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GLOBAL KNOWLEDGE INDEX AS AN INDICATOR OF COUNTRY DEVELOPMENT

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Abstract: This article describes the Global Knowledge Index as an indicator of country development. The article considers such issues as the importance of the index, its sub-indices. The world indicators (advanced, average and weak indicator) for 2022 are analyzed. A conclusion is made for 10 advanced countries**.**

Keywords: knowledge economy, knowledge index, knowledge economy index, innovation, ICT, knowledge capital, pre-university education, technical and vocational education, R&D, favorable environment sub-index in the country, economy sub-index

Introduction

One of the main consequences of economic globalization is increased competition between countries and companies. This leads to lower prices for goods and services, improved quality of products and services, and the development of new technologies and innovations. In addition, economic globalization promotes the dissemination of knowledge and experience between countries, which helps them develop and improve their economic performance.

Global indices are tools that are used to measure and compare the level of economic, social and environmental development of different countries. They help assess how successfully a country is coping with modern challenges such as climate change, poverty, inequality and others.

There are many global indices, each of which measures a certain aspect of a country's development. For example, the Human Development Index (HDI) measures the standard of living, health and education of the country's population. The Environmental Performance Index (EPI) evaluates a country's efforts to protect the environment and combat climate change. The Social Progress Index (SPI) takes into account factors such as equality, freedom and security. Global indices can be useful for analyzing the development of countries, comparing their achievements and identifying problems that need to be solved. They can also serve as a guide for politicians and experts in developing development strategies and making decisions in the field of economics, social policy and environmental protection.

Literature Review

It should be noted that indices are assessed by various organizations and experts in the field of economics, finance, statistics and other areas. For example, development indices can be assessed by local authorities, realtor associations and other organizations that are engaged in statistical assessment. Stock market indices can also be assessed by various analytical companies and financial institutions, such as investment banks, brokerage firms, etc.

There are analyses of the knowledge index by L.G. Baratkova, A.V. Chugunov, who consider the knowledge economy index within the knowledge economy index. Thus, L.G.

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Baratkova says that the Knowledge Economy Index, unlike the Knowledge Index, does not assess the country's potential, but rather the extent to which the environment in a particular country contributes to the effective use of knowledge in economic development [1]. For this purpose, in addition to the three above-mentioned groups of factors, a fourth category is added – economic incentives and institutional regime [2]. The same opinions can be seen in the article on monitoring innovation security based on the knowledge economy index by V.A. Gorin and E.S. Zemskova. They write that the World Bank calculates the Knowledge Economy Index (KEI) and the Knowledge Index (KI). The former includes an index of the economy and institutional regime, an education index, an innovation index, and an information and communication technology index [3]. The knowledge index differs from the knowledge economy index by the absence of an index of the economy and institutional regime. The latter are determined on the basis of data on the presence of economic barriers, the quality of governance, and the state of the legal sphere. The education index includes the average number of years of schooling, the coverage of the population with secondary education, and the coverage of the population with higher education. The innovation index is calculated on the basis of data on royalty income, the number of scientific and technical articles, and the number of patents issued by the US Patent and Trademark Office. However, today, due to internal and external factors, the World Bank does not calculate the knowledge economy index, but calculates the knowledge index. This is also due to the fact that in practice there is no clear model that could explain the cause-and-effect relationships between science, technology, the economy, and society. If earlier the knowledge index included sub-index of education, sub-index of innovation and sub-index of ICT, now it is much more difficult to calculate.

Therefore, we made the goal to consider the calculation of the knowledge index, make a comparative analysis with the world indicator and give a conclusion.

Research Methodology

The methodology of this article uses the methods of generalization, grouping, comparative analysis, theoretical interpretation. In addition, the scientific basis of the article is international standards for assessing the knowledge index, information from studies of the United Nations, including UNDP or UN member states, or the Mohammed bin Rashid Al Maktoum Knowledge Foundation.

Analysis and results

In the contemporary world, where information and innovation have become central to sustainable growth, the Global Knowledge Index (GKI) has emerged as a vital metric for assessing the knowledge capabilities of nations. Developed by the United Nations Development Programme (UNDP) in partnership with the Mohammed Bin Rashid Al Maktoum Knowledge Foundation, the GKI provides a comprehensive, multidimensional tool to evaluate how countries perform in creating, acquiring, and disseminating knowledge. It serves not only as a benchmark for national progress but also as a policy instrument guiding countries toward informed development strategies.

