



# Digitally inclusive recovery from COVID-19 pandemic in Ukraine

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**Authors:** Maksym Klyuchar, Olena Ivanova, Ildar Gazizullin, Iryna Kupchynska.

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# Table of Contents

|   |    |
|---|----|
| <b>Executive Summary</b> .....  | 4  |
| <b>Introduction</b> .....   | 6  |
| <b>Key challenges for digital transformation</b> .....                    | 8  |
| Overview of digitalization trends .....                                   | 8  |
| Accessibility of eServices .....  | 11 |
| eServices users in Ukraine .....  | 15 |
| <b>Lessons learned from the initial response to COVID-19 impact</b> ..... | 17 |
| Digital policy .....  | 17 |
| Drivers for digital transformation .....                                  | 19 |
| Hurdles to digitalization .....   | 21 |
| <b>Recommendations</b> .....  | 23 |
| <b>Conclusions</b> .....  | 25 |



# Executive Summary

The purpose of this brief is to contribute to policy consultations on digitalizing public services in order to formulate policy responses that can most effectively address the needs of Ukrainian society's most vulnerable and help the country to succeed on its path of human development. This brief presents reflections on lessons learned from using digital solutions to address the COVID-19 pandemic challenges of government-citizen interactions, focusing on the 'leave no one behind' principle in the delivery of eServices. The authors of this document conclude that inclusive eServices can help Ukraine deliver on its human rights commitments by reducing poverty, empowering women and people with disabilities, and ensuring access to justice.

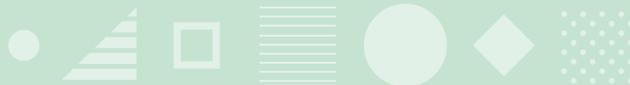
This analytical review was written before the start of the full-scale war in Ukraine. However, the conclusions and recommendations for the implementation of inclusive digitalization policies remain relevant during and after the war.

The COVID-19 pandemic has brought economic decline and stretched the healthcare system and other critical public services, but it has also created opportunities for introducing digital solutions that would have taken much longer in "the old normal." The launch of digital applications allowed the Government of Ukraine to demonstrate tangible wins in delivering on the "Your State in Your Smartphone" commitment, which is to ensure that 100% of public services become available to Ukrainians online by 2024. The speed at which digitalization happened, however, came at the price of curtailing dialogue with civil society organizations, using mass user testing without deliberately involving more vulnerable social groups, and providing limited public information about the architecture of the digital solutions.

The Ukrainian Government's strong political will for rapid digital transformation reform faced a number of barriers, including; vested interests opposing mainstreaming digitalization policy at various State institutions; low capacity to manage digital solutions at the local level; and, no practice considering the specific needs and priorities of women and men from diverse groups, especially those facing social or other disadvantages in accessing Government services and technology. Digital transformation public policy should increasingly incorporate principles that underpin gender equality and human rights-based approach in order to prevent diverse social groups from being left behind during lockdown periods.

#### Key Policy Recommendations:

- **Enable greater accessibility to eService delivery platforms**, e.g., by implementing the National Strategy for a Barrier-Free Environment.
  - **Apply the “leave no one behind” principle in eService design** by engaging potential users from diverse groups, especially the most disadvantaged and vulnerable, in eServices design to provide support that responds to their needs.
  - **Keep the traditional, paper-based modality of service provision**, so that the hesitant, economically disadvantaged, elderly and other categories of users can get quality advice and, when needed, access to eServices.
- **Develop comprehensive connectivity solutions in distant communities in partnership with the private sector** to enable both Internet infrastructure and increased digital literacy for the dwellers in these areas.
  - **Ensure that eService platforms have State-issued cyber-tech security certifications** to establish their credibility among potential users.
  - **Develop policies for privacy, information security, personal data protection, and accountability in data exchange between public authorities** for upcoming digital solutions.
  - **Disclose documentation, specifications, and information protection mechanisms in flagship digital transformation products** to increase support for digitalization reform from major stakeholders, such as NGOs, businesses, and the international community.



# Introduction

Ukraine expedited the adoption of digital solutions by the public and businesses during the ongoing COVID-19 pandemic. Yet, the experience of other states suggests that even the most technologically advanced were not *fully ready* for extended lockdowns, or to deliver services to citizens without interruptions, so as to enable the continuation of education services and economic activity across sectors online. Pandemic policy responses made it clear that equitable digital transformation<sup>1</sup> would require: 1) equal access of diverse groups to technology, leaving no one behind; 2) development of digital literacy skills; and, 3) overcoming economic barriers for using digital services by women and men<sup>2</sup>, especially the most vulnerable.

