

Synergizing Digitalization and Sustainability

The Driving Force for Socio-Economic Development in Azerbaijan

Sheyda Karimova

In July 2022, President Ilham Aliyev of Azerbaijan signed a decree putting into effect the “Socio-economic Development Strategy of the Republic of Azerbaijan in 2022-2026,” which outlines economic and social priorities for the five-year period from 2022 to 2026. This strategic plan is designed to drive sustainable growth, improve living standards, and enhance the overall well-being of the Azerbaijani people. It encompasses a range of key objectives, including further diversifying the economy, investing in infrastructure, fostering innovation, promoting social inclusion, and strengthening governance.

The synergy of digitalization and sustainability has emerged as a significant driver of socio-economic development around the world. Keeping up with this global trend, Azerbaijan has undertaken ambitious initiatives in recent years to leverage digital technologies and sustainability practices with the goal of reshaping its economic and social landscape. This IDD Analytical Policy Brief examines the multifaceted landscape of Azerbaijan’s digital transformation and sustainable development, analyzing the strategic objectives, challenges, and opportunities that characterize its path toward becoming a dynamic socio-economic development force in the South Caucasus region and other parts of the Silk Road region.

Sheyda Karimova is Chief Advisor in the Executive Office of the Minister of Digital Development and Transport. Having previously worked as a sustainability consultant at both EY and Deloitte, her primary area of expertise is sustainable development. Her research focuses on issues related to sustainability in both public and private sectors, as well as the intersection of digitalization and sustainability. The views and opinions expressed herein are solely those of the author.

Examining the Strategy Itself

The Strategy responds to a number of challenges faced by the government in terms of social development that allows for equitable economic growth for all. In this regard, the strategy outlines various concrete initiatives, including:

- Accelerating the transition to a digital economy;
- Ensuring the sustainable development of the tourism sector;
- Strengthening institutional and financing mechanisms;
- Realizing the transit potential and developing trade logistics;
- Innovative ecosystem development;
- Supporting and stimulating innovation; and
- Expanding opportunities for innovating various sectors of the economy and as a tool to increase access to public services.

The strategic directions and goals outlined in the Strategy underscore the country's ambitious vision for national development. However, a comprehensive acknowledgment of potential challenges is imperative for its successful implementation. One critical facet demanding attention is the current state of the policy landscape, which warrants a holistic overhaul.

Thus, a multifaceted examination of the existing policy framework is warranted. This would involve identifying current areas of inefficiency, gaps in alignment with strategic objectives, and potential obstacles hindering the optimal implementation of the Strategy. Consequently, a strategic roadmap for policy enhancement must be meticulously devised, encompassing reforms that not only address immediate challenges but also fortify the foundation for sustained and resilient national development.

Digital Infrastructure Development

In the pursuit of narrowing the digital divide that persists within the population, an initial and pivotal step entails securing universal access to comprehensive digital infrastructure. This endeavor encompasses not only the provision of high-speed internet accessibility but also the availability of essential digital tools such as smartphones and laptops, with additional access points facilitated through Internet cafes and public libraries. Major work is currently being carried out in the framework of the Online Azerbaijan project implemented by a group of local companies—among which are Aztelecom LLC and Baku Telephone Communications LLC—to roll out Gigabit Passive Optical Networks (GPON) technologies across the country. However, it is possible to leverage the opportunities of public-private partnerships to speed and scale up the provision of full-scale access to a high-speed internet connection, as well as widespread access to modern technological equipment—especially when it comes to underserved communities.

Access and Efficiency of Public Services

There is currently a global trend towards the digitalization of public services, facilitated through the development of e-government portals and mobile applications. This transition towards digital platforms has the potential to significantly mitigate disparities in service accessibility, ultimately contributing to the augmentation of social welfare.

To maximize the positive impact of this digital transformation, a more concerted effort should be made to ensure that the user interface of these platforms is designed to be easy to use—i.e., to accommodate that portion of the society that is technically savvy and hence less versed in digital solutions. An easy-to-use interface includes navigation that is straightforward and observable.

