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THEORY OF HUMAN CAPITAL MANAGEMENT, THE NECESSITY OF EXPANDING COVERAGE, AND THE CURRENT STATE IN THE REPUBLIC OF UZBEKISTAN

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Abstract: in the context of the global economy, human capital has become a key factor in ensuring sustainable economic growth, competitiveness, and social well-being. For countries with transition economies, effective human capital management represents a strategic priority, requiring the integrated development of education, healthcare, employment, and social protection systems. This article provides a comprehensive analysis of the theoretical foundations of human capital management in the Republic of Uzbekistan, the economic and managerial necessity of expanding coverage, and the current state of the sector. The research findings reveal the presence of regional disparities within the human capital system, mismatches between the education system and labor market demands, and challenges related to institutional coordination. At the same time, ongoing reforms in recent years confirm the acceleration of the transition toward a human capital–based development model. The article proposes a conceptual model aimed at expanding human capital coverage and enhancing its overall effectiveness.

Keywords: human capital, human capital management, coverage level, economic development, employment, education system, management efficiency.

INTRODUCTION

The economy of the twenty-first century is increasingly shaped by knowledge, innovation, and technology. Under these conditions, human capital—defined as the aggregate of knowledge, skills, health, creative potential, and social competencies—has become the primary resource of national development. Among traditional factors of production (land, capital, and labor), human capital stands out as the most dynamic and reproducible factor.

In recent years, increased attention has been paid to human capital in the Republic of Uzbekistan[1], accompanied by large-scale reforms in the education and healthcare sectors. The modernization of the national economy, industrial diversification, and the transition toward high value-added production require a substantial improvement in the quality of human capital. At the same time, human capital management is determined not only by the volume of investments but also by their effectiveness, coverage level, and the integration of governance mechanisms. If education and healthcare systems are not harmonized, and if labor market demand does not correspond to skill supply, human capital cannot be fully transformed into economic potential.

The purpose of this article is to examine the theoretical foundations of human capital management in Uzbekistan, to justify the economic necessity of expanding coverage, and to conduct a systematic analysis of the current situation. The concept of human capital emerged in the mid-twentieth century, when expenditures on education and healthcare began to be interpreted as investments. According to this theory, investments in human capital generate future returns in the form of higher incomes and increased productivity. Endogenous growth theories further recognize

[1] O‘zbekiston Respublikasi Prezidentining “2022–2026-yillarga mo‘ljallangan Yangi O‘zbekistonning Taraqqiyot strategiyasi to‘g‘risida”gi Farmoni. – Toshkent, 2022.

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human capital as a key source of technological progress and innovation. Human capital not only raises individual incomes but also generates positive externalities at the macroeconomic level, thereby contributing to sustainable economic development.

In contemporary approaches, human capital management (HCM) is regarded as a category of strategic management. It encompasses the following key components: workforce capacity planning, monitoring the quality of education, improving the efficiency of healthcare systems, regulating labor markets, and implementing digital governance systems.

Human capital constitutes a core asset of national development strategies. Its effective management requires cross-sectoral integration and an outcome-oriented governance model. The level of coverage reflects the extent to which human capital services—such as education, healthcare, and vocational training—reach different segments of the population. When coverage is limited, certain groups within the economy are excluded from productive processes.

Inclusive human capital policies enhance economic efficiency, reduce poverty, and strengthen social stability.

LITERATURE REVIEW

G.Bekker[2] substantiated the view that human capital is an economic asset formed through investments in education, healthcare, and vocational training. He assessed expenditures on human capital not as ordinary social spending, but as strategic investments that increase future labor productivity and incomes. According to Becker's concept, a higher level of human capital raises individual earnings at the microeconomic level and accelerates national economic growth at the macroeconomic level.

Within the framework of endogenous growth theory, P.Romer[3] elucidates the role of human capital in innovative development. In his research, knowledge, scientific capacity, and creative labor are regarded as the primary sources of technological progress. Romer provides a theoretical justification that in countries with a high level of human capital, sustainable economic growth is generated predominantly through internal factors.