Ukraine had its first confirmed case of COVID-19 on 3 March 2020, and by 12 March the country was under its first strict lockdown<sup>3</sup>. Restrictive at the beginning, the quarantine measures were called to “flatten the curve” of new infections and “buy time” for the State to prepare the healthcare system for emergency response.

For example, on 23 March, the Ministry of Education and Science issued instructions<sup>4</sup> to subnational education departments and school principals on introducing distance education (de-facto, virtual schooling) in response to the need to continue the educational process<sup>5</sup>.

1 <https://www.ua.undp.org/content/ukraine/en/home/blog/2020/how-COVID-19-is-nudging-Ukraine-towards-digital-transformation.html>

2 ‘Men’ and ‘women’ define human beings, are an acceptable way to indicate personhood, and can refer to people with different gender identities (for more information, please see UNDP Guidance “10 principles of gender-responsive communications” [https://www.ua.undp.org/content/ukraine/en/home/library/womens\\_empowerment/10-principles-of-gender-responsive-communications.html.html](https://www.ua.undp.org/content/ukraine/en/home/library/womens_empowerment/10-principles-of-gender-responsive-communications.html.html)).

3 <https://www.kmu.gov.ua/npas/pro-zapobigannya-poshim110320rennyu-na-teritoriyi-ukrayini-koronavirusu-COVID-19>

4 <https://mon.gov.ua/ua/npa/shodo-organizaciyi-osvitnogo-procesu-v-zakladah-zagalnoyi-serednoyi-osviti-pid-chas-karantynu>

5 <https://cedos.org.ua/researches/osvita-v-umovah-pandemiyi-analiz-problem-i-naslidkiv/>

Ukraine had major prerequisites for addressing pandemic challenges through digitalization already in place, including institutional, regulatory, financial, and political foundations (see *Lessons learned*). Ukraine entered the COVID-19 pandemic in March 2020 with a robust foundation in electronic governance. The new Ministry of Digital Transformation (MDT) team had a seven-month “grace period” for implementing their plans before the pandemic came to the country. Ukraine had to rely on the IT and human capital developed by that time, and also manage multiple risks and governance vulnerabilities present before the pandemic.

This report is based on initial lessons learned in creating a foundation for an inclusive, digitalization-based recovery, based on providing eServices in line with values “*Build resilient infrastructure, promote sustainable industrialization, and foster innovation*” (Sustainable Development Goal [SDG] 9) and “*Reduced inequality*” (SDG 10).

UNDP Digital Strategy 2022-2025 sets among guiding principles a people-centred digital transformation, which should be to build a more open, transparent, and accessible society that leaves no one behind<sup>6</sup>.

It is through the lens of multidimensional accessibility, gender equality, and a human rights-based approach (HRBA) that developing eServices should be undertaken to make Ukraine fit for the post-pandemic world.



6 <https://digitalstrategy.undp.org/>



# Key challenges for digital transformation

## Overview of digitalization trends

Ukraine's 2020 Voluntary National Review (VNR)<sup>7</sup> noted progress towards achieving the Sustainable Development Goals and assessed progress on "Ensure access to the Internet, especially in rural areas" (Target 9.6) as "highly likely to be achieved", making it one of the few targets under "Industry, Innovation and Infrastructure" (SDG 9) seen as attainable by 2030.

The VNR also emphasized the need for efforts to digitally transform and enhance the sphere of education (SDG 4), economic policies to consider digital transformation and related changes to

the workplace (SDG 8), and strengthen protection of the rights and freedoms of children to prevent violence, exploitation, and abuse in the digital environment (SDG 16). Also, enhancing the use of information communication technology (ICT) can promote the empowerment of women (SDG 5).

Finally, the VNR referred to enabling factors that could significantly boost attaining SDGs, such as economic growth based, in part, on Industry 4.0.

