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Farida ALIRZAYEVA

PhD in Political Science, Teacher at the Department of Political Science and Political Management,
Academy at Public Administration under the President of the Republic of Azerbaijan,
farida.alirzayeva@mail.ru

ORCID: 0009-0005-8583-1616

PUBLIC ADMINISTRATION OF DIGITAL DEVELOPMENT OF AZERBAIJAN

The aim of the article is to reveal the possibilities of public administration in forecasting and scanning the horizons of digital technologies. Using the example of the Republic of Azerbaijan, it examines digital development as a strategic priority of state policy.

Methodology and methods. The methodology used includes a comprehensive review of international documents on digital development strategies and national documents that reveal the principles and methods of digital transformation in Azerbaijan. The methodology of comparative analysis of international rankings and indices of digital development allows for the exploration of opportunities for digital transformation, digital inclusion, and the creation of ecosystem models in Azerbaijan.

The novelty of the article is determined by the analysis of new-generation digital technologies as a resource for managing social and economic processes in the context of Azerbaijan's integration into the global digital ecosystem.

Results: the population of the country has largely adapted to digital technologies. This factor enables the government to implement innovative solutions in the political, social, and economic spheres. Strategic forecasting and the development of new approaches to the implementation of digital technologies are being realized in Azerbaijan through the parameters of cross-cutting digital technologies.

The trend of the mediative function of e-government reflects the development of active communication services between government structures and citizens. The state guarantees the provision of a wide range of public services to the population on the data exchange platform "Digital Bridge", "Digital Ecology", and the ecosystem "Bir". The implementation of blockchain technologies in the financial and economic sector leads to an intensive transformation of business processes. The trend of developing an information and communication hub of two transport corridors (North-South, East-West) passing through the territory of the country significantly enhances Azerbaijan's competitiveness in the global economy. Digital transformation carries potential risks of violating privacy and data confidentiality, as well as the emergence of crisis phenomena in the market economy.

Key words: blockchain-technologies, digital technologies, an information-communication hub, ecosystem models, digital ecology.

Фаріда Алірзаєва. ДЕРЖАВНЕ УПРАВЛІННЯ ЦИФРОВИМ РОЗВИТКОМ АЗЕРБАЙДЖАНУ

Метою статті є розкриття можливостей державного управління у прогнозуванні та скануванні горизонтів цифрових технологій. На прикладі Азербайджанської Республіки розглядається цифровий розвиток як стратегічний пріоритет державної політики.

Методологія та методи. Використана методологія включає комплексний огляд міжнародних документів щодо стратегії цифрового розвитку та національних документів, які розкривають принципи та методи цифрової трансформації в Азербайджані. Методологія порівняльного аналізу міжнародних рейтингів та індексів цифрового розвитку дозволяє досліджувати можливості для цифрової трансформації, цифрової інклюзії та створення екосистемних моделей в Азербайджані.

Новизна статті визначається аналізом цифрових технологій нового покоління як ресурсу для управління соціально-економічними процесами в контексті інтеграції Азербайджану в глобальну цифрову екосистему.

Висновки: населення країни значною мірою адаптувалося до цифрових технологій. Цей фактор дозволяє владі впроваджувати інноваційні рішення в політичній, соціальній та економічній сферах. Стратегічне прогнозування та розробка нових підходів до впровадження цифрових технологій реалізуються в Азербайджані через параметри наскрізних цифрових технологій. Тенденція медіативної функції електронного урядування відображає розвиток послуг активної комунікації між владними структурами та громадянами. Держава гарантує надання широкого спектру державних послуг населенню на платформі обміну даними «Цифровий міст», «Цифрова екологія» та екосистемі «Бір».

Впровадження блокчейн-технологій у фінансово-економічний сектор призводить до інтенсивної трансформації бізнес-процесів. Тенденція розвитку інформаційно-комунікаційного вузла двох транспортних коридорів (Північ-Південь, Схід-Захід), що проходять через територію країни, значно підвищує конкурентоспроможність Азербайджану у світовій економіці. Цифрова трансформація несе потенційні ризики порушення приватності та конфіденційності даних, а також виникнення кризових явищ у ринковій економіці.

Ключові слова: блокчейн-технології, цифрові технології, інформаційно-комунікаційний хаб, екосистемні моделі, цифрова екологія.