In the approach of CIS scholars, human capital is primarily analyzed in connection with social transformation and the institutional environment. In particular, T.Zaslavskaya[4] interprets human capital as a key resource of societal transformation and demonstrates that disparities in the quality of education and health levels in post-Soviet countries contribute to increasing economic inequality. Her research substantiates that the uneven regional formation of human capital may generate long-term development risks.

Within the framework of institutional economics, A.Auzan[5] focuses on human capital management, emphasizing that alongside formal institutions, informal institutions—such as culture, values, and labor motivation—also play a significant role in determining the effectiveness of human capital. According to his view, public policy should not be limited solely to financing education and healthcare but must also adapt labor market institutions accordingly. Within the national academic tradition, issues of human capital are examined in the context of economic modernization and social development. In this regard, the works of K.Abdurakhmonov and B.Berkinov deserve particular attention.

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[2] Becker G. S. Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education. – 3rd ed. – Chicago : University of Chicago Press, 1993. – 412 p.

[3] Romer P.M. Endogenous Technological Change // Journal of Political Economy. – 1990. – Vol. 98, No. 5. – P. S71–S102.

[4] Заславская Т. И. Социальная трансформация российского общества: деятельностно-структурная концепция. – М. : Дело, 2002. – 568 с.

[5] Аузан А. А. Институциональная экономика: новая институциональная теория. – М. : ИНФРА-М, 2016. – 416 с.

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K.Abdurakhmonov[6] analyzes human capital in close connection with the labor market. In his studies, employment quality, vocational training, and retraining systems are identified as key factors determining the economic returns of human capital. The author substantiates the necessity of strengthening integration between the education system and the real sector under the conditions of Uzbekistan.

B.Berkinov[7] examines human capital as a factor of regional development, demonstrating that the uneven distribution of education and healthcare services intensifies interregional economic disparities. He emphasizes the importance of regional differentiation policies and targeted investments in the management of human capital. Overall, the works of Uzbek scholars are predominantly practice-oriented and link human capital development with the real mechanisms of economic reforms.

RESEARCH METHODOLOGY

This study is based on a qualitative and analytical approach. The research employs methods such as analysis of national development strategies, review of international academic literature, assessment of institutional structures, and development of a conceptual model. Rather than relying on empirical calculations, the study focuses on systemic and structural analysis.

ANALYSIS AND RESULTS

In recent years, the issue of human capital management in the Republic of Uzbekistan has become increasingly relevant in connection with economic modernization, institutional reforms, and the transition toward a development model based on the "human factor." Human capital is not limited solely to the education and healthcare sectors; rather, it constitutes a complex system composed of multiple interrelated components, including employment quality, labor productivity, innovative activity, interregional equity, social protection mechanisms, and governance effectiveness. Consequently, the analysis requires a systemic rather than a sectoral approach, emphasizing evaluation along the chain of inputs (resources), processes (transformation), outputs (results), and outcomes/impacts.

Within the existing institutional framework, functions related to human capital are distributed among several ministries and agencies: general secondary, vocational, and higher education within the education sector; primary care and specialized services in healthcare; job placement and retraining in employment and labor relations; and targeted assistance and various compensations in social protection. While such segmentation is natural, from a governance perspective the key challenge lies in the fact that the final outcomes of human capital development—productive employment, high qualifications, and healthy, sustainable labor resources—are often not fully captured within the KPI system of any single institution.

As a result, two typical situations emerge:

Fragmentation of planning: each sector implements its own programs, yet their complementarities and interconnections are insufficiently coordinated.

Fragmentation of accountability: responsibility for outcomes is not concentrated within a single coordinating center, and performance indicators tend to shift toward process-based measures (such as the number of schools constructed or teachers trained) rather than outcome-based results. From this perspective, the most effective mechanism in human capital management is cross-sectoral coordination combined with performance-based management. Under this approach, resource allocation is linked not to sectors themselves but to measurable final outcomes, including skill matching, employment quality, health indicators, regional coverage disparities, and poverty exit dynamics.

[6] Abdurahmonov Q. X. Mehnat iqtisodiyoti va sotsiologiyasi. – Toshkent : O‘zbekiston, 2019. – 384 b.
[7] Berkinov B. B. Hududiy iqtisodiyot va inson kapitali rivoji. – Toshkent : Fan va texnologiya, 2020. – 292 b.