<sup>7</sup> [https://sustainabledevelopment.un.org/content/documents/26295VNR\\_2020\\_Ukraine\\_Report.pdf](https://sustainabledevelopment.un.org/content/documents/26295VNR_2020_Ukraine_Report.pdf)

Ukraine has been proactively negotiating the path of digital transformation in citizen-government interactions, driven by social and governance reforms, since 2014. The legal foundations for the administrative service-related reform were laid in 2012<sup>8</sup> with fully digitalized eServices or digitally-enhanced formats for individuals and businesses operationalized in 2016. Before this, eServices and electronic document circulation were mostly limited to such areas as banking<sup>9</sup> and tax-related issues.<sup>10</sup>

Full-scale provision of citizen-oriented eServices began after the State Agency for eGovernance was established in 2014<sup>11</sup> and received its most potent political impetus in mid-2019 as the visionary “State in the Smartphone” initiative took shape under the newly formed MDT’s leadership.

According to the UN E-Government Development Index (EGDI), in 2020<sup>12</sup> Ukraine, with an index 0.71, was ranked third amongst 51 lower-middle-income countries and 69<sup>th</sup> in overall ranking. In a similar ranking, the Network Readiness Index,<sup>13</sup> Ukraine placed 64<sup>th</sup> in 2020 globally, and second in the lower-middle-income countries group.

8 <https://zakon.rada.gov.ua/laws/show/5203-17#Text>

9 <https://zakon.rada.gov.ua/laws/show/z0419-07#Text>

10 [http://search.ligazakon.ua/l\\_doc2.nsf/link1/GDP16293.html](http://search.ligazakon.ua/l_doc2.nsf/link1/GDP16293.html)

11 Some other policy steps included: The Strategy of Development Information Society in Ukraine (Cabinet of Ministers Decree #386-p on 15 May 2013) <https://www.kmu.gov.ua/npas/246420577?fbclid=IwAR2kZBi6z77GOUlqhkOrFCK63WBVrYsKPz8hAoEz55qybOJ01MCCQhW7LuU>. The Concept Paper and the Action Plan on the Development of Digital Economy and Society of Ukraine for 2018-2020 (Cabinet of Ministers Decree #67-p on 17 January 2018) <https://zakon.rada.gov.ua/laws/show/67-2018-%D1%80#Text>. The Concept Paper and the Action Plan on the Development of Electronic Democracy in Ukraine (Cabinet of Ministers Decree #797-p on 8 November 2017) <https://zakon.rada.gov.ua/laws/show/797-2017-%D1%80#Text>

12 <https://publicadministration.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2020>

13 <https://networkreadinessindex.org/wp-content/uploads/2020/10/NRI-2020-Final-Report-October2020.pdf>

**Table 1.**  
Ukraine's digital snapshot

|  |   |
|--|---|
| Internet users, % of population                            | 63% (2018)  |
| Internet at home (urban)                                   | 72% (2018)  |
| Internet at home (rural)                                   | 41% (2018)  |
| Households with a PC at home                               | 62% (2018)  |
| Villages without quality broadband                         | 65% (2020)  |
| Internet users, women                                      | 60% (2018)  |
| Internet users, men  | 66% (2018)  |
| Primary source of news <sup>14</sup>                       | 63% social media; 48% websites; 46% TV (2021)                   |
| Mobile telephone penetration                               | 139% (2021)   |
| 4G-enabled connection                                      | 78% (2019)  |
| Internet connection growth                                 | +7.3% (2020-2021)   |
| Social media use growth                                    | +15.8% (2020-2021)  |
| Device type (based on internet traffic)                    | 30.7% smartphone; 68.2% laptop / PC;<br>1.1% tablet (2019-2020) |
| People with digital skills below basic level <sup>15</sup> | 47.8% (2021)  |

**Sources:** (The World Bank, 2018), (The International Telecommunication Union (ITU), 2020), (We Are Social & Hootsuite, 2021), (United Nations Department of Economic and Social Affairs, 2020), (Ministry of Digital Transformation of Ukraine, 2020). UNDP (2021) *How to design a human-centred digital transformation initiative: An emerging case study from Ukraine*<sup>16</sup>.

<sup>14</sup> <https://internews.in.ua/wp-content/uploads/2021/11/Opytuvannya-stavlennya-naselennya-do-media-ta-spozhyvannya-riznyh-ty piv-media-2021.pdf>

<sup>15</sup> [https://osvita.dija.gov.ua/uploads/0/2623-research\\_eng\\_2021.pdf](https://osvita.dija.gov.ua/uploads/0/2623-research_eng_2021.pdf)

<sup>16</sup> <https://www.undp.org/publications/how-design-human-centered-digital-transformation-initiative-emerging-case-study>

## Accessibility of eServices

The COVID-19 pandemic in Ukraine and the availability of new electronic service platforms, such as the Diia ecosystem, have increased the demand for eServices, partly due to pent-up demand for services that could not be satisfied through in-person appointments and for paper-based processes from State institutions and service centres that went into quarantine. Another reason for the increase in eService users were COVID-related government restrictions and regulations (e.g., quasi-mandatory use of COVID vaccination certificates accessible via Diia web and mobile platforms). When Ukrainians increasingly turned to eService delivery (such as portals, apps, and data registries frontends), the issue of eService *multidimensional accessibility* for diverse population groups has dramatically gained importance (see box on barriers [below]), becoming viewed not merely as compliance with relevant international standards, but as a human right.

