

Higher Education in the Knowledge Economy: Training Qualified Personnel and its Characteristics

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Abstract:

The article points out the urgent need for the formation of human capital in the knowledge economy of higher education, which has clear goals, meets current problems and corresponds to the peculiarities of the innovation system, it proposes the main components and principles of its implementation in achieving world leadership in the global economy.

Keywords: economy, higher education, competition, competitors, qualified specialists, knowledge economy, innovation, innovational system, human capital, global economy, global leadership, management.

Introduction.

In our country, significant attention has been given to the rapid development of higher education institutions as a crucial sector of the economy, and targeted programs and measures have been implemented. In this context, one of the most important issues is to enhance the competitiveness of higher education graduates in the labor market, which is a key priority, requiring a comprehensive approach. It's noteworthy that in his Address to the Oliy Majlis, President Shavkat Mirziyoyev highlighted a critical and unique aspect - creating a decent standard of living for our people: "If we can combine the knowledge and experience of the older generation, their ability to see the long-term perspective, with the zeal, courage, bravery, and selflessness of our youth, we will undoubtedly achieve our goals." This statement holds profound meaning.

The systematic establishment of high-quality personnel training and management based on global education standards, enhancing the efficiency of higher education institutions, and conducting

research on improving personnel training in our country's education system are pressing issues of today. This is because highly skilled personnel play a crucial role in the sustainable development of our country's economy, and their training and retraining are directly linked to the education process. The education process influences social, economic, cultural, and other areas of activity. Education is one of the most important aspects of human activity, and the education process is a continuous process that begins at birth and continues throughout a person's life.

Uzbekistan has the potential to become a globally competitive nation in science, intellectual capacity, modern personnel, and advanced technologies. Recognizing the critical role of competitiveness in building a competitive future, we must prioritize the development of professionals who meet those demands. Therefore, it's crucial to clarify the concepts of "competition" and "competitiveness," delve into the meaning of "graduate competitiveness" and its various characteristics and influencing factors. We believe it's essential to research the practical and strategic aspects of ensuring graduates' competitiveness in the labor market, along with conducting in-depth scientific research in this area.

Analysis of Relevant Literature

The current stage of socio-economic development sees education services operating in a highly competitive environment, akin to any other goods or services. Higher education institutions strive to gain a competitive edge, aiming to elevate their position in the market. L.A. Korchagova, addressing the competitiveness of higher education institutions, states: "...it's the real and potential ability to provide education services at a level that meets societal needs in training highly qualified professionals, as well as meeting current and future demands in the creation, development, and sale of scientific-methodical and scientific-technical products." R.A. Fatkhutdinov believes that "competitiveness in higher education is its ability to: 1. Train professionals who can withstand competition in a specific external and internal labor market; 2. Generate innovations that can stand up to competition in its field; 3. Implement an effective reproduction policy across all areas of its activity." P.S. Zavyalov defines competitiveness as "a set of consumer and value characteristics that ensure a product's market appeal, meaning its ability to be exchanged for money under conditions where there is a greater demand for offers compared to similar competitive products."

The issues of training qualified personnel and enhancing the efficiency of the educational process management in higher education institutions of Uzbekistan have been researched in the works of R.A. Rahmanbaeva, S.S. G'ulomov, A.S. Kucherov, D.H. Nabiyeu, D.A. Nasimov, G.N. Akhunova, and others.

In today's rapidly evolving globalized world, achieving competitiveness without new ideas and innovation is challenging. As Uzbekistan embarks on a path of fundamental renewal and innovative development across all spheres - political, economic, and social - it is essential to prioritize a thorough reform of the education system, establish consistent measures aimed at improving the quality of education, and ensure the practical implementation of adopted roadmaps.

Research Methodology

The theoretical and methodological foundation of this research is built upon the fundamental works of local and foreign scholars related to the management of higher education institutions, particularly focusing on enhancing the competitiveness of graduates within the context of their operations and sustainable development, as well as the effectiveness of their development in a market economy environment. The research utilizes a systematic approach that involves analyzing, summarizing, and effectively developing existing experimental and theoretical studies in the field of higher education services. This approach aims to enhance the training of qualified personnel.

The theoretical and methodological foundation of this work is based on the fundamental research of leading local and foreign scholars and practitioners in the areas of higher education institution management, quality management theory, competitiveness, information technology, and other relevant fields. Additionally, the objective economic laws governing the development of market relations have been applied in a manner consistent with functionality, ensuring the reliability of the conclusions and recommendations.

Analysis and Results

Higher education institutions are increasingly recognized as a full-fledged sector of the economy, especially since the late 20th and early 21st centuries. A key task for them is to ensure their own economic efficiency. In this process, the state actively participates in the financing of the national education system. This is because higher education shapes human capital, which is considered a factor of production, and production in turn ensures the competitiveness of the country.

