

DEVELOPING INNOVATIONS THROUGH SCIENCE AND GOVERNANCE REFORMS

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Abstract: This thesis examines how Uzbekistan can strengthen its national innovation system and drive economic development through targeted reforms in science policy and public sector management. It analyzes innovation challenges and opportunities based on a literature review, statistical analysis, case studies, and stakeholder interviews. Reform recommendations are proposed to optimize university-industry linkages, encourage private R&D investment, streamline bureaucracy faced by startups, and improve the skills of civil servants through performance-based training. The goal is to provide evidence-based policy strategies for Uzbekistan to enhance its innovation capacity and transition to an innovation-driven economy.

Keywords: Public policy, economics, innovation research, public administration, Public policy, economics, innovation research, public administration

As Uzbekistan transitioned to a market economy in the 21st century, innovation development became a national priority for achieving sustainable economic growth and development. After gaining independence in 1991 and the collapse of the Soviet Union, Uzbekistan embarked on significant economic reforms aimed at liberalizing prices, reducing state intervention, and promoting private entrepreneurship (World Bank, 2018). However, overreliance on commodity exports and a lack of competitiveness in global markets highlighted the need to diversify the economy and improve efficiency.

Recognizing innovation as a key driver of competitiveness, the government launched the National Innovation System Strategy in 2017 with the aim of transforming Uzbekistan into an innovation-driven economy by 2030. This multi-year reform agenda aims to foster an entrepreneurial culture while strengthening links between science, education, and industry (Government of Uzbekistan, 2017). Substantial investments have been made in research and development, technology commercialization, and skills training.

Despite progress, Uzbekistan continues to lag behind regional competitors such as Kazakhstan and Kyrgyzstan in the Global Innovation Rankings (Cornell University et al., 2020). Obstacles remain, such as low private sector R&D spending, ineffective collaboration between researchers and businesses, and a cumbersome bureaucracy that hinders entrepreneurship (OECD, 2019).

This paper examines how targeted reforms in public administration and the national innovation system can help Uzbekistan realize its vision of innovation-led growth. It draws on the experiences of other transition economies in Uzbekistan and the perspectives of stakeholders to offer recommendations for modernizing science and technology policy and strengthening competitiveness through administrative modernization. The goal is to present Uzbekistan's prospects for developing a more dynamic, knowledge-intensive economy by increasing its innovation capacity.

Methodology

A mixed methods approach was used to understand the barriers to innovation in Uzbekistan and identify priority areas for reform. Both qualitative and quantitative data sources were analyzed.

A thorough review of academic literature and public policy documents was conducted to establish international best practices in national innovation systems and public sector modernization. Relevant Uzbekistan strategies and reports were also reviewed to assess the country's innovation agenda.

A keyword search was conducted in authoritative databases such as the World Bank's World Development Indicators and the OECD iLibrary to obtain quantitative indicators that track Uzbekistan's performance over time in areas such as R&D spending, patent applications, technology commercialization, and ease of doing business. Regional and income peers were used for comparison.

Case studies of innovation and governance reforms in countries such as South Korea, Finland, and Estonia provided examples of successful transition strategies that Uzbekistan could learn from.

Semi-structured interviews were conducted with 15 stakeholders, including academics, entrepreneurs, government officials, development experts, and investors, to capture local perspectives. Interview guides focused on experienced challenges and opportunities for policy improvement. Interviews were transcribed and thematically analyzed.

English language limitations limited documentary research sources. Official statistics vary in availability and reliability across countries. Interviews captured individual perspectives rather than representative data. Pandemic travel restrictions reduced

validation of findings. Triangulation of methods helped address some of the limitations.

Science and Technology Reform

Uzbekistan has made progress in increasing investment in R&D. Government R&D spending increased from 0.2% of GDP in 2010 to 0.4% in 2020, although this remains below the average for high- and middle-income countries (UNESCO, 2022). The number of researchers per capita also increased significantly during this period (World Bank, 2022). At the same time, stakeholders identified weaknesses in how national innovation systems are structured that limit the impact of increased funding. Researchers expressed frustration with the lack of autonomy and flexibility in setting research agendas. They still lack commercialization, such as patents and spin-offs.

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