Rapid development and deployment of eServices in 2019 required prioritization of speed over other aspects of eService design, testing, and deployment. The launch of eServices initially targeted “early adopters” to increase uptake for the new products. Most notably is the Diia mobile application. Massive beta-version testing for the first release of this app included 32,500 persons, picked from the 58,000 self-registered volunteers on the landing page<sup>17</sup>. According to the MDT information, the initial landing page for beta-testers did not gather data on demographics.

Thus, the initial releases of the Diia application were not deliberately tested with women and men from diverse groups, namely older audiences, the low-income, people with disabilities, and other audiences whose experience was bound to be different from early adopters.

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17 <https://nv.ua/ukr/opinion/cifrovi-vodiyski-prava-yak-koristuvatisya-dodatkom-diya-novini-ukrajini-50068348.html>

## Accessibility principles

Accessibility for inclusive and equitable eService use through the lens of human development, “leave no one behind”, gender equality, and the human rights-based approach (HRBA) to service design and delivery incorporates a combination of the following:

- *accessibility in use* (visual, audial, cognitive, physical);
- *economic* (the ability to purchase and service an internet-device);
- *connectivity-related* (access to networks that enable the use of eServices);
- *skill-based* (possession of digital skills that enable confident use of available eServices elements, among other things [e.g., the WCAG 2.1 conformance requirements are included in the EU harmonized standard EN 301 549 – “Accessibility requirements for ICT products and services”]<sup>18</sup>).

In turn, HRBA pillars for eService design and operation include:

- *participation* of rights holders in the process of designing services for them;
- *equality and non-discrimination*, including the design of both digital and non-digital or semi-digital / digitally enhanced services, allowing the users to opt out<sup>19</sup> if they wish to do so;

- *transparency* in decisions made regarding services, target groups, business-processes of decisions made, and solutions selected;
- *accountability* for solutions deployed and results (intended or not) of their operation;
- overall conformity to the principles of *universality and inalienability, indivisibility, inter-dependence, and inter-relatedness* of human rights.

Integrating gender equality into eService design and operation includes:

- looking at how social norms and power structures impact the lives and opportunities available to different groups of men and women from diverse groups;
- analysing different barriers women and men face in accessing services, paying attention to intersecting inequalities;
- endorsing equitable distribution of services/resources among men and women, and girls and boys, from diverse groups;
- promoting equitable access for women and men from diverse groups to decision-making over services/resources distribution;
- eliminating gender inequalities and all forms of discrimination;
- reaching out to those groups of women and men that are furthest behind first to ensure that no one is left behind.

<sup>18</sup> [https://www.etsi.org/deliver/etsi\\_en/301500\\_301599/301549/02.01.02\\_60/en\\_301549v020102p.pdf](https://www.etsi.org/deliver/etsi_en/301500_301599/301549/02.01.02_60/en_301549v020102p.pdf)

<sup>19</sup> Akin to Ukraine’s regulation that allows substituting a personal tax identification number with one’s passport ID for religious reasons. The rights to opt-out and use a non-digital version is part of the 2019 report by Philip Alston, Special Rapporteur on Poverty and Human Rights <https://undocs.org/a/74/493>.

## Barriers to the use of eServices by people with disabilities

Along with low-income people, people from rural regions, and elderly people, it is people with various types of disabilities who most often face barriers in accessing eServices. More generally, this group includes all people with functional impairments, even without a legal disability status, such as: people with moderate impairments of vision; a certain proportion of older people with cognitive impairments; and, people who have temporary health conditions associated with injuries, or disease. The exact number of people with functional impairments, therefore, exceeds the official number of people with disabilities.

Disabilities may pertain to the following:

- visual impairments, such as partial or complete loss of vision or colour perception;
- hearing impairments, such as partial or complete loss of hearing;
- mobility impairments, such as when walking or moving, impairing the upper and/or lower extremities;
- cognitive disorders, including of memory, attention, or interpretation of information.

