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## **THE ADVANCEMENT OF THE DIGITAL ECONOMY AND ITS CONNECTION TO ENHANCING REGIONAL COMPETITIVENESS**

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Presidential Decree #158, issued on September 11th, emphasizes the importance of developing the digital economy in Uzbekistan as outlined in the "Uzbekistan - 2030" strategy. The decree acknowledges that the digital economy plays a critical and foundational role in the modern world, facilitating communication between businesses, the government, and ordinary citizens. To achieve the government's broader economic improvement objectives, it recognizes that key elements and factors such as the Internet of Things, technologies, and cloud computing are vital in positioning Uzbekistan's digital economy as a leading force in the Central Asian region.

That's a metaphorical way to describe the importance of the internet and its underlying infrastructure in the digital economy. Indeed, the internet serves as the foundation and primary medium through which the digital economy operates. Much like how blood carries vital nutrients and oxygen to all parts of the body, internet connectivity enables the flow of information, data, and communication between various stakeholders in the digital economy.

The cables and wireless internet communications can be seen as the "blood vessels" that enable the transmission of data and information. Fiber optic cables, for example, carry vast amounts of data at high speeds over long distances, forming the backbone of the internet infrastructure. Wireless technologies, such as Wi-Fi and mobile networks, provide connectivity without the need for physical cables, allowing for flexible and mobile access to the internet.

Just as a well-functioning circulatory system is crucial for sustaining the body's overall health, reliable and efficient internet connectivity is vital for the growth and development of the digital economy. It facilitates e-commerce, digital services, online communication, and innovation, serving as the lifeblood that fuels economic activities in the digital realm.

Central Asia is connected to the global internet through several network infrastructure and submarine cables. Here are some key internet networks and cables in the region:

**Trans-Eurasian Information Super Highway (TASIM):** TASIM is a major project aimed at connecting Europe with Asia through high-speed internet infrastructure. It involves the construction of a fiber optic network spanning across several countries in Central Asia, including Kazakhstan, Uzbekistan, Turkmenistan, and Tajikistan.

**Central Asian Fiber Optic Network (CACOM):** CACOM is a regional network that connects Kazakhstan, Kyrgyzstan, Tajikistan, and China. It enables high-speed internet connectivity and data transmission within the participating countries.

Uzbektelecom is the national telecommunications operator in Uzbekistan. It operates a network of fiber optic cables and infrastructure that facilitates internet connectivity across the country and international connections.

Devices like mobile phones and computers are indeed complementary goods in the context of the digital economy, both on the demand and supply sides.

On the demand side, mobile phones and computers are often used in conjunction with internet services and applications. They complement each other in enabling individuals to access and utilize digital content, services, and platforms. For example, a mobile phone or computer is necessary for browsing the internet, using social media, accessing online services, and conducting e-commerce transactions. The demand for these devices is closely tied to the demand for internet connectivity and digital services.

On the supply side, the availability and affordability of mobile phones and computers are crucial for the growth of the digital economy. As the adoption and usage of digital technologies increase, the demand for devices that can access and utilize digital services also rises. This, in turn, drives the supply of mobile phones, computers, and other related devices. The development and innovation in device technology, such as faster processors, larger storage capacities, and improved connectivity options, further contribute to the expansion of the digital economy.

The interdependency between devices and internet services creates a virtuous cycle. As the demand for digital services and internet connectivity grows, it fuels the demand for devices. Simultaneously, the availability and affordability of devices enhance the accessibility and usability of digital services, thereby stimulating further demand.

Recognizing the complementarity between devices and internet services can help policymakers and businesses develop strategies to promote digital inclusion and economic growth. Initiatives that focus on increasing device affordability, improving device accessibility, and enhancing digital literacy can contribute to broader adoption and utilization of digital technologies, thereby driving the growth of the digital economy.

Determining what the digital economy is problematic, as digital technologies are increasingly penetrating many areas of society and the economy. Based on the previous concepts of the “information economy” [1] and the “network economy” [2], the concept of the digital economy is rooted in digital technologies, information networks and actions that people carry out in such networks. The digital economy is a

combination of several basic technologies and a number of economic and social models implemented through the Internet and related technologies [3].

