institutional factors, in their turn, have local characteristics and affect the nature of the relationships between the components of human capital in the territorial dimension. The scientists of Kuzbass (Urban & Demchuk, 2018 etc.) articulate in their institutional studies some institutional bottlenecks in the development of human capital. In the context of the regional labor market, the work of Kuzbass researchers is also concerned with the local attributes of the workforce (Povarich, 1999).

The study of qualitative and quantitative characteristics of human capital in line with the analysis of local institutional conditions contributes to a systematic insight into the social issues of modernization and the development of integrated mechanisms for their solution through the territorial factor.

The publications on the issues of regional economies present the relationship between socio-economic processes and human capital. Koritsky (2005, 2010) substantiates a substantial impact of human capital acquired in Russia regions on the ongoing socio-economic processes. The degree of this impact is unveiled by macroeconomic empirical methods (Koritsky, 2005, 2010). Concerning the Kemerovo region, Sagdeeva (2012) presents human capital as a factor in the socio-economic development of the region. In the regional dimension, the impact of various factors on human capital is assessed using the methods of economic and statistical modeling. To detect the interaction, the author calculated the indices of human potential development and analyzed its models implemented in the Kemerovo, Tomsk, Novosibirsk regions and Altai Territory for the period 1979–2010. The status of human capital was evaluated based on correlation and regression analysis (Sagdeeva, 2012).

Thus, domestic scientific literature in different theoretic areas actively explores the issues of human capital, its impact on economic processes, including that in the territorial dimension. It also provides methods and tools elaborated for regional socio-economic assessments. What is more, with a view to developing Kuzbass through a territorial (differentiated) approach, it is crucial to provide a comprehensive assessment of the quality of human capital as a social basis for modernization and innovative development of not only the region at large, but also all 24 single-industry towns. They feature the industrial potential of Kuzbass and encounter acute needs for structural transformations.

As per the insights into the basics of human activity, the conceptual provisions of the activity-structural approach are supplemented by the institutional approach, where the main problem is the motivation of human behavior. The interregional economic differentiation typical of Russia is also visible in the regional differentiation of institutional conditions, which results in a specific set of features of human capital, attributed to some regional factors and conditions. These features determine the quality of human capital.

Based on the foregoing, it is obvious that the issues of human capital encompass a wide area of research calling for the joint efforts of representatives of various sciences: economists, sociologists, psychologists, and mathematicians. In this regard, the integrative role of sociology in the conceptualization of human capital in the framework of the territorial approach is highlighted. The novelty of the proposed conceptual approach lies in poly-paradigm, i.e. the synthesis of theories of human capital from different theoretic fields.

A poly-paradigm approach towards human capital embraces a wide range of theoretic and empirical methods, including a modeling method, comparison, expert assessments, formalized standardized interviews, psychodiagnostic testing, statistical data processing and analysis. An interdisciplinary approach that relies on the totality of factors necessary for the creation of the quality of human capital in a particular region is based on state statistics, sociological (quantitative and qualitative) and psychological surveys. This would yield a methodology for calculating the quality index of human capital using an integrated system of indicators and a fresh set of methodological tools for collecting empirical data.

Based on the integral index, a comprehensive assessment is planned to address human capital quality in the Kemerovo region and single-industry towns of the region. The findings are encapsulated in

the GIS system “Human capital of Kuzbass”. The index value is a criterion to differentiate single-industry towns with different quality of human capital and social potentials for modernization.

## 7. Conclusion

Prior to managerial and investment decisions on the implementation of the development strategy of the resource region, to which Kuzbass belongs, it is advisable to conduct a preliminary analysis of human capital as a condition for effective modernization. The development of theoretical and methodological foundations towards human capital in the resource region and the construction of an integral index of the quality of human capital, including empirical quantitative and qualitative aspects of human development, can significantly expand the possibilities to understand the scenarios of the development of Kuzbass in the strategic period until 2035.

The index of measuring the quality of human capital in the dimension of the region and single-industry towns of Kuzbass can be applied in management activities to:

- identify the most important areas, trends, patterns, mechanisms and prospects in the development of human capital in the region;
- prove recommendations on the development of programs and mechanisms for modernization in conjunction with the human capital of the region;
- identify priority areas for financing human capital development programs at the regional and municipal levels.

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