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The analysis indicates that although the education system represents the initial stage of the human capital "production chain," its impact on the economy manifests through two primary channels:

(a) coverage and access;

(b) education quality and alignment with labor market needs.

As a result of recent reforms, access to preschool and higher education has been expanded through the establishment of new educational institutions, increased enrollment quotas, and the introduction of alternative formats (part-time, evening, and dual education models). However, coverage alone is insufficient: if access expands while quality and relevance (alignment with labor market demand) remain at moderate levels, the economy faces the risks of "diploma inflation" and skills mismatch.

Three systemic challenges are evident with regard to quality.

First is the slow transition toward a competency- and outcomes-based paradigm. Education systems often remain oriented toward knowledge transfer, whereas labor markets increasingly prioritize competencies such as problem-solving, digital literacy, teamwork, and practical skills. Consequently, educational outcomes should be evaluated not by the volume of knowledge acquired by graduates, but by their ability to apply competencies in professional practice.

Second is weak integration between education and industry. In the real sectors of the economy (industry, services, logistics, agribusiness, and IT), demand for skills evolves rapidly. When the pace of curriculum обновление remains slow, graduates impose additional adaptation costs on the labor market, including retraining, short-term courses, and prolonged workplace adjustment. This, in turn, negatively affects firm-level productivity.

Third is regional disparities in education quality. Differences in teacher capacity, resources, infrastructure, and supplementary services (such as tutoring, internet access, and laboratory facilities) between urban and rural areas, as well as between central and peripheral regions, undermine the principle of equity in human capital development. In the long term, such disparities intensify income inequality, migration pressures, and regional economic divergence.

Accordingly, the analysis leads to a key conclusion: expanding coverage is a necessary but not sufficient condition. Unless coverage is managed simultaneously with quality, relevance, and territorial equity, human capital cannot fully function as a driver of economic growth.

The second core component of human capital is health. Health capital is critical for the labor market through three main channels:

1) work capacity;

2) labor productivity;

3) length of working life.

From an analytical perspective, investment in health capital should be regarded not as "social expenditure" but as an "economically profitable investment." When prevention, early diagnosis, and strong primary healthcare systems are in place, the severity of diseases declines, hospital costs are reduced, and the number of working days lost in the labor market decreases.

Although modernization processes are underway in Uzbekistan's healthcare system, the following aspects are particularly important from a governance efficiency perspective:

improving coverage and quality of primary healthcare: a strong primary care system reduces the need for complex and costly treatments;

territorial equity: shortages of specialists, diagnostics, pharmaceutical supply, and logistics in remote regions create "coverage gaps" in health outcomes;

prevention and healthy lifestyles: long-term productivity begins precisely in this domain.

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Accordingly, the most important criterion for enhancing the effectiveness of health capital management should not be the volume of treatment services, but rather disease prevention and the extension of healthy working-life expectancy.

The economic value of human capital is ultimately realized in the labor market. In other words, investments in education and health are transformed into productivity and income through employment channels. Therefore, the employment system represents a "transformational link" in human capital management.

Table-1.

The analysis highlights several key dimensions[8]

№	Indicators	Means
1	Quality of jobs	not merely employment itself, but stable (formal), socially protected, and high-productivity jobs increase the return on human capital
2	Skills matching	when mismatches between skill supply and labor demand are high, the economy may simultaneously experience unemployment and labor shortages
3	Retraining and lifelong learning	under conditions of technological change, one-time education is insufficient; without continuous reskilling systems, human capital depreciates rapidly

From an outcome-oriented perspective, the effectiveness of the employment system should be assessed using the following indicators:

employment rate;
share of formal employment;
labor productivity;
dynamics of average real wages;
occupational matching indicators.

The concept of "human capital coverage" refers to the extent to which education, healthcare, vocational training, and social services reach all segments of the population. In Uzbekistan, the necessity of expanding coverage is explained by several key factors. Regional disparities: unequal coverage generates "territorial differences" in the quality of labor resources. Socioeconomic inequalities: low-income households face greater barriers in accessing education and healthcare services, resulting in the intergenerational transmission of human capital inequality.