Furthermore, instructions and guidance should be provided in a format that is readily accessible to a diverse user base, accommodating individuals with varying levels of digital literacy and accessibility needs.

While a substantial number of public services in Azerbaijan have already been made available online or through mobile applications, more drastic measures need to be made in order to identify the highest priority services for digitalization, based on the needs of the society and expectations of the government.

Improving Digital Literacy

It is increasingly paramount to prioritize the improvement of digital literacy among the population to ensure that the services available online through digital devices are utilized both properly and to their full potential. To ensure that every segment of the population possesses the necessary knowledge and skills to fully harness the potential of these digital resources, regular full-scale digital literacy assessments, with samples of all ages, will need to be conducted. Consequently, it is important to understand the potential reasons for existing disparities and the digital skills divide between different segments of the population. This is a prerequisite for alleviating the situation and resulting disparities.

To that end, a literacy and gap assessment should be undertaken, for its results would provide a comprehensive understanding of the country's digital literacy training needs. Such training programs should be made accessible to all, without discrimination based on existing digital competencies. By adopting an inclusive approach, individuals from diverse backgrounds and skill levels would be empowered to navigate and utilize e-government services effectively.

Access to digital skills training facilitates the bridging of the digital divide by imparting essential digital competencies to those who require them, and therefore advance the policy goal of providing for a seamless integration of all members of society.

Public-Private Partnerships

Public-Private Partnerships (PPP) represent a powerful mechanism for expanding the accessibility of digital tools and infrastructure, as they effectively harness the strengths of both sectors. In such collaborations, the private sector typically brings its competitive technological expertise, while the public sector contributes the financial resources necessary for these transformative projects to take place, as well as indicating priority areas for implementation. This synergy holds the potential to drive substantial progress in achieving widespread digital accessibility.

Private Sector Technological Expertise. The private sector is often at the forefront of technological innovation, as it tends to have a swifter capacity to adapt to evolving digital landscapes. By partnering with private enterprises, governments can tap into this expertise, gaining access to advanced technologies, infrastructure development, and service delivery systems that might otherwise be challenging to develop independently.

Public Sector Financial Resources. The public sector, conversely, possesses the financial capacity to fund and sustain large-scale digital infrastructure projects. Through budget allocations, public funds, and investment initiatives, governments can mobilize the resources required to build and maintain digital networks, ensuring affordability and widespread accessibility for their constituents, including in the regions of Azerbaijan (i.e., beyond Baku and its immediate environs), that could be financially impractical to the private sectors.

Innovation and Competition. The competitive nature of the private sector encourages innovation and cost-effectiveness. When involved in PPP initiatives, private enterprises are incentivized to develop creative, efficient, and sustainable solutions that not only enhance digital accessibility but also contribute to economic growth.

Integration of Sustainability into the Education Curriculum

In the quest to infuse sustainable development at the very core of the country's decisionmaking processes, it is paramount to integrate sustainability into both secondary and higher education curricula. This approach holds numerous benefits for socio-economic development, fostering innovation and promoting a more creative approach to research and development.

Sustainable Education Across All Levels. Sustainability should be an integral component of primary educational curricula, allowing young minds to grasp the importance of environmental stewardship, resource conservation, social responsibility, and economic inclusion from an early age. Furthermore, the inclusion of sustainability in mandatory higher education courses ensures that future leaders, professionals, and decisionmakers are equipped with a comprehensive understanding of its significance.

While some higher education establishments in the country have begun integrating courses on sustainability, with one university (The Academy of Public Administration under the President of the Republic of Azerbaijan) offering a full-time Sustainable Development degree program, further integration of sustainability into the nation's higher ed. curriculum is recommended.

Catalyzing Innovation. Sustainability education tends to catalyze innovation. It instills in students a mindset that values resource efficiency, waste reduction, and responsible consumption. This, in turn, encourages the development of innovative solutions and practices that drive sustainable technologies, industries, and socio-economic initiatives.

Elevating Decisionmaking. By integrating sustainability into the educational system, the state would be effectually cultivating a generation of decisionmakers who consider the long-term consequences of their choices on the environment, the economy, and society. This approach ensures that sustainability is not an afterthought but rather an inherent consideration in all decisionmaking processes.