Introduction. The exponential growth in the quantity and quality of information flows, closely linked to the overall rise of information and communication technologies (ICT) in society, naturally transforms many essential constructs of public administration. In particular, the process of integrating digital technologies into various spheres of life and activity demands a qualitatively new approach to governance. Digital development encompasses innovations, which in turn represent the implementation of new ideas, methods, and technologies to improve existing processes and create new opportunities for effective growth. In this context, digital development becomes a strategic priority for any state seeking to secure a prominent position in the modern world.

The introduction of digital technologies in Azerbaijan guarantees success not only in the economic, social, and defense sectors but also opens up new opportunities for innovation across nearly all areas of state activity, from production and management to healthcare, education, and culture. Public administration of digital transformation involves horizon scanning, taking into account the accelerating pace of change in digital technologies. Azerbaijan, which has set ambitious goals for innovative breakthroughs in the context of the digital transformation of the global economy, views high-tech tools as an effective resource for enhancing its competitiveness on the international stage. By the end of 2025, the republic is expected to complete the construction of a new network of trunk cables, ensuring alternatives to the trunk fiber-optic transport network of Aztelecom LLC [2].

Strategically located in a geopolitically significant area at the intersection of international transport and communication corridors North-South and East-West, Azerbaijan officially became a digital hub for these key international logistics routes in 2023. In February 2023, agreements were reached between Azerbaijan and Ukraine regarding transport infrastructure and cargo transportation along the Middle Corridor of the East-West International Transport Corridor [7].

Cross-cutting Digital Technologies. At the present stage, strategic forecasting and the development of new approaches to the implementation of digital technologies are being carried out within the framework of cross-cutting digital technologies as key scientific and technological directions that simultaneously encompass several trends. A basis for pragmatic optimism in assessing state governance in Azerbaijan's digital development is the

population's access to the Internet. According to the International Telecommunication Union (ITU), as of March 2025, the Internet was available to 95% of the urban population and 82% of the rural population in Azerbaijan. These figures significantly exceed the global average – 83% for urban and less than 50% for rural areas [2].

E-Government Index and International Recognition. The UN's E-Government Development Index (EGDI), Online Service Index, and the World Bank's GovTech Maturity Index all demonstrate Azerbaijan's high ranking in digital development. According to the latest UN study "Accelerating Digital Transformation for Sustainable Development," Azerbaijan was, for the first time, included among the countries with the highest index level – alongside Kuwait, Brunei Darussalam, and Qatar. Between 2022 and 2024, Azerbaijan increased its EGDI by 28%, entering the category of countries with a "Very High EGDI" [10]. This index reflects the development of services that enable active communication between citizens and the government.

E-Government in Azerbaijan. The political leadership of Azerbaijan views the mediating function of e-government as a means of ensuring a public space in which the rights, freedoms, and interests of citizens are realized. The state guarantees a wide range of government services through the use of ICT. Over 150 information systems and more than 70 government bodies are connected to the national data exchange platform "Digital Bridge." By the end of 2024, the platform's throughput increased by 73%, and currently it processes 1.5 million transactions daily [4].

The most important mediating structure of innovative public administration in Azerbaijan is e-government. Azerbaijan and Ukraine are developing cooperation in the field of e-government and innovation [2]. This international cooperation strengthens stability and reduces the likelihood of information security threats, fostering the digital transformation of both nations.

Blockchain Technologies. The financial and economic sector forms a distinct segment of Azerbaijan's virtual space. The integration of blockchain technologies in the financial sector promotes innovative security solutions and provides businesses and individuals with reliable access to digital currencies. Azerbaijan's banking system underwent rapid digital transformation, expanding the range of electronic financial services. Blockchain helped overcome limitations of traditional financial systems and introduced

decentralized finance (DeFi) [5]. Transparency and security in financial operations are ensured by the use of digital currencies such as Bitcoin and Ethereum. The first digital ecosystem, “Bir,” was built on these technologies and has over 5 million users—effectively every second citizen uses Bir platforms. With an average national age of 33, the younger population quickly adapts to digital innovations, enabling their adoption across the economy.