In the global economy, measuring the level of knowledge and utilizing it in entrepreneurship, scientific research, and new inventions has become a leading driver of economic development. However, many rapidly developing countries are unable to leverage this immense potential. By investing in human capital development and implementing effective technologies, developing countries can enhance their competitiveness. Examples of this can be seen in countries like Finland, Korea, Spain, Malaysia, Singapore, China, Chile, and India.

The initial step in transforming a national economy into a knowledge-based economy is to identify its strengths and weaknesses, as well as its competitors. To achieve this, a country must clearly understand its goals and objectives. The knowledge economy comprises four stages (see figure):

The first step	The second step	The third step	The fourth step
"Economic and institutional regime.	Literacy and skills	Infrastructure of ICT	System of innovations
The current economic and institutional system should facilitate the effective utilization of both existing and new knowledge, as well as fostering the development of entrepreneurship within the country.	The country's population needs to acquire and enhance their education and skills.	The dynamic development of ICT infrastructure demands tools for information transmission and processing.	The system encompasses firms, research centers, universities, and other organizations, which collaborate to create new technologies.

Figure: The 4-step Structure of the Knowledge Economy

Based on the stages outlined above, we will analyze the key indicators of a knowledge-based economy. Transforming knowledge into a commodity is of particular importance. It's crucial to emphasize that knowledge, unlike capital and labor, is a social good. Once knowledge is acquired, it becomes a social commodity, and its costs become negligible. In the knowledge economy, knowledge becomes both a factor of production and a commodity as a result of the production process. Knowledge is a discrete object that is mass-produced, distributed, exchanged, and sold. Therefore, scholars must be aware of intellectual goods and learn to use them critically. Additionally, intellectual products must be designed, distributed, and reused using protocols that consider the characteristics of these objects.

In the age of globalization and the information society, knowledge is rapidly evolving. Its value is constantly fluctuating and depreciating at an accelerated pace within this global environment. Therefore, researchers must continually update their knowledge, generate new insights quickly, effectively manage their time, and simultaneously refine their reading skills.

The current era is highly dynamic, marked by constant technological, political, and social transformations. While we may not always welcome change, we've become accustomed to it. New prospects, technological innovations, and the emergence of new goods and services drive the development of the economy, organizations, and individuals. To navigate this environment effectively, researchers require four types of knowledge and skills.

The recognition of the need for training highly qualified personnel and conducting scientific research is transforming aspirations within the global knowledge-based economy, posing a threat of the erosion of traditional values within higher education institutions. This process is an integral part of the post-industrial transition, signifying the commodification of knowledge, where non-tangible activities are exchanged for monetary value.

Knowledge has always been a powerful force and a social commodity. Access to knowledge and its role in innovation define a nation's standing in global civilization and an individual's position within society. However, the commodification of knowledge necessitates shifting its creation and flow from the social sphere to the realm of production. This context necessitates a re-examination and reevaluation of the place of knowledge, posing a fundamental question for universities: how to reconcile the creation of knowledge with academic freedom and the domain of property rights. This question also raises the need to ensure the free dissemination of knowledge to those seeking it. Knowledge is no longer solely a pedagogical element; it acquires a new meaning, being perceived as a commodity.

Knowledge is produced for the purpose of being sold, and it is consumed in the production of new goods. In both cases, the goal is exchange. If knowledge becomes obsolete, its "value" also disappears. Knowledge has become, and remains, a powerful force in production because it has been transformed into an information commodity. As such, it has perhaps become the main driving force in the global marketplace. In our view, knowledge is now recognized as a tool for labor productivity and economic growth, requiring a new perspective on economic activity, information, technologies, and the learning process. The concept of a "knowledge-based economy" emerged as a result of this recognition in modern economics. Indeed, the creation and utilization of knowledge is unevenly distributed among nations. This disparity is significant between rich and poor countries. Research suggests that this gap is narrowing globally, as developing countries are striving to build their own competitive research systems.

Research indicates that the connection between the massification of higher education in the mid-20th century and the restructuring of the global economy intensified, leading to the emergence of a post-industrial, knowledge-based society. In this post-industrial society, knowledge has become a wealth-generating tool and the primary resource of society, surpassing the traditional role of agriculture and industrial production. While agriculture and industrial production haven't been completely eliminated, new technologies and industries have become more efficient and require minimal labor input.

The development of a knowledge-based economy is leading to the refinement of market relations based on the production of knowledge. This situation creates a rapidly intensifying competition for universities in research and personnel training. The commodification of knowledge is significantly impacting the internal organizational structure of the scientific research community.

Higher education is experiencing various forms of differentiation (programmatic, systemic, organizational, etc.). This research comprehensively examines the factors of systematic

diversification, which manifest in areas like post-secondary education, public and private higher education institutions, diverse missions, training and retraining of specialists in various fields, different styles of advising, funding through various sources, legal frameworks for operation, and interaction with government entities. Furthermore, it is essential to acknowledge the presence of institutional organizations in the form of vertical (or hierarchical) diversification.