Data Governance

In the pursuit of sustained socio-economic development, data-driven decisionmaking has become indispensable for governments. To ensure the accuracy, clarity, and completeness of data, it is imperative to establish a robust framework for data governance that encompasses the entire data lifecycle, from collection, storage, and analysis, to monitoring and utilization. This framework should also encompass a rigorous system of data management, underpinned by comprehensive data protection policies that will also have to include an AI component.

Data-Driven Decisionmaking. Governments rely on data-driven decisions to shape policies and strategies. Data provides invaluable insights, enabling governments to allocate resources, prioritize initiatives, and measure the impact of their actions. Accurate, clear, and complete data (including statistics) is essential to make informed choices.

Framework for Data Governance. A clear framework for data governance establishes standardized procedures for data collection, storage, analysis, and utilization. It streamlines data-related processes, ensuring that data is handled consistently and transparently throughout its lifecycle. This framework contributes to data reliability and minimizes errors or inconsistencies.

Data Protection Policies. Robust data governance encompasses comprehensive data protection policies. These policies safeguard sensitive information and ensure compliance with data privacy regulations. They also define access controls, encryption methods, and disaster recovery plans to protect data from unauthorized access, breaches, and loss. The recently adopted Strategy on Information Security

and Cyber Security for 2023-2027 is a major step in the right direction; however, a more rigorous approach to data governance is still needed in order to ensure the accuracy and completeness of state-owned data.

Continuous Monitoring and Improvement. Ongoing monitoring of data quality and data governance practices is essential. This ensures that data remains accurate and that the governance framework adapts to evolving data needs and technological advancements. Regular audits and assessments are crucial for identifying areas for improvement.

Participatory Governance Through Digital Platforms

In the pursuit of inclusive and transparent decisionmaking processes, it is imperative to establish digital platforms that enable public participation. These platforms serve as a conduit for citizens—particularly those from under-represented and rural communities—to actively engage in governance and decisionmaking processes.

While the regulatory framework of the country, particularly the Law of the Republic of Azerbaijan on Public Participation (2013), allows for civil society to participate in the implementation of state governance through consultations, significant efforts have yet to be made in order to create a digital platform to enable underserved and underrepresented communities to be part of the public hearing processes.

Inclusivity Through Digital Channels. Digital platforms provide an accessible channel for participation that transcends geographical boundaries and physical limitations. Under-represented communities and rural areas often face barriers to participation in contemporary governance processes. Digital platforms mitigate these barriers by allowing individuals to contribute their insights and perspectives regardless of their location.

Real-Time Engagement. Digital platforms enable real-time engagement, allowing citizens to provide feedback, suggestions, and concerns as events unfold. This dynamic interaction enhances the responsiveness of governance to emerging challenges and evolving circumstances.

Enhanced Accountability. Digital platforms not only empower the public but also foster greater accountability within governments. When decisionmaking processes are open to scrutiny and public input, officials are held accountable for their actions and policies. This transparency bolsters trust in government institutions.

Accessibility and Convenience. Digital platforms offer the convenience of remote participation, making it easier for individuals to engage in governance activities without the need for physical attendance at meetings or consultations. This convenience accommodates the diverse schedules and responsibilities of citizens.

Startup Ecosystem Development

Startups are the heartbeat of innovation and economic growth. Therefore, the government of Azerbaijan should further target investment in the development of a thriving startup ecosystem. This investment can take various forms, such as accelerators, improved access to funding, partnerships with research institutions and universities, collaboration opportunities with large corporations through government-coordinated networking events, and the establishment of startup hubs and competitions. Such initiatives collectively contribute to enhancing the entrepreneurship landscape and fostering innovation. The work of the country's Innovation Agency is a good beginning, but more can be done in this domain.

As such, in recent years, the Azerbaijani government has been making efforts to simplify business conduct for startups. This has resulted in the initiation of a number of startup hubs, accelerators, and incubators, including SABAH.HUB and Innoland. At the same time, the prevalence of these startups is focused on innovation, and more support is required for those in the field of sustainability, as the latter catalyzes innovation in direct and indirect ways alike.

