
Digitalization in Eurasia: Tool for Regional Resilience

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ABSTRACT

Post-Soviet Eurasian countries continue to suffer under a system of extensive corruption as well as economic and social disparities inherited from the Soviet era. This article discusses how Eurasian countries can transform their dysfunctional structures by taking advantage of digital opportunities and integrate the region into the global economy as the world's next information technology (IT) hub. Further, it analyzes the potential of digital transformation to transform Eurasia into a region where transparency, equality, and the rule of law are realized as core values. Finally, the article maps out the possible steps of the digital transformation process for the region and gives examples from Eurasian countries' efforts towards that end.

INTRODUCTION

More than thirty years after the collapse of the Soviet Union, the post-Soviet countries of Eurasia continue to struggle under dysfunctional structures and corrupt institutions inherited from that era. Extensive corruption, a large informal economy, dependence on the export of natural resources, economic disparities, and social inequalities are the main characteristics of this post-Soviet legacy. While the most tragic form of this “post-Soviet disease” has been seen in Russia, several other countries in Eurasia have suffered from similar experiences to a greater or lesser extent.

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According to the 2022 Corruption Perceptions Index (CPI), which covers 180 countries and territories, Eastern Europe and Central Asia are tied for second worst performing regions owing to high levels of public sector corruption.¹ On a scale of zero (highly corrupt) to 100 (very clean), the average score of the region's countries have been found to be as low as 35, despite some relatively well-performing Eurasian countries such as Georgia and Armenia.²

The region's vicious cycle of corruption is the result of a combination of factors such as impaired democratic institutions and mechanisms, shrinking civic space, instability, and restricted freedoms.³ Eurasia has long ranked among the worst in terms of freedom and political rights according to Freedom House's *Freedom in the World* reports that analyze countries on adherence to the rule of law, organizational and individual rights, the functioning of government, and political participation.⁴

Gender inequality is another persistent issue in the region. While Eurasian countries are dedicated to empowering women and promoting gender equality through laws and initiatives, the region's deep-rooted discriminatory social norms thwart these efforts and hinder progress. According to the Organisation for Economic Co-operation and Development Development Centre's Social Institutions and Gender Index (SIGI) from 2019, it would take the region almost 100 years to achieve gender equality unless a social transformation occurs and changes established gender norms.⁵

Over the years, various international organizations and development agencies have made continuous efforts to overcome the persistent effects of this post-Soviet trauma and create the desired social and economic transformation in the region. Nevertheless, the trauma has constantly reproduced itself, which has led to significant—though temporary—achievements. For example, former Ukrainian President Victor Yushchenko's many reforms aimed at integrating Ukraine into Europe were reversed during Victor Yanukovich's presidency.⁶

However, there is now an enormous opportunity for Eurasian countries to free themselves of the long-standing issues that have haunted them for decades. This opportunity is digital transformation, which is an ongoing process of revolutionizing existing concepts, businesses, and institutions through innovation and the use of digital technologies. It means more than just the simple act of digitizing analog processes; it involves a fundamental shift in mindset toward innovation. Digital transformation presents enormous potential for countries that leverage new technologies to transform their dysfunctional structures and achieve competitive advantages in global

markets. For the post-Soviet countries of Eurasia, this is an opportunity to claim a place in the world economy by using digitalization as a vehicle for growth and economic development.

DIGITALIZATION AND THE PROMISE OF TRANSPARENCY AND ACCOUNTABILITY

Digital transformation is, however, not just about economic development. It demands changes in outlook, culture, and values. Digitalization provides a means to achieve transparency and equality, and thereby represents an opportunity for more accountable governance adhering to the rule of law as well as for an inclusive society. Eurasian countries can take advantage of digitalization to fight the region's long-term problem of corruption. On the one hand, digitalization of government procurement, tax administration, and audit processes has the potential to increase the integrity and transparency of public institutions by reducing opportunities for public corruption and misuse of discretionary power. On the other hand, increased digital literacy of the population would help civil society better understand these processes and empower them to hold public officials accountable for any misuse of power.⁷ The region's countries can also utilize digitalization as a tool to reach wider communities and create equal opportunities for disadvantaged groups, which the region has long neglected. Digitalization of access to public services and provision of online education and training programs are the most prominent examples. This would enable people with limited mobility or means to benefit from opportunities they otherwise would have no access to.

While digital transformation on its own cannot solve all the deep-rooted problems of Eurasia, it could pave the way for concrete regional transformation and integration of the region into the international community. In this process, Eurasia's well-educated young population and abundance of close partnerships with international financial institutions and development agencies give the region an upper hand. In addition, the cooperation among Eurasian countries to turning the region into a global digital hub keeps them strong against any future challenges by creating solidarity.