Understanding the Global Knowledge Index

The Global Knowledge Index is structured around seven key sub-indices:

Pre-University Education

Technical and Vocational Education and Training (TVET)

Higher Education

Research, Development, and Innovation

Information and Communications Technology (ICT)

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Economy
General Enabling Environment

Each sub-index consists of a variety of quantitative indicators sourced from international organizations such as UNESCO, World Bank, ILO, and ITU. These indicators cover variables including education enrollment rates, R&D spending, digital infrastructure, labor productivity, and institutional quality.

By aggregating this information, the GKI offers a composite score ranging from 0 to 100, where higher scores reflect a more knowledge-based, innovation-driven, and future-ready economy.

The relationship between the Global Knowledge Index and national development is both correlative and causative. Nations that score higher on the GKI tend to have stronger economic performance, greater innovation outputs, and higher levels of human development. This is largely due to the GKI's focus on core pillars of sustainable development: quality education, technological readiness, institutional efficiency, and economic productivity [4].

Key Contributions of the GKI to Development Analysis:

Policy Guidance: Countries can identify specific weaknesses in their knowledge systems, such as low R&D investment or underperforming higher education sectors.

Benchmarking and Comparison: Nations can compare their performance with peers and leading knowledge economies, thereby facilitating targeted reforms.

Tracking Progress Over Time: The GKI enables policymakers and researchers to assess improvements or regressions in knowledge-based development annually.

Cross-sectoral Impact Measurement: The index captures how education, ICT, and innovation interact to shape broader developmental outcomes.

Historically, countries such as Switzerland, Sweden, the United States, and Finland consistently rank at the top of the Global Knowledge Index. These nations exhibit a strong commitment to R&D, inclusive and adaptive education systems, and a culture that promotes innovation and knowledge exchange [5].

In contrast, developing countries often face systemic barriers including limited funding for education and research, digital divides, weak institutions, and misalignment between labor market needs and educational outcomes. However, several emerging economies—such as the United Arab Emirates, China, and Malaysia—have made significant strides by integrating GKI-based diagnostics into their national planning.

Global Top 5 Countries by GKI 2024 [4]

Rank	Country	GKI Score
1	Sweden	68.3
2	Finland	68.2
3	Switzerland	67.9
4	Denmark	66.8
5	Netherlands	66.8

These European nations maintain strong knowledge ecosystems—especially in education, innovation, and ICT.

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Uzbekistan's performance in the GKI has been improving in recent years as part of its broader modernization agenda. Key reforms in digital transformation, university autonomy, TVET system restructuring, and innovation ecosystem support have contributed to gradual progress. However, challenges remain, particularly in aligning education outputs with labor market needs and improving research commercialization.

Year- over- Year Trend for Uzbekistan [4]

Year	Rank out of Countries	GKI Score	World Avg
2023	78 / 133	44.8	47.5
2024	78 / 141	45.9	47.8

Using the GKI framework, Uzbekistan can prioritize:
Increasing expenditure on R&D as a percentage of GDP
Enhancing teacher training and curriculum reform
Strengthening university-industry collaboration
Investing in ICT infrastructure and e-governance tools

Conclusion

The Global Knowledge Index is more than a ranking—it is a strategic development tool. By highlighting the structural components of a knowledge economy, it empowers countries to build human capital, foster innovation, and ensure resilient economic growth. As the global economy increasingly relies on ideas, data, and skilled labor, the GKI will continue to serve as a critical indicator for forward-looking development.

We examined the global knowledge index in terms of its impact on country development. The global knowledge index showed that innovation institutions are a key element in economic development. The information obtained through the knowledge index confirms our view that a one-size-fits-all approach to economic development policies cannot be the same in all countries, and that improvement measures should be prioritized depending on specific problems in the economy. In developing countries, the global knowledge index is low, so the focus should be on building the core sub-indices, in particular, building better institutions for innovation (improving economic openness, governance, and the business environment), general skills for innovation, and ICT infrastructure. At the intermediate stage of the index, countries' economies should make efforts to catch up with those countries that are on the technological frontier. This includes improving innovation-related factors, such as intellectual property rights protection. Finally, countries in the advanced KE group should focus on building the capacity for cutting-edge innovation on a global scale. This includes improving the ability of firms to commercialize new products (e.g. through accelerators), more efficient channeling of funds to innovative firms (e.g. through venture capital programs), and closer business ties with academia (e.g. innovation vouchers). In general, developed KE economies have the capacity to implement more sophisticated innovation policy instruments, such as incentives for private sector R&D and personnel specialization.

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