Functioning of Network Platforms. One of the clearest advantages of Azerbaijan’s fast digital adaptation is the operation of network platforms. As of early 2025, per President Ilham Aliyev’s decree, the country is launching the “Digital Ecology” information system [7]. This system aims to improve the efficiency, responsiveness, and transparency of the Ministry of Ecology and Natural Resources. It ensures accessibility of digital services and facilitates communication between individuals, legal entities, and the state. Ecosystem models based on IT allow for joint networked activities of Azerbaijani state structures.

Digital Development Concept of the Republic of Azerbaijan. Given the accelerating pace of technological change and innovation, Azerbaijan’s leadership supports a digital strategy capable of identifying emerging technologies. To ensure flexible forecasting over both the near and distant future, President Ilham Aliyev approved the “Digital Development Concept of the Republic of Azerbaijan” on January 16, 2025 [5]. This Concept aims to improve governance, boost economic growth, and raise quality of life through the use of digital technologies.

Digital transformation will impact all levels of government and every citizen. A key principle of the Azerbaijani concept is digital inclusion, which aims to eliminate the gap in access to and usage of digital technologies. This ensures that all individuals and communities—including the most underserved—have access to ICT and are informed about current and secure digital services. The Concept emphasizes improving digital literacy and enhancing cooperation among public, private, and nonprofit sectors.

The adopted Concept encourages the development of strategic digital solutions for sustainable national development. It acknowledges the risks of a decentralized, high-speed, and freely accessible digital network, potentially beyond the state’s control. The Concept outlines support for digital systems and processes, thematic digital technology programs, and knowledge management in various fields.

It recognizes digital technologies as a key driver of socio-economic development, enabling the creation of an innovative, sustainable, and competitive society. Next-gen digital technologies will accelerate Azerbaijan’s integration into the global digital ecosystem. The UN Digital Strategy (2022–2025) defines such an ecosystem as a complex, dynamic, interconnected network of participants and systems functioning as a unified whole [6]. This synergy creates favorable conditions for digital innovation across all areas of life.

International Experience and Conclusion. Azerbaijan thoroughly studied international digital transformation experiences, especially the strategies of digital leaders such as Estonia, Singapore, Turkey, and South Korea. These countries show that communities are informed about ICT and safe digital services, and have access to them.

Conclusions. The solutions approved within the Digital Development Concept will contribute to harmonizing the interests of citizens, businesses, and the state. The state is creating a national digital architecture consisting of three strategic pillars:

- the development of platforms for digital services and solutions in various sectors;
- the digitalization of internal governance processes through the use of digital technologies;
- enhancing transparency for efficient resource utilization and support of high economic growth rates.

The conducted research allows us to conclude that the prospects for digital transformation in Azerbaijan are defined by **the following key points:**

1. Digital development in the Azerbaijani state improves the well-being of the population, social protection, and a decent standard of living for citizens. It creates conditions for the effective development of the economy, freedom of entrepreneurship, and also helps prevent monopolies and unfair competition in economic relations.

2. The priority areas of digital transformation in Azerbaijan include: the improvement of public services and the implementation of advanced technologies; the digitalization of public administration; the strengthening of digital trust and development of human capital; and the support of digital technologies in the private sector.

3. Digital inclusion eliminates the gap in access to and usage of digital technologies in the Republic of Azerbaijan.

4. Digital transformation also carries certain risks and can be disruptive. There is always

the risk of insufficient capacity and resources of the state to achieve the goals of the digital strategy. Without targeted and responsible public administration, digital transformation can lead to such risks as the loss of transparency and regulation of the entire state system, as well as the development of crisis phenomena in the market economy.

5. A particularly threatening factor is the growing social inequality, which inevitably becomes a trigger for increased political instability. Addressing current risks and forming an adequate response to them will allow for better preparation for more long-term threats.

6. An important factor in preventing the risks of digital transformation could be the work of public bodies in forming digital thinking –

both in the psychological aspect of citizens' beliefs and behavioral patterns, and among civil servants, who often still use outdated information technologies to solve modern problems.

7. It would be advisable for higher education institutions that train public administrators and political scientists to develop programs on the application of digital technologies in specific thematic areas and to introduce special courses on knowledge management in the field of digital development. This proposal becomes especially relevant given the rapid development of artificial intelligence. At present, the agenda includes forecasting both current and future risks and potential threats in the long term, even if they may seem fantastical today.

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