According to HRBA, all people with functional impairments have equal rights and should have equal access to eServices. It is therefore important to understand and remove barriers when developing and providing eServices.

The following eight aspects can be viewed as barriers to access to eServices:

**Architectural and informational** (especially, navigational) **inaccessibility to premises in which electronic service terminals are located.** Service terminals are often located in premises that do not meet the accessibility standards set by State construction regulations. Removal of these barriers is relevant for people with mobility impairments, visual impairments, and cognitive impairments<sup>20</sup>.

**Inaccessibility to service terminals** due to no audio or voice duplication of information, small font size, soft colour ratios, inconvenient control panel elements for navigation, and/or absence of clear instructions. The inappropriate height of terminals also affects people who use wheelchairs, as well as people of small stature<sup>21</sup>.

20 Inclusion and Human Rights at the Forefront. Accessibility of e-Government Services and Tools for Citizens in Ukraine. Study report. UNDP, 2021. Also see Accessibility Assessment of Service Providers in Donetsk and Luhansk Oblasts, Ukraine. Research Report. USAID. August 2019. [https://www.impact-repository.org/document/repository/196471db/IMPACT\\_UKR\\_Report\\_Accessibility-Assessment\\_August-2019.pdf](https://www.impact-repository.org/document/repository/196471db/IMPACT_UKR_Report_Accessibility-Assessment_August-2019.pdf)

21 Inclusion and Human Rights at the Forefront. Accessibility of e-Government Services and Tools for Citizens in Ukraine. Study report. UNDP, 2021. [https://www.ua.undp.org/content/ukraine/uk/home/library/democratic\\_governance/inclusion-and-human-rights-at-the-forefront.html](https://www.ua.undp.org/content/ukraine/uk/home/library/democratic_governance/inclusion-and-human-rights-at-the-forefront.html)

**Inaccessibility to auxiliary (built-in) services.** eServices may require taking additional steps, e.g., paying a service charge or accessing a relevant provider's service, both of which may not be available.

**Lack of Ukrainian-language auxiliary software.** To use digital technology, people with various disabilities may need auxiliary software, e.g., a screen reader, speech, sound, or voice control software. Such opportunities are available in different operating systems, but almost all of them either do not support the Ukrainian language or have low quality Ukrainian language synthesis<sup>22</sup>, which complicates or makes it impossible to use Ukrainian-language eServices.

**Improper communication with users.** Studies<sup>23</sup> reveal users having a problem being able to understand responses to electronic petitions and requests. This also may affect users with low level language skills and low level education who then may face difficulties accessing eServices. For example, using eServices becomes complicated if there are poor or no instructions, complex texts, overabundance of professional jargon, unexplained / unclear abbreviations, or compound sentences.

**Lack of knowledge and skills for using eServices.**

This primarily is a barrier for older people who have not acquired proper IT skills. Young people with disabilities without education, in particular people with mental disorders, intellectual disabilities, and complex developmental disabilities, may also face such a barrier.

**Lack of devices for using eServices.** This is a barrier for users who cannot afford a device (computer, smart phone, tablet) for accessing eServices. Without such devices, it is problematic to develop the skills to use eServices, even in case of adequate training.

**Poor Internet access.** This barrier is typical for residents in some rural and mountainous areas, as well as for low-income citizens.

22 Inclusion and Human Rights at the Forefront. Accessibility of e-Government Services and Tools for Citizens in Ukraine. Study report. UNDP, 2021. [https://www.ua.undp.org/content/ukraine/uk/home/library/democratic\\_governance/inclusion-and-human-rights-at-the-forefront.html](https://www.ua.undp.org/content/ukraine/uk/home/library/democratic_governance/inclusion-and-human-rights-at-the-forefront.html)

23 Accessibility of the Verhovna Rada (Parliament) of Ukraine to Persons with Disabilities. Report. ODIHR – OSCE, 2020 ([https://naiu.org.ua/wp-content/uploads/2021/04/OSCE\\_report\\_Ukraine\\_Ukr.pdf](https://naiu.org.ua/wp-content/uploads/2021/04/OSCE_report_Ukraine_Ukr.pdf)), and Inclusion and Human Rights at the Forefront. Accessibility of e-Government Services and Tools for Citizens in Ukraine. Study report. UNDP, 2021 ([https://www.ua.undp.org/content/ukraine/uk/home/library/democratic\\_governance/inclusion-and-human-rights-at-the-forefront.html](https://www.ua.undp.org/content/ukraine/uk/home/library/democratic_governance/inclusion-and-human-rights-at-the-forefront.html))

