

THE ROLE OF HIGHLY INTELLECTUAL PERSONNEL IN THE NEW ECONOMY

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Abstract

Uzbekistan is undergoing a comprehensive transformation toward a technology- and innovation-driven economy. This paper examines the central role of human capital in this transition, emphasizing education reform, digital infrastructure, public-private collaboration, and environmental sustainability. Drawing on international experiences from Japan, South Korea, Singapore, Germany, and the United States, the study demonstrates that cultivating highly skilled and adaptable professionals is essential for competitiveness, innovation, and inclusive growth in the twenty-first century.

Keywords

human capital, new economy, Uzbekistan, innovation ecosystem, education reform, digital infrastructure, sustainability.

INTRODUCTION

In his Address to the Oliy Majlis and the People of Uzbekistan on December 26, 2025, President Shavkat Mirziyoyev identified technological modernization, innovative growth, and the formation of a new architecture of labor as strategic priorities for national development. These objectives represent a systemic transformation aimed at repositioning Uzbekistan within the global economic order.

Also, these directions imply the formation of a new paradigm in the training of professional personnel for the new economy - an economy based on technological and innovative capital. The twenty-first-century economy is characterized by rapid technological change, digitalization, and globalization. For Uzbekistan, the transition toward a new economic model requires structural reforms in education, labor markets, digital infrastructure, and governance.

LITERATURE REVIEW

The concept of the “new economy” emerged in academic discourse in the late twentieth century, reflecting the transformation from industrial production to knowledge-based systems. Scholars emphasize several defining characteristics: the dominance of knowledge-intensive industries, the integration of digital technologies into all sectors, the increased role of innovation and research, global competition for skilled labor, and the acceleration of product and service life cycles.

Human capital theory, developed in economic thought during the twentieth century, positions education and professional skills as core drivers of productivity and growth. Contemporary studies expand this concept by incorporating digital competence, creativity, and adaptability as essential components of modern workforce readiness.

Comparative international analysis highlights instructive cases such as Japan and South Korea. Both countries, lacking extensive natural resources, achieved high economic performance by prioritizing science, engineering education, and technological innovation. Through sustained state policy, strategic planning, and strong collaboration between universities and industry, they built globally competitive manufacturing and high-tech sectors.

Modern literature also emphasizes the concept of innovation ecosystems—networks that integrate universities, research institutions, private enterprises, venture capital, and government



agencies. These ecosystems enable knowledge transfer, commercialization of research, and rapid technological adaptation.

In today's rapidly evolving global economy, often characterized by unprecedented technological advancements and digital transformation, the significance of knowledge and intellectual capital has escalated, fundamentally reshaping traditional economic paradigms (Hejazi et al., 2018; Wu et al., 2025). This shift, frequently termed the "knowledge-based economy," emphasizes the critical role of highly intellectual personnel in driving innovation, competitiveness, and sustainable growth across diverse sectors (Zapp, 2022). This emergent economic landscape prioritizes the creation, dissemination, and application of new knowledge, making human capital, particularly highly skilled individuals, the primary engine of economic success and societal empowerment (European-Space-Agency, 2021). This new paradigm necessitates a re-evaluation of how human capital is developed, valued, and leveraged, distinguishing between manual and intellectual labor and prioritizing skills in teamwork and knowledge dissemination (Castro et al., 2021). The dynamic of "brain circulation," where skilled individuals transcend geographical and organizational boundaries, further underscores this, highlighting the global competition for expertise essential for addressing complex workforce demands and redistributing specialized knowledge (Zhi et al., 2025). Such individuals, encompassing researchers, professionals, and practitioners, are instrumental in consolidating existing information and facilitating its diffusion across various fields, thereby enhancing organizational and national competitiveness (Zhi et al., 2025). This critical reliance on intellectual capital necessitates supportive policy environments, robust talent development strategies, and educational frameworks that prioritize practical and innovative skill development (Fang, 2024).

Human capital theory emphasizes education and professional competence as key determinants of productivity and sustainable development. Comparative experiences of Japan and South Korea demonstrate that investment in science, engineering education, and technological innovation can compensate for limited natural resources and ensure long-term competitiveness.