Accelerators and Incubators. Startup accelerators and incubators offer crucial support to emerging businesses. They provide mentorship, resources, and a nurturing environment that helps startups grow and thrive. Government backing of such programs can be instrumental in kickstarting entrepreneurial ventures.

Accessibility to Funding. Access to capital is often a major challenge for startups. Government initiatives that facilitate easier access to funding, whether through grants, loans, or venture capital, can significantly empower new businesses to bring their ideas to fruition.

Partnerships with Research Institutions and Universities. Collaborations with research laboratories and academic institutions offer startups valuable access to cutting-edge research and expertise. Such partnerships can fuel innovation and provide access to novel technologies, making startups more competitive in the market.

Cooperation with Large Corporations. Facilitating cooperation between startups and large corporations promotes knowledge sharing and mutual growth. Government-funded and coordinated networking events and initiatives can facilitate these collaborations, fostering innovation and job creation.

Startup Hubs and Incubation Centers. The creation of startup hubs and incubation centers (in universities or elsewhere) fosters a conducive environment for entrepreneurial endeavors. These hubs serve as physical spaces where startups can work, collaborate, and access necessary resources.

Startup Competitions. Organizing startup competitions not only inspires creativity but also offers startups the opportunity to showcase their innovations and gain exposure. Additionally, these competitions can attract investment and mentorship.

The Socio-Economic Benefits of Digitally Driven Sustainability

The integration of digitalization and sustainability brings forth a myriad of socio-economic benefits. By streamlining processes and enhancing efficiency, digitalization fosters economic growth through increased productivity and innovation. Simultaneously, sustainability initiatives contribute to long-term societal well-being by mitigating environmental impacts and ensuring resource conservation. Together, these synergistic approaches create a foundation for inclusive economic development, generating new opportunities, job creation, and economic diversification. Moreover, the adoption of sustainable practices aligns with evolving consumer preferences, leading to the emergence of environmentally conscious markets. As societies transition towards a more digitally connected and sustainable future, the positive socio-economic outcomes extend beyond immediate gains, laying the groundwork for resilient, equitable, and prosperous communities.

Increased inclusivity. Digitalization allows for increased social inclusivity, as more citizens have opportunities to participate in the economy of the country, including through online and remote jobs, as new online markets are emerging.

Reduction of negative environmental impacts. Digitalization processes, across both private and public sectors, can contribute to the reduction of carbon emissions, which allows the government to curb its overall environmental footprint. This further allows for saved costs on environmental restoration and subsequent damage to social welfare.

Digitalization of the economy and financial inclusivity. Digitalization of the banking system and fintech can allow for a further increase of financial inclusivity of society, including the rural communities and people with disabilities who would otherwise be unable to use these services. One such initiative is the recent roll-out of fintech integration by Azercell LLC, which allows for higher financial inclusivity among population segments with little to no access to financial institutions. Meanwhile, a higher level of outreach and wider access to the internet is required to scale up digital banking and fintech across the country.

Disaster resilience and operational continuity. Digitalization allows for business continuity in times of disasters as proven by the COVID-19 pandemic, including the work-from-home option, online secondary and higher education, as well as widespread delivery services.

Reduced consumption. As remote work and digital learning become more prevalent, individuals experience a considerable decrease in commute times. By curbing the need for extensive travel, there is a decrease in fuel consumption and associated carbon emissions. This shift aligns with a broader trend of resource optimization and efficiency.

Increased access to education. As digital infrastructure continues to be developed and improved, more people in remote or underserved areas could have access to higher or specialized education. Moreover, the customizable nature of online platforms allows for personalized learning experiences, catering to diverse learning styles and accommodating the specific needs of those with disabilities.

Increased gender equality. The integration of digitalization has played a pivotal role in advancing gender equality, particularly in enabling independent participation in the formal workforce. Online platforms and remote work opportunities have dismantled traditional barriers that may have hindered equal access to employment. Additionally, the removal of physical office presence requirements has helped to address some of the biases that could affect career progression.