REGIONAL CASE STUDIES

Each Eurasian country experiences digital transformation at its own pace. Some of them have already made great progress, while others are still at the initial stages of the process.

Estonia is the leader of the European digital transformation in many aspects, with its population above the EU average in digital skills and the government's successful provision of online public services.⁸ 99 percent of Estonia's public services are accessible online, which makes it possible for the country's citizens to access their health records, pay taxes, use banking services, and even vote using digital ID cards.⁹ Estonia also has an e-residency system that allows non-residents to start businesses in the country without physically living there.¹⁰ Estonia's strong digital infrastructure, along with its e-residency system, digital nomad visa initiative, and favorable tax rates, has created a start-up culture and attracted various technology companies to the country.¹¹

Kazakhstan is another country leading digital transformation. In 2017, the country launched the Digital Kazakhstan State Program to facilitate its transition to a digital state and accelerate the technological modernization and development of the economy.¹² Tremendous progress has been made under the program toward the digitalization of government services and several economic sectors, including energy, transportation, agriculture, and finance. The country has been particularly successful in the digital transformation of financial systems with its e-commerce banking application Kaspi.¹³ The application has become not only a driver of innovation in finance, but also an effective tool in achieving mass digital literacy in the country.

Ukraine has also made good progress toward digital transformation despite its ongoing conflict with Russia. The process in the country started well before the Russian invasion and has continued despite it—though the war has caused severe disruptions to the process. Ukraine has achieved particular success in the digitalization of public services. For example, its digital government brand, Diia, which is comprised of a mobile application and an online portal for public services, is considered one of the best government applications in the world.¹⁴ The application provides Ukrainian citizens with more than twenty online public services, such as tax payment and business registration.¹⁵ Through Diia, Ukrainians can also access various important documents such as their ID card, driver's license, birth certificate, and tax number.¹⁶ In addition to the convenience it provides to citizens, digital public services can reduce the possibility of corruption by eliminating direct contact between public officials and citizens.

Digitalization has also proved useful to the country during the war by ensuring the continuity of public services as well as providing access to accurate information. In addition to supporting civilians, the use of technology has helped Ukraine on the battlefield. Technological solutions such

as eVorog and the STOP Russian War bot have been used by Ukrainian citizens and its military to report locations of enemy troops, document Russian war crimes, and record damages to civilian properties.¹⁷ Additionally, Ukraine's Ministry of Digital Transformation has initiated the creation of an IT army, with more than 250,000 volunteers from Ukraine and around the world, to assist the country in countering Russian cyber-attacks and disinformation campaigns.¹⁸ Ukraine's ongoing digital transformation can help the country build back better after the conflict by facilitating the planning, implementation, and monitoring of post-war recovery measures and easing the process for citizens through digital solutions. Thanks to Ukraine's continuous investment in IT, the digital infrastructure of the country is becoming increasingly less vulnerable and will likely be ready to support the nation's full digital transformation after the war.

Unlike the previous examples, some other Eurasian countries began digitalizing relatively late; nonetheless, they are enjoying modest success today. By way of example, Armenia adopted its *Digitalization Strategy 2021-2025* in 2021, and since then has significantly modernized its public sector functions through various digital solutions. Azerbaijan has just begun to train high-level IT specialists in regional centers with the help of the European Bank for Reconstruction and Development (EBRD). Tajikistan is now on the verge of creating the country's first technology park, which would enable academics, research institutions, industry groups, and financial institutions to work together to develop new technologies. While some of the region's countries are falling behind in the process, given the pace of advancement in digitalization, the digital transformation of Eurasia will likely become inevitable in a few years. The question is whether the region's countries will be able to harness the opportunity to realize their full potential and distinguish Eurasia as the world's next technology hub.