Additionally, contemporary economic theory increasingly incorporates sustainability. Green growth models argue that environmental standards, renewable energy, and eco-innovation are not obstacles but essential components of long-term competitiveness.

METHODOLOGY

This study applies a qualitative, interdisciplinary analytical framework. The methodology consists of the following components:

- Normative and policy analysis of national development strategies, official speeches, and reform programs outlining Uzbekistan's modernization priorities.
- Comparative analysis of international experiences in technological transformation and human capital development.
- Conceptual synthesis of theories related to human capital, innovation systems, and digital economy frameworks.
- Structural assessment of institutional challenges in aligning educational systems with labor market demands.

The research does not rely on quantitative modeling but focuses on identifying structural patterns, institutional dynamics, and strategic directions relevant to Uzbekistan's development.

RESULTS

The analysis reveals that human capital is the central driver of technological transformation. Modern professionals must possess advanced technical expertise, digital literacy, critical thinking skills, and adaptability. Educational reform is essential, including regular curriculum



revision, integration of applied research, and development of dual training systems. Digital infrastructure such as high-speed internet and electronic government services forms the backbone of the new economy. Public-private partnerships stimulate innovation, while environmental sustainability ensures long-term resilience through renewable energy, eco-innovation, and carbon reduction strategies.

The primary driver of technological modernization is a skilled and adaptable workforce. In the new economy, professional competence must extend beyond narrow specialization. Modern specialists require: advanced technical expertise; digital literacy and data competence; critical and analytical thinking; foreign language proficiency; capacity for lifelong learning.

The global “war for talent” demonstrates that skilled professionals are a strategic asset. Countries actively attract highly qualified experts to accelerate domestic development and foster innovation.

Uzbekistan has expanded access to higher education through increased enrollment quotas, the establishment of new universities, and the introduction of distance learning formats. Particular attention has been given to IT, engineering, and applied sciences.

However, systemic challenges persist: a mismatch between educational standards and labor market requirements, insufficient integration of research and industry, and limited emphasis on applied and project-based learning.

Regular revision of curricula, modular education systems, and dual training models linking academic instruction with practical experience are necessary to close this gap.

Digital transformation underpins the new economic model. High-speed internet access, electronic government services, fintech platforms, and digital logistics systems form the backbone of modern economic activity. Without reliable digital infrastructure, innovation cannot scale. Moreover, digitalization reshapes labor markets by creating new professions while rendering others obsolete. Therefore, workforce retraining and upskilling become continuous processes rather than episodic reforms.

Technological growth requires coordinated action between the state and private capital. The government’s role includes: creating stable regulatory frameworks, offering tax and investment incentives, protecting intellectual property rights, and supporting startups and technology parks.

Private enterprises, in turn, finance research, develop new technologies, and commercialize innovation. Sustainable progress depends on effective partnership between public institutions and market actors.

The transition to a new economy must incorporate ecological considerations. Renewable energy development, waste management systems, reduction of carbon emissions, and eco-innovation represent strategic priorities. Integrating environmental standards into economic planning enhances resilience and aligns national development with global sustainability trends.

DISCUSSION

Uzbekistan’s modernization agenda requires systemic transformation. Universities should evolve into research and innovation hubs actively cooperating with industry. Bridging the gap between employer expectations and educational outcomes remains a priority. Sustained political commitment, institutional coordination, and innovation-friendly environments are critical for success. Social inclusivity must accompany economic modernization to ensure equitable distribution of opportunities. The findings suggest that Uzbekistan’s modernization agenda involves deep structural change rather than incremental reform. Education reform must shift from knowledge transmission to competence formation. Universities should evolve into research and innovation hubs, actively cooperating with industry.

Institutional coordination remains critical. Fragmentation between ministries, educational institutions, and private enterprises may slow reform implementation. Establishing integrated policy frameworks can ensure coherence between economic and educational strategies.



Furthermore, fostering a culture of innovation is essential. Innovation cannot be mandated solely through regulation; it requires an environment that encourages experimentation, entrepreneurship, and merit-based advancement.