The digital economy is of considerable value to developed and developing countries, but it causes a number of problems. Digital technologies can stimulate development in a number of areas: by reducing production costs and using returns to scale; by improving the efficiency of existing markets, increasing the size of markets and creating new markets; creating economic opportunities in other sectors; and by improving quality beyond the overall performance of the factors of production. However, the pace of technological change is accelerating, and technological change often outstrips existing legislation. The key task in such conditions is the development of models for the digitization of socio-economic systems [4]. Failure to actively exploit the digital revolution will have detrimental consequences for a number of socio-economic aspects, including the prospects for economic growth of countries, regional competitiveness, inclusion in global production chains with high value added and the recruitment of highly skilled labor. A major challenge for developing countries is creating a basic level of digital infrastructure, on the basis of which the rest of the digital economy is built. This is not only a question of the correct amount of public and private funding, but also technical and institutional change.[3]

The improvement of the electronic government of Uzbekistan and the achievement of 100% digital government services, the implementation of the Mobile ID system for personal identification in the provision of government services, the introduction of a "digital citizen passport," and the "digital body" project have been priorities for the digitization of public administration and the optimization of administrative procedures at the central and local levels. With sustained growth rates, the goal is to achieve a per capita GDP of \$4,000 by 2030 and enter the group of countries with "above-average income." In this regard, the development of the digital economy has also been identified as the main driver, with a target of increasing its share by at least 2.5 times by the end of 2026. The plan is to increase the production of software products by 5 times and their exports by 10 times, reaching \$500 million in exports. Additionally, the aim is to achieve a level of digitalization in the financial and banking sectors of 70%. Furthermore, priority is given to the digitalization of urban planning and construction, developing them within the concept of a "Smart City." [5]

In the President of Uzbekistan's message to the Oliy Majlis on January 24, 2020, key aspects of economic advancement are outlined. The communication also emphasizes the necessity and significant advantages of adopting a digital economy for the nation, particularly in light of 2020 being designated as the Year of Science, Education, and the Development of the Digital Economy. [6]

According to UN statistics, Uzbekistan has an Online Service Index of 0.7440, with the following sub-index scores: Institutional Framework - 0.9231, Service Provision - 0.7333, Content Provision - 0.9000, E-participation - 0.6136, and Technology - 0.8824. Comparatively, Kazakhstan has an Online Service Index of 0.9344, and the world leader in this index is Estonia.

In terms of the Telecommunication Infrastructure Index, Uzbekistan scores 0.6575, with indicators such as 71.1% of the population being internet users, 14,4%

fixed broadband users, 93.71% active mobile-broadband subscriptions, and 99.75 mobile-cellular subscriptions of total population. Kazakhstan scores 0.7520 in this index, while the world leader is Liechtenstein with a score of 1.000.

Regarding the Human Capital Index, Uzbekistan scores 0.7778, with indicators such as 100% adult literacy, a gross enrollment ratio of 72.99%, expected years of schooling of 12.48, and mean years of schooling of 11.8. The world leader in this index is Australia with a score of 1.000, while Kazakhstan leads among Central Asian countries with a score of 0.9021.

Overall, Uzbekistan has an E-Government Development Index of 0.7265, ranking 69 out of 193 countries. The E-Participation Index for Uzbekistan is 0.6136, ranking 55 out of 193 countries.[7]

The volume of telecommunications services for January-June 2023 was equal to 8.3 trillion. soum, compared with the corresponding period of 2022, the growth rate amounted to 120.0%. For comparison: in January-June 2022, this figure was 6.8 trillion. soum, growth rates were fixed at the level of 119.0%. [8]

The fixed-line market is dominated by the incumbent state-owned provider Uztelecom, which has a much as 98% market share. With teledensity sitting at around 11%, the fixed-line segment remains relatively underdeveloped. But Uztelecom has been diligently expanding its fibre footprint across the country, and so utilisation is slowing increasing as consumers are able to take on VoIP services as part of their fibre packages. Strong growth is also present in the fixed broadband segment thanks to that same network expansion (albeit coming off a very low base), with penetration projected to reach 24% by 2027 (a 5-year CAGR of 6.2%).

Despite the promising signs in the fixed markets, it is the mobile segment that continues to dominate Uzbekistan's telecoms sector in terms of penetration, revenue, and growth. There are four major operators providing a modicum of competition; three of the four are government-owned entities although private operator Beeline Uzbekistan has been able to capture up to a third of the market. The last two Covid-affected years have proved challenging for Beeline, in particular, but its most recent operating results suggest a turnaround in the company's fortunes is under way. Overall, the mobile market is expected to reach 100% penetration in 2023 – a 50% increase in the last five years.[9]

Uzbekistan has been making efforts to promote digital transformation and develop its digital economy:

The e-commerce sector has been growing in Uzbekistan. The government has implemented various measures to facilitate e-commerce, including the development of digital payment systems and the establishment of online platforms for businesses to sell their products and services.