ENVISIONING EFFECTIVE IMPLEMENTATION OF DIGITALIZATION: DEFINING A DIGITAL STRATEGY

To implement a successful digital transformation, Eurasian countries need to take certain steps. First, they must establish a well-defined national digital strategy in cooperation with leading industry experts and other stakeholders, such as IT associations, international financial institutions, and development agencies. This strategy should cover a series of fundamental aspects, including the construction of digital infrastructure, the promotion of digital literacy, the digitalization of public services, and the digital transformation of businesses. The support of international financial institutions

and global development agencies such as the World Bank, the United States Agency for International Development (USAID), and EBRD is crucial for formulating, financing, and effectively implementing such a strategy. Any measures taken under this strategy must be applied evenly across the country to ensure consistent progress and must extend to every branch of the public and private sectors. It is also essential to embrace an inclusive approach and take special care to involve the entire population in the process, as was done in Azerbaijan and Georgia. In those countries, EBRD-supported IT hubs successfully helped young people gain advanced IT skills for future employment.¹⁹

ENVISIONING EFFECTIVE IMPLEMENTATION OF DIGITALIZATION: EDUCATING THE PUBLIC ON DIGITAL LITERACY

The second step should be educating the public on digital literacy because a digitally aware and skilled population is necessary for a country's digital development. The countries of the region should ensure that their national education systems respond to the demands of the digital age. The knowledge and skills necessary to drive countries' digital transformation forward, including technological literacy and foreign language skills, should be integrated into the school curriculum and promoted at all stages of education. Such efforts should be complemented by improvement of the technological infrastructure in schools, starting from the provision of adequate internet access as well as technological equipment. Ukraine has recognized the importance of education for an effective digital transformation, providing almost 1.5 million Ukrainians with basic digital skills through Diia.²⁰ For those who either do not know how to use the system or do not have internet access, 6,000 libraries across the country have been equipped with "digital hubs," where people are granted free access to the system and provided with training.

ENVISIONING EFFECTIVE IMPLEMENTATION OF DIGITALIZATION: TRANSITION TO A KNOWLEDGE ECONOMY

The third step should be the transition from a natural resource-based industrial economy to a knowledge economy. The development of a knowledge economy necessitates a strong domestic IT industry with skilled human capital. A competitive IT industry integrated into the global market would strengthen cross-border relationships with global businesses and organizations as well as international governments, eventually leading

to a wider regional transformation. The IT industry also has the potential to create a more inclusive and diverse labor market. The nature of work in the IT industry is knowledge-intensive rather than labor-intensive and can be performed remotely, which makes employment more accessible to people with disabilities and to those from distant locations who are not able to relocate.

To achieve this economic transition, Eurasian countries require investment in human capital. Currently, Eurasian countries do not have the necessary number of skilled IT professionals required to develop strong IT industries, which severely limits the region's digital transformation capability. Major global technology companies can address this issue by providing training to local specialists, thereby acquainting the domestic IT workforce with the operation of international technology markets and business practices while granting them a global perspective on digital transformation. EBRD and the German Agency for International Cooperation (GIZ) are examples of two companies that provide such training.

Nevertheless, the mission does not end with the training of local IT professionals. Retaining the newly created workforce in the country is equally important. To that end, fostering a strong sense of national identity among youth and creating a supportive professional development environment is pivotal to preventing brain drain from the region. This newly constituted community of IT professionals would not only lay the groundwork for a new economy, but also help foment a change of outlook that further translates to societal change. The well-educated and socially aware young generation would shape the future of their countries and the region as a whole by embracing the liberal values they encounter during their interactions with the Western world and choosing transparency over secrecy, accountability over corruption, and equality over discrimination. Financially, the development of a competitive domestic IT industry to realize the transition to a knowledge-based economy demands investment. This requires Eurasian countries to attract new companies and investors to the industry by adopting favorable tax regimes and legal frameworks that support IT businesses. Such measures would also help to draw foreign investment, know-how, capital, and IT businesses to Eurasia, and link the domestic economy to the global supply chain. Building a venture ecosystem where local start-ups are adequately supported carries further importance for a growing IT industry. For such an ecosystem to flourish and become a driver of innovation in the country, attracting both local and global investment to those businesses is critical.

ENVISIONING EFFECTIVE IMPLEMENTATION OF DIGITALIZATION: EXPORTING DIGITAL TRANSFORMATION

The last step of the process is to become exporters of digital transformation. As a leading nation in digitalization, Ukraine has already taken advantage of this opportunity. As evidence of the export potential of Ukraine's model, Estonia developed their state application mRiik based on Ukraine's Diia.²¹ Furthermore, USAID has committed to collaborating with Ukraine to extend the country's digital success to the agency's other partner countries. USAID plans to allocate at least USD 650,000 to help partner countries build a digital infrastructure similar to Diia and accelerate their transformation.²²

In addition to the tremendous success of Diia, Ukraine has also had continuous growth in IT exports. In 2021, Ukraine's IT exports increased by 36 percent compared to the previous year, which amounted to a total of USD 6.8 billion and 10 percent of total exports.²³ On average, the country's exports of IT and software services have shown a 27 percent annual growth for four consecutive years.²⁴ The IT exports market currently accounts for nearly half of Ukraine's service exports and is one of the very few fields that shows positive growth despite the war.²⁵ The country's large population of young people with higher technical education and English language skills, the visa-free regime with the EU, and its convenient tax regime for the IT industry have played an important role in Ukraine's particular success in digital transformation. The example of Ukraine proves that Eurasian countries, with their young and educated populations, are not only able to author their own digital transformation, but they can also play a role in other countries' digitalization provided they create the right environment for a successful digital transformation by taking the necessary steps.