## eServices users in Ukraine

In Autumn 2021, according to a UNDP-requested omnibus conducted by KIIS, 39% of Ukrainians (60% of women and 40% of men) noted<sup>24</sup> that they did not use eServices, suggesting a sizeable digital divide, including a gender and age technology gap, despite the push to use eServices during lockdown measures. When compared to 2020,<sup>25</sup> the percentage of non-users decreased by approximately 8 pp.

More than half of those respondents who had not used any eService stated that they had no need to receive such services (62% in 2021 versus almost 68% in 2020). Some 22% (24% in 2020) of non-users reported a lack of skills needed to benefit from these services, and 17% (21% in 2020) claimed that they had no internet-enabled device to access the resources<sup>26</sup>.

Finally, 12% in 2021 (9% in 2020) of non-users stated that they did not trust eServices, whereas 6% (4% in 2020) were unsure whether the service they did require was available online.

In the 2021 omnibus, Ukrainians who used at least one eService mostly did so due to the following reasons (listed in descending priority): issues with private cars; receiving a foreign or domestic passport; submitting documents to obtain a subsidy or other welfare payments; accessing information about their retirement status or payments, entrepreneurship, or taxation; and, viewing or purchasing data extracts from State registries. There were certain differences by men and women in the use of various services.

Men used more the Diia application or portal (35% men vs 27% women), and services related to automobile registration (24% vs 8%, respectively), managing a private entrepreneur status or a company (14% vs 9%), and electronic systems to pay taxes (12% vs 9%).

The level of digital literacy remains an acute problem. According to a 2019 study,<sup>27</sup> 53% of Ukrainians had digital skills below basic level. This is in line with the level of digital literacy in EU states, where 42% of the population lacked basic digital skills, according to a 2017 report.

24 [https://www.ua.undp.org/content/ukraine/en/home/library/democratic\\_governance/findings-of-a-survey-of-the-adult-population-on-digital-services.html](https://www.ua.undp.org/content/ukraine/en/home/library/democratic_governance/findings-of-a-survey-of-the-adult-population-on-digital-services.html)

25 [https://www.ua.undp.org/content/ukraine/en/home/library/democratic\\_governance/electronic-services--experiences--trust--accessibility.html](https://www.ua.undp.org/content/ukraine/en/home/library/democratic_governance/electronic-services--experiences--trust--accessibility.html)

26 The total is higher than 100% because respondents could choose up to three reasons.

27 [https://osvita.diia.gov.ua/uploads/0/588-the\\_first\\_in\\_the\\_history\\_of\\_ukraine\\_research\\_compressed.pdf](https://osvita.diia.gov.ua/uploads/0/588-the_first_in_the_history_of_ukraine_research_compressed.pdf)

However, a 2021 study on the digital literacy of the Ukrainian population demonstrated the shrinking of this group by 5.2 p.p., which currently constitutes 47.8% of the population<sup>28</sup>.

According to focus group consultations with Ukrainians of various backgrounds,<sup>29</sup> users appreciate eServices, as such services help save time and effort by avoiding queues and “bureaucratic hassle” (e.g., the ability to book service timeslots in advance or pre-fill application forms). Respondents also emphasized a perceived reduction in human influence – lower probability of errors as opposed to manual data entry and fewer clashes with administrators at the frontline of service delivery. The convenience of receiving services without time limitations, in an internet-enabled environment and at their own pace, was stated as a clear benefit.

At the same time, eService users named the following factors as inhibiting:

- concerns about personal data protection, fear of losing assets or status due to an error, intrusion of cybercriminals, and fraud;
- low confidence in digital skills, which could result in errors (e.g., unintended legally binding operations);
- incomplete nature of some eServices, which cover only one “leg” of a business process while other actions still must be completed “face to face”;
- complicated and inconvenient interfaces, “heavy” bureaucratic language in or sheer lack of user instructions;
- no internet access and/or no available internet-enabled device that would allow a user to obtain their desired digital result.