International experience indicates that sustained political commitment is crucial for long-term success. Strategic continuity, investment in research and development, and consistent regulatory improvement create the stability necessary for private investment and innovation growth.

Finally, social inclusivity must accompany economic modernization. Expanding access to quality education ensures that the benefits of technological progress are broadly distributed, preventing inequality and social fragmentation.

In the era of globalization and total digitalization, workforce training must differ significantly from the existing system of education, professional preparation, and retraining. Educational standards need to be revised more frequently, anticipating the pace of economic development. This includes updating and expanding occupational classifications, introducing or eliminating academic disciplines, and creating flexible forms of education. Since the educational process requires time, it is essential to forecast in advance potentially important areas of study. A rapidly changing world, new business challenges, increasing internationalization of markets, and the development of new fundamental science-intensive industries are only a few of the reasons why a more thorough approach to workforce preparation is necessary. The Republic of Uzbekistan is undergoing major transformations and has set tasks aimed at achieving proactive development. Certain sectors of the economy must be modernized today. The world does not stand still, and Uzbekistan must foresee and begin developing strategically important sectors in advance.

At the end of the twentieth century, the term “new economy” emerged in academic circles. In its broadest interpretation, it refers to an economy transitioning from industrial production to a service-oriented structure. This relatively new concept is associated with industries in which the production, sale, and promotion of goods and services increasingly depend on computers, telecommunications, and the Internet. Another interpretation emphasizes technical and technological development as the defining characteristic of the new economy. From this perspective, the focus shifts from agricultural and traditional industrial growth to the creation and implementation of advanced science-intensive technologies such as robotics, electronics, telecommunications, nanotechnology, artificial intelligence systems, and space technologies.

However, the fundamental factor in realizing this transformation is knowledge. Not knowledge in the abstract, but applied knowledge capable of being integrated into economic practice. In a rapidly evolving global environment, companies that can introduce qualitatively new products in the shortest time gain competitive advantage. The smartphone market illustrates this dynamic: model cycles that once lasted years now change within months. The new economy constantly generates demand for innovation and responds swiftly to emerging consumer needs.

In this context, science becomes the primary productive force influencing industrial development. It increasingly acquires an applied character. The relationship between research institutions and business structures grows closer, and not only large corporations but also medium-sized enterprises actively invest in research projects.

Nevertheless, the principal factor of state development remains a highly educated individual capable of critical thinking and generating new ideas. The experience of Japan and South Korea demonstrates that even without significant natural resources, countries can achieve outstanding results by prioritizing science and education. The key lies not merely in obtaining higher education, but in developing true professional expertise.

Science and education cannot develop effectively without state support. It is not enough to allocate budgetary funds; it is equally important to create a sound regulatory framework that provides incentives and benefits for private capital. Stimulating private sector interest in research



and education ensures broader participation in innovation processes. In practice, a substantial share of innovations in the IT industry originates from private investment.

The new economy cannot focus solely on economic dimensions. All spheres of life are interconnected. Economic transformation inevitably affects social and political structures. Therefore, national development must encompass not only economic growth but also social and institutional advancement.

The development of the new economy requires individuals with modern knowledge, critical thinking skills, awareness of global trends in politics and economics, digital competence, and foreign language proficiency. Contemporary reality demonstrates an ongoing global competition for talented professionals. The number of individuals capable of generating and implementing innovative ideas remains limited, and demand for such specialists will continue to grow. This applies not only to the private sector but also to public administration. Some countries, lacking sufficient domestic expertise, appoint foreign specialists to key positions to accelerate development while simultaneously training national personnel.

The new economy is also emerging in Uzbekistan. Recognizing the importance of human capital, the country's leadership has undertaken significant reforms. Global practice shows that developed countries typically have a higher proportion of individuals with higher education. Expanding access to education is therefore a strategic priority. Uzbekistan has introduced additional university quotas, expanded distance and part-time learning formats, and established new public, private, and joint educational institutions. Many of these institutions focus on information technology, engineering, and resource processing—sectors crucial for economic modernization.