Diversification theoretically influences all aspects of higher education, including its mass character and equality, teaching methods and student learning styles, and the quality of scientific research priorities. In Uzbekistan, the following forms of diversification can be observed:

1. Increased choice for students: A rapidly expanding range of options for students to select from.
2. Accessibility for all: The opportunity for every citizen to pursue higher education.
3. Tailored education: Offering educational services that cater to the specific needs and abilities of individual students.
4. Institutional autonomy: Higher education institutions are empowered to choose their own missions and develop their areas of focus.
5. Flexibility and responsiveness: The ability to adapt to societal pressures, whether systematic or through diversification.
6. Institutional independence: Colleges and universities are provided with the environment to function freely and autonomously.

The need for diversification can typically be attributed to two main factors. Firstly, many experts emphasize the difficulty of training large numbers of students within research-oriented universities. Consequently, other types of universities are emerging to address the growing demand for training and professional retraining of students.

The rapid diversification process needs to be implemented in a way that aligns with the demand for talented and competitive personnel.

One of the global methods for vertically differentiating higher education is through university rankings. Determining university rankings takes into account a range of complex factors, ultimately resulting in the use of a "university" concept that aligns with global standards. Global competition typically creates an environment conducive to the emergence of a knowledge-based economy, as countries strive to achieve and prioritize acquiring the title of having a university that conducts leading scientific research.

While the primary focus of higher education institutions, alongside business activities, continues to be training personnel and conducting scientific research, they must also adapt to the complex and changing global environment, taking into account the needs of local communities. Universities play an unparalleled role in the higher education and scientific research system, especially within the emerging knowledge-based economy. Their role in the national innovation system is intricate. Moreover, perspectives on the university's role in knowledge dissemination vary.

In our view, universities are crucial in building a robust research potential, particularly for developing countries. This potential is essential for economic development, government policymaking, effective management implementation, enhancing community organization activity, and preserving culture, history, and national identity.

Scientific research and innovation are inextricably linked. Creating new knowledge or technologies is termed as discovery or innovation. In other words, this process generates new value for knowledge. Factors contributing to the success of scientific research include quality, a

comprehensive understanding of societal or business needs, and ensuring sustainable economic development.

We measure quality by the creation of improved versions of existing knowledge or products. Societal or business need is assessed based on its level of importance for economic development or social and business progress. They naturally manifest as knowledge, technologies, or scientific solutions.

Quality and need are used to evaluate the value of scientific research outcomes. The sustainability of innovations is determined by their impact on the vitality and development of scientific research. Sustainability is achieved through the effective application or realization of benefits from the results of scientific research or innovations. To achieve significant results in this area, university research teams must align their strategic goals and objectives with economic and state interests, ensuring the necessary resources and funding.

Scientific research and innovation, therefore, benefit the state, sponsoring sectors, and society at large. In turn, innovations contribute to the expansion and sustainability of scientific research.

In many fields, knowledge has become the most valuable resource, further confirming its status as the primary factor of production in the 21st century. It is foreseeable that intense competition will arise in these fields to secure strategic resources in the future.

Will we witness a future where nations compete fiercely to acquire these resources, just like past struggles for opium and oil? While the temptation for such a scenario exists, a more desirable outcome would be a global approach to knowledge sharing. This necessitates critical thinking, an ability to question assumptions and individual evidence, and a desire for collaboration and shared understanding. Many previous knowledge societies were based on systems of exclusion, where knowledge was largely preserved for a select few. In this rapidly changing context, a 21st-century knowledge society that guarantees universal access to knowledge and ensures the participation of all will usher in a new era of human development.

The widespread dissemination of knowledge, rather than simply its distribution, is paramount. Striving to build a knowledge society based on this effort has the potential to be a crucial tool for development, acting as a source of knowledge-based empowerment and infrastructure. In knowledge-based economic systems, human capital is the primary source of income. However, knowledge, in our view, is also a vital factor in a broader understanding of development - encompassing both human development and the capacity to live sustainably. The international development of a knowledge society presents a remarkable opportunity for developing countries to catch up with industrialized nations by leveraging the widespread knowledge available to them.

Innovation is a key vehicle for transforming knowledge into prosperity and embodies the fundamental characteristic of a knowledge-based economy. Economic research indicates that innovation is currently the primary source of economic growth and a crucial factor in the competitiveness of companies, regions, and national economies. According to calculations by experts from the Organization for Economic Cooperation and Development (OECD), economic growth in developed countries over the next two decades will be linked to innovation.

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In conclusion, acknowledging the general understanding of the importance of information and knowledge in economic development, and the unwavering belief of political circles, business

leaders, and managers in the crucial role of innovation in achieving competitiveness, represent another modern trend shaping the formation of a knowledge-based economy. This trend is an undeniable driver of development. Society and the economy are "reflexive systems," meaning that transforming the perception of factors driving economic growth automatically alters these systems and influences their development. Recognizing the significance of knowledge and innovation shapes modern trends in management, dictating how firms behave in markets and formulating their development strategies. Acknowledging this at the state level encourages the development of state strategies and programs for fostering a knowledge-based economy.

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