Demographic pressure: in societies with a high share of youth, insufficient adaptability of education and employment systems may transform the "demographic dividend" into a "demographic risk." Migration and labor mobility: internal and external migration flows alter the balance of human resources; therefore, coverage policies should aim to maintain stable labor potential within regions. From a governance perspective, expanding coverage requires a combination of "universal" and "targeted" approaches: basic services (such as schooling and primary healthcare) should be universal, while additional support should be provided through needs-based targeted mechanisms to enhance overall effectiveness. Digital transformation generates three "multiplicative" effects in human capital management (Fig.1):

[8] Developed by the author during the course of the research

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http://houghtonstreetreview.com/index.php/hsr

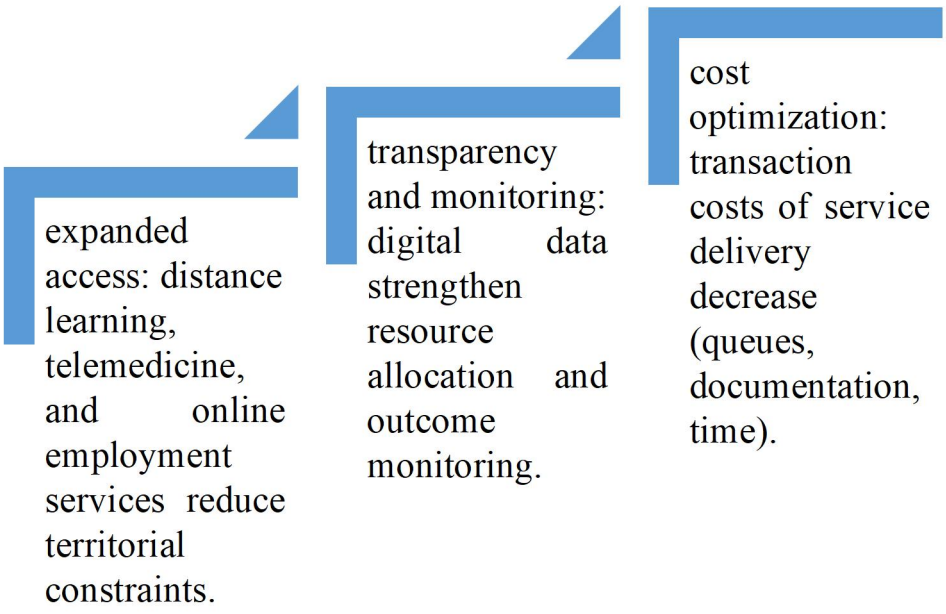


Figure-1. Digital transformation generates three "multiplicative" effects in human capital management[9]

As a result, digital governance systems shift human capital policy from a reactive (problem-response) mode to a proactive (anticipatory) mode. For example, they enable clear identification of skill shortages by region and service coverage gaps by age group, thereby accelerating evidence-based decision-making.

In recent years, human capital development and management have become a central pillar of Uzbekistan's economic modernization policy. According to World Bank methodology, human capital accounts for more than 60 percent of economic growth, while physical capital represents a relatively secondary factor[10]. Therefore, investments directed toward human capital are becoming a key determinant of national competitiveness.

Under the conditions of Uzbekistan, the human capital management system is formed through the institutions of education, healthcare, employment, and social protection. However, the fragmented nature of this system complicates the implementation of results-oriented governance.

The analysis indicates that public policy related to human capital is often implemented based on a sectoral approach. Education, healthcare, and employment programs are planned separately, while their impact on final economic outcomes—such as labor productivity, sustainable employment, and real income growth—is not evaluated through a unified system of indicators.

According to research conducted by the United Nations Development Programme (UNDP)[11], In developing countries, a key challenge in human capital management is insufficient cross-sectoral coordination, resulting in overlapping resource allocation and reduced overall effectiveness[12].

[9] Developed by the author during the course of the research
[10] World Bank. Human Capital Index 2023. Washington, DC.
[11] UNDP. Human Development Report 2023/2024: Breaking the Gridlock. New York: United Nations Development Programme, 2024. https://hdr.undp.org
[12] UNDP. Human Development Report 2023/2024. New York.

HSR (LONDON),
HOUGHTON STREET REVIEW JOURNAL
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This situation is also observed in Uzbekistan: despite the expansion of higher education coverage, a significant share of graduates still require additional retraining in the labor market. This, in turn, reduces the economic returns on initial investments in human capital.