Uzbekistan has been fostering a startup ecosystem and promoting innovation. Initiatives have been launched to support startups, provide funding, and create incubators and accelerators to nurture entrepreneurial talent and technological innovation.



The adoption of digital payment systems has been increasing in Uzbekistan. Mobile payment platforms and digital wallets have gained popularity, providing convenient and secure options for financial transactions.

Efforts have been made to improve digital infrastructure in Uzbekistan, including expanding broadband internet access, enhancing network connectivity, and investing in the development of data centers and cloud computing infrastructure.

The government of Uzbekistan has been working on digitizing its public services and implementing e-government initiatives. This includes the digitization of administrative processes, the introduction of digital identification systems, and the provision of online government services.

To promote the perception of the internet as a type of goods and services in developing countries like Uzbekistan and increase its demand inelasticity as a necessity, while ensuring its supply elasticity and affordability, the following legal and economic solutions can be considered:

**Legal Recognition:** Governments can enact legislation that officially recognizes the internet as an essential utility or service, similar to electricity or water. This recognition can lead to policies and regulations that prioritize accessibility, affordability, and quality of internet services.

**Infrastructure Development:** Governments can invest in the development of robust internet infrastructure, including expanding broadband connectivity, improving network reliability, and increasing coverage in rural and underserved areas. This would enhance the supply elasticity of internet services, making them more accessible to a larger population.

**Digital Literacy Programs:** Implementing comprehensive and affordable digital literacy programs is crucial to increase the public's understanding and usage of internet technologies. These programs can be incorporated into formal education curricula, vocational training, and adult education initiatives, making technology education more accessible and widespread.

**Public-Private Partnerships:** Collaboration between the government, private sector, and civil society organizations can facilitate the development and distribution of affordable internet-enabled devices, such as smartphones, tablets, and computers. This would make technology more available and affordable for the public, thereby increasing demand inelasticity.

**Subsidies and Incentives:** Governments can provide subsidies or incentives to internet service providers to lower the cost of internet access, particularly for low-income individuals and marginalized communities. This would help make internet services more affordable and increase their accessibility.

**International Cooperation:** Developing countries can collaborate with international organizations and donor agencies to secure financial assistance and technical expertise for digital infrastructure development and capacity building programs. This cooperation can help accelerate progress in making technology more affordable and accessible.

By implementing these legal and economic solutions, developing countries like Uzbekistan can foster an environment where the internet is perceived as a necessity

and demand for it becomes inelastic. This, in turn, can lead to increased affordability, wider access to technology, and overall economic growth in the digital world.

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## **QISHLOQ XO`JALIGI MAHSULOTLARINI QAYTA ISHLASHNING SAMARADORLIGI**

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O‘zbekiston Respublikasida qishloq xo‘jaligi mahsulotlarini qayta ishlash sanoatining rivojlanishiga e‘tibor juda katta. Qishloq xo‘jaligi mahsulotlarini qayta ishlash, uzoq vaqt mobaynida sifatini buzmaganda saqlash va aholini ular bilan bir tekis ta‘minlash bugungi kundagi dolzarb masalalardan hisoblanadi. Bu masala juda katta ijtimoiy-iqtisodiy ahamiyatga egadir.”2022-2026 yillarga mo‘ljallangan Yangi O‘zbekistonning taraqqiyot strategiyasi to‘g‘risida”gi O‘zbekiston Respublikasi Prezidentining 2022-yil 28-yanvardagi 60-sonli Farmonida ham bu masalaning dolzarbligi alohida ta‘kidlangan. Farmonga ko‘ra milliy iqtisodiyot barqarorligini ta‘minlash va yalpi ichki mahsulotda sanoat ulushini oshirishga qaratilgan sanoat siyosatini davom ettirib, sanoat mahsulotlarini ishlab chiqarish hajmini 1,4 baravarga oshirish maqsad qilib olingan.<sup>166</sup>

Mamlakatimizda iqtisodiyot rivojining keyingi yillarida sanoat -mahsulotlarini yetishtirishni ko‘paytirish bilan birgalikda ularni chuqur qayta ishlash va saqlash masalalariga e‘tibor qaratilmoqda.

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<sup>166</sup>O‘zbekiston Respublikasi Prezidentining Farmoni 2022-yil 28-yanvar № PF-60.