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<sup>28</sup> [https://osvita.diiia.gov.ua/uploads/0/2623-research\\_eng\\_2021.pdf](https://osvita.diiia.gov.ua/uploads/0/2623-research_eng_2021.pdf)

<sup>29</sup> The qualitative research of the study comprised of 8 thematic focus groups that included IDPs, retirees, persons with disabilities, persons lacking IDs or a place of registration, mothers of young children, individuals with low income and active job-seekers, residents from distant rural areas, war veterans and combatants.



# Lessons learned from the initial response to COVID-19 impact

## Digital policy

Just as the COVID crisis hit, MDT released the first version of its signature Diia app and presented ambitious plans for digitally transforming citizen-oriented public service processes. As pandemic restrictions were imposed, it became clear that the State would need to develop mechanisms for rendering services, especially those required to weather the pandemic and those that could not be postponed until physical contacts were possible again. While COVID-19 has brought economic decline and stretched the healthcare system, it has also created opportunities for introducing new solutions, and experimenting with and live testing approaches that would have taken much longer in “the old normal.”

MDT’s response to the crisis included both continuing the pre-pandemic planned expansion of the Diia smartphone application and [Diia.gov.ua](https://diia.gov.ua) portal, and urgently developing and launching citizen-oriented services and features, while supporting micro- and small businesses.

The key policies and interventions to address COVID-19 challenges were the following:

- designing a network of Diia.Business centres<sup>30</sup>;
- designing an IT business process through the [Diia.gov.ua](https://diia.gov.ua) service portal and Diia mobile app<sup>31</sup>;
- modifying the existing tax regime for IT companies and individual entrepreneurs<sup>32</sup>;

<sup>30</sup> <https://business.diia.gov.ua/en>. The physical Diia.Business support centres are not under MDT control and are rather a franchise issued by the MDT to local business associations or civil society organizations to promote ideas for entrepreneurship and how to do it properly.

<sup>31</sup> <https://www.bbc.com/ukrainian/news-55386689>

<sup>32</sup> <https://city.diia.gov.ua/en/>. The relevant law adopted on the special virtual free economic zone for IT companies, Diia.City was adopted on 15 July 2021: <https://zakon.rada.gov.ua/laws/show/1667-20#Text>

- developing a mechanism to channel financial support to affected small businesses<sup>33</sup> (the Government resolved to allocate COVID-related financial assistance to small and medium enterprises by transferring payments directly to the accounts of private entrepreneurs who had lost revenue due to quarantine restrictions);
- accelerating the transition of the public services into e-format;
- enabling expanded access to telecommunications networks and electronic devices, for example, by purchasing UAH 980 mn worth of laptops for over 60,000 teachers (mostly women) in 2021<sup>34</sup>;
- initiating better cybersecurity protection for critical infrastructure and reforming the State Service for Special Communications and Information Protection (SSSCIP)<sup>35</sup>;
- supporting digital literacy efforts<sup>36</sup>, e.g., creating two digital literacy courses on the Diia.Digital Education platform for critical workers (teachers and doctors - mostly women) in the first months of the quarantine;
- stimulating the development of digital transformation programs at the national and local levels<sup>37</sup>;
- adopting the National Barrier-Free Strategy<sup>38</sup> in April 2021;
- developing the mobile “Diy Vdoma” (later “Vdoma”) app<sup>39</sup> that enables those returning / coming to Ukraine to serve their 14-day self-isolation at home, sending periodic confirmations over the app to share their geolocation and photo.

The MDT promoted a four-pronged vision of eService uptake:

1. availability of eServices, per se;
2. development of digital skills that would enable the use of eServices;
3. access to the internet for Ukrainians to use relevant platforms (mobile or PC-based);
4. expanding the network of centres for administrative service provision (so-called TSNAPs), and transforming and rebranding it as Diia.Centres, which would be tasked not only with providing administrative services but also with assisting those people, who cannot utilize eServices themselves and require support.

33 <https://zakon.rada.gov.ua/laws/show/1071-20#Text> та <https://www.kmu.gov.ua/npas/deyaki-pitannya-nadannya-odnorazovoyi-materialnoyi-dopomogi-zastrahovanim-osobam-yaki-mozhut-vtratiti-dohodi-1233-091220>

34 <https://www.unian.ua/economics/finance/kabmin-vidilit-980-milyoniv-griven-na-noutbuki-dlya-vchiteliv-novini-ukrajina-11488051.html>

35 <https://www.kmu.gov.ua/news/reformuvannya-derzhavnoyi-sluzhbi-specialnogo-zv'yazku-ta-zahistu-informaciyi-ukrayini-prezident-pidpisav-ukaz>