In recent years, higher education enrollment has increased substantially, which represents an important opportunity to capitalize on favorable demographic trends. However, according to the World Bank's Human Capital Index, the main constraining factor for Uzbekistan remains the quality of education and the alignment of acquired knowledge with labor market requirements.

From an economic perspective, this phenomenon is referred to as "skills mismatch." OECD studies indicate that in countries where skills mismatch is prevalent, labor productivity is on average 10–15 percent lower[13].

In Uzbekistan, the practical skills of graduates do not fully correspond to the needs of the real sector. As a consequence:

enterprises increase internal training expenditures;

the adaptation period of young specialists is prolonged;

production efficiency slows down.

Moreover, disparities in education quality persist across regions, with rural areas facing limitations in teacher capacity and infrastructure. This leads to uneven territorial formation of human capital.

Health capital constitutes an integral component of human capital and directly affects work capacity and labor productivity. According to the World Health Organization, every US dollar invested in primary healthcare generates between three and five dollars in long-term economic returns[14].

Although healthcare infrastructure in Uzbekistan is undergoing modernization, the share of preventive services remains insufficient. This contributes to the aggravation of diseases and an increase in cases of temporary work incapacity.

From an economic analytical perspective, healthcare expenditures should be regarded not as a "social burden" but as strategic investments that enhance labor productivity. Human capital ultimately realizes its value through the labor market. If a qualified workforce exists but adequate employment opportunities are lacking, human capital cannot be fully transformed into economic capital.

According to research conducted by the International Labour Organization (ILO), countries with low youth employment rates tend to experience slower long-term economic growth[15]. Given the high proportion of youth in Uzbekistan, employment policy represents one of the key determinants of human capital effectiveness. Importantly, not only the number of jobs matters, but also their quality—including formal employment, social protection, and stable income—which plays a decisive role.

According to UNDP estimates, a 10 percent increase in coverage of human capital services accelerates GDP growth by an average of 1–1.5 percentage points[16]. From this perspective, expanding coverage in Uzbekistan is important for several reasons:

reducing regional inequalities;

increasing the economic participation of low-income population groups;

effectively utilizing the demographic dividend;

alleviating migration pressures.

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[13] OECD. Education at a Glance 2023; Skills Outlook. Paris.
[14] World Health Organization. Primary Health Care and Economic Returns, 2022.
[15] ILO. Global Employment Trends for Youth 2023. Geneva.
[16] UNDP. Human Development Report 2023/2024. New York.

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From a governance standpoint, coverage policy should be based on a combination of universal services (such as education and primary healthcare) and targeted support mechanisms.

According to OECD data, access to social services improves by 20–30 percent in countries that have introduced digital public services[17]. In Uzbekistan, electronic employment services, online education, and telemedicine platforms are playing an important role in expanding human capital coverage. Digital governance reduces territorial constraints, strengthens monitoring, and lowers transaction costs. As a result, human capital policy shifts from a reactive to a proactive approach.

CONCLUSION AND RECOMMENDATIONS

Human capital management in the Republic of Uzbekistan is increasingly becoming a central pillar of national development. Significant positive changes have been observed in the education and healthcare systems. However, expanding coverage, reducing regional disparities, and strengthening integration with the labor market remain pressing challenges.

Effective governance of human capital policy ensures economic growth, social stability, and international competitiveness. Future research should focus on empirically assessing the efficiency of investments in human capital.

The analysis indicates that human capital management in Uzbekistan is characterized by the following key features:

positive progress has been achieved in expanding coverage; however, unless this process is managed simultaneously with quality and relevance, economic returns tend to decline;

skill mismatch persists along the education–employment–productivity chain, constraining the full utilization of internal growth reserves;

preventive and primary healthcare–oriented management of health capital is of strategic importance for labor productivity;

disparities in regional and social-group coverage limit the inclusive development of human capital;

digital transformation serves as a core platform for rapidly expanding coverage and shifting governance toward results-based management.

These findings demonstrate that the success of human capital policy depends less on “allocating more funds” and more on “how funds are managed.” From a scientific perspective, this relates to the principles of strategic alignment and KPI–budget linkage: when each program is tied to final outcome indicators, overall system efficiency improves.

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