INEVITABLE CHALLENGES

Digital transformation is not an easy process and there are several issues and challenges to be dealt with along the way. One fundamental challenge is digital illiteracy. In Eurasia today, countries across the region have strikingly different rates of digital literacy; while there are countries with a very high level of digital literacy such as Estonia, there are also countries where the majority of the population lacks even basic digital skills, such as Turkmenistan and Tajikistan. For many of those with low digital literacy, the major reasons are insufficient broadband infrastructure and a failure by governments to educate the population on digital skills, as digital

literacy was not a priority for these governments until recently. In some Eurasian countries, access to the internet is still an issue due to inadequate digital infrastructure. To address this, international institutions have introduced some initiatives in the region. An example of this is the World Bank's ongoing Digital CASA Regional Program approved by the organization in 2018.²⁶ The project aims to narrow the digital gap in Central Asia by developing a regionally integrated digital infrastructure and creating opportunities for digital skills development.²⁷

Another critical issue relates to the financial aspect of digital transformation. The region experiences difficulties in attracting international investments to fund its digital transformation process for several reasons: geography, ongoing conflicts, and a lack of resource endowments and investment-friendly legislation. To address this, it is essential that countries amend their regulatory frameworks to better protect foreign investment. Digital transformation funds and development initiatives from international financial institutions and development agencies are equally important in that respect.

Moreover, "information disorders" such as misinformation and disinformation are one of the downsides of a digitalized world.²⁸ Widespread digital literacy and a well-developed digital infrastructure lead to the heavy use of social networks, through which false and misleading information disseminates rapidly. In fact, according to studies, "fake news" spreads faster and more widely than the truth.²⁹ The spread of such information could have a range of detrimental effects such as the polarization of public opinion, endangerment of the health and security of the population, and violations of human rights. Dealing with misinformation is onerous even for the world's most developed countries; it is an extremely difficult challenge for the transitioning countries of Eurasia. To address this issue, the region's countries should take early action through public awareness campaigns, education, and effective coordination with international governments, technology companies, and civil society.

A related risk that comes along with digitalization is the infringement of human rights through digital means. As communication and services in a country are digitalized, large volumes of citizens' personal data are being collected by their respective governments and technology companies. Public authorities' abuse of digital technologies and the data acquired through them may amount to serious violations of human rights and result in increased discrimination and inequality in society, as can be seen in Russia. For years, the country has been using a digital surveillance system called Systema Operativno-Razisknikh Meropriaty (SORM) to

track political opposition.³⁰ The system first appeared in the 1990s and since then has been used by Russian law enforcement and security agencies to intercept communication networks.³¹ China is another country that used advanced digital surveillance technology for profiling. In that case, the technology was used to monitor, track, and ultimately detain the Uyghur Muslim minority group, which may amount to crimes against humanity.³²

Given that many Eurasian countries have already failed in ensuring equality and inclusion, digital authoritarianism proves a very real risk. In terms of prevention, institutions and development agencies that fund digital projects ought to hold governments accountable to their human rights obligations. Governments should also adopt legal frameworks that regulate the use of personal data.

CONCLUSION

Eurasia is finally on the brink of recovering from the post-Soviet disease of corrupt institutions and inequalities that have infected the region. However, this recovery will not come without effort and a change in mindset. Eurasian countries must be willing to do what it takes to achieve region-wide digital resilience. The first step in this process is to develop a solid digital transformation strategy together with industry experts, international organizations, and other stakeholders. This step should be followed by educating the population on digital literacy, which primarily requires the integration of digital technologies into school curriculums. After improving the region's digital awareness and skills, the third step is to train local IT specialists who will not only contribute to the region's economy, but will also eventually shape norms and attitudes for the better; they will exchange the post-Soviet legacy with the liberal values of the free world, thereby facilitating Eurasia's integration into the global community. Lastly, the region can become an exporter of digitalization and contribute to other nations' digital transformation in addition to achieving its own. If Eurasian countries take these necessary steps, they can finally achieve digital resilience in addition to becoming a role model for the world's other transitioning countries. *f*

ENDNOTES

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