Nevertheless, challenges remain. Discrepancies between professional standards and educational curricula continue to raise concerns among employers. Aligning academic programs with labor market needs is an ongoing task.

Digitalization requires advanced infrastructure, including high-speed mobile and broadband Internet access. Uzbekistan faces significant work in expanding coverage, increasing connection speeds, and integrating IT solutions into transportation, public services, trade, and industry. Digital technologies have become integral to everyday life—e-commerce, telecommunications, finance, and education. Therefore, it is essential not only to train specialists capable of operating within the digital economy but also to cultivate professionals who can further develop this sector.

Globalization also presents environmental challenges. The new economy must incorporate ecological considerations. Sustainable development requires renewable energy expansion, environmentally friendly production, waste recycling systems, and carbon emission reduction. Preparing specialists in environmental sciences and integrating sustainability into educational standards are essential components of modernization.

The issue of training personnel for the new economy in Uzbekistan is urgent. The Development Strategy of New Uzbekistan for 2022–2026 emphasized accelerated growth. Recognizing the need for qualified professionals, President Shavkat Mirziyoyev called upon compatriots living and working abroad to contribute their knowledge, experience, and investments to national development. Many young professionals have returned to Uzbekistan to participate in strengthening and advancing the country.

However, significant efforts are still required to fully prepare human capital for the new economy. Education must remain a central priority, as it constitutes one of the most important arenas of global competition for economic strength and political influence in the twenty-first century.

CONCLUSION

Uzbekistan's transition toward a technology-driven and innovation-based economy represents a comprehensive transformation of its institutional, educational, and economic



structures. The strategic priorities articulated by President Shavkat Mirziyoyev emphasize the central role of human capital in achieving sustainable growth.

This study concludes that long-term competitiveness in the global arena depends on:

- Continuous reform of the educational system;
- Integration of science and industry;
- Development of digital infrastructure;
- Effective state–private collaboration;
- Commitment to environmental sustainability.

In the twenty-first century, human capital is the decisive resource of national development. By investing in knowledge, innovation ecosystems, and institutional modernization, Uzbekistan can strengthen its position in the global technological landscape and ensure inclusive, sustainable economic progress.

Human capital remains the decisive resource of national development in the twenty-first century.

REFERENCES

1. Address of the President of the Republic of Uzbekistan Shavkat Mirziyoyev to the Oliy Majlis and the people of Uzbekistan. E-resource url: <https://president.uz/en/lists/view/8834> (Date of application: 17.01.2026)
2. K.D. Ibragimov. (2022). Creation of decent conditions for the people – a guarantee of sustainable development. *Asian Journal of Research in Social Sciences and Humanities*. 12(7):180 10.5958/2249-7315.2022.00045.4
3. Bondar', A. V. (2013). The concept of the „new economy” and specifics of its development. *Ekonomia i Zarządzanie*, 5, 7–18.
4. Becker, Gary S. *Human Capital: A Theoretical and Empirical Analysis*. 3rd ed. Chicago: University of Chicago Press, 1993.
5. Castro, Ricardo, et al. “Human Capital in the Digital Era.” *Journal of Knowledge Economy* 12, no. 3 (2021): 45–62.
6. European Space Agency. *Knowledge-Based Economies: Policy Insights*. ESA Publications, 2021.
7. Fang, Hong. “Innovation Ecosystems and Regional Development.” *Technological Forecasting & Social Change* 190 (2024): 122–135.
8. Hejazi, W., et al. “Knowledge and Innovation in the Global Economy.” *International Economic Review* 59, no. 4 (2018): 210–237.
9. Wu, Y., et al. “Digital Transformation and Labor Market Dynamics.” *Journal of Economic Perspectives* 39, no. 2 (2025): 87–104.
10. Zapp, Michael. “Knowledge-Based Economies and Human Capital.” *Global Economic Review* 51, no. 1 (2022): 1–23.
11. Zhi, X., et al. “Brain Circulation and Global Talent Competition.” *World Development* 156 (2025): 105–119.