36 <https://osvita.diia.gov.ua/en>

37 MDT is encouraging digitalization in municipalities and newly amalgamated territorial communities through the CDTO network: <https://thedigital.gov.ua/news/mikhaylo-fedorov-tsifrovizuemoregioni-razom-iz-cdto-ta-stvoryuemo-u-gromadakh-zruchni-onlayn-servisi>

38 <https://zakon.rada.gov.ua/laws/show/366-2021-%D1%80#Text>

39 <https://play.google.com/store/apps/details?id=ua.gov.diia.quarantine>

This model allowed the Government to mitigate some of the negative impacts of the migration of the service provision into online modality, which was expedited during the pandemic. Adopting the National Strategy for a Barrier-Free Environment in Ukraine further contributes to creating a robust foundation for achieving eService inclusivity. Some of the recommendations in this document echo the Strategy's priorities on removing barriers to information access in the digital realm<sup>40</sup>.

Ukraine's initial response to the pandemic through digital transformation was largely predetermined by drivers and inhibiting factors that pre-existed before 2020.

## Drivers for digital transformation

### Strong political will and social demand for digital transformation

In 2016, Ukraine's Prime Minister and then, in 2019, the President championed the development of eServices. More widespread use of digital technologies has also led users to demand changing the model of interaction with the State. Quite a few regional digital projects emerged, with e-democracy solutions incorporated into practices at the local level, e.g., e-petitions, e-appeals, and participatory budgeting. President Zelenskyy prioritized a vision where any Ukrainian citizen could deal with the State fully online – without delays or risk of running into intermediaries and corruption. The MDT was tasked with delivering on the President's 2019 electoral promise of "Your State in Your Smartphone". The key performance indicator was to ensure that 100% of public services become available online to Ukrainians by 2024<sup>41</sup>.

### Innovative institutional setup for mainstreaming digital transformation

In 2019, the State Agency for eGovernance was reshaped into the more potent Ministry of Digital Transformation (MDT) with a broad mandate and chaired by a Vice Prime Minister. The innovations-driven, iterative development culture of MDT was unique for the public service sector and resembled the IT development culture in the private sector – aiming for speed and fast prototyping.

40 <https://zakon.rada.gov.ua/laws/show/366-2021-%D1%80#Text>

41 <https://thedigital.gov.ua/ministry#section-goals>

In addition to MDT's institutional leadership and support from the Parliamentary Committee for Digital Transformation, central government bodies recruited Chief Digital Transformation Officers (CDTOs)<sup>42</sup> to advance the development of IT systems for business process automation, data-gathering and processing, and government to business (G2B) and government to citizen (G2C) service design. CDTOs have dual accountability: as deputy ministers or deputy heads of agency, to their immediate line supervisors; and as specialists in digital transformation, to MDT leadership. Such an institutional setup has enabled better information exchange, planning, and support to digital transformation initiatives from within the institutions, with some space for improvement at the local level. The "triangular" system of the MDT, Parliamentary Committee, and the CDTO network is novel for Ukraine and is a significant enabling factor.

### Regulatory frameworks that open new opportunities

With the foundational legislation in place by 2019, new laws and regulations were required to further shift citizen-government interactions into the digital realm. The first in the world "ePassport"<sup>43</sup> system was launched. The Parliament adopted regulations to enable the delivery of fully automated eServices: Citizens agreed to receive

a service, but service provision was automatic and based on data from government registries. So the user could, for example, gain unemployment benefits automatically, without the need to apply, as soon as the required conditions were in place<sup>44</sup>. The Government also initiated an "eResidency"<sup>45</sup> that allows non-citizens and non-residents of Ukraine to open a business and run it at a distance without the need for physical presence. Service itself is still in development<sup>46</sup>. Streamlining public services through electronic solutions and citizen-oriented digital transformation became a priority under<sup>47</sup> Government Action Plans.

### Financial resources for implementation

Several donor-funded programmes partnered with the government to address immediate financial and technical assistance needs. At first, no State funding was directly allocated to develop the flagship Diia State portal and the mobile app<sup>48</sup>; however, for its continuous development and operations, public funds were allocated. According to the MDT, in 2020-2021, developing and modernising Diia cost UAH 76.04 mn, with 48.4 mn allocated from the state budget, and 27.6 mn from grant funds<sup>49</sup>. There are currently at least five technical assistance programmes on digitalization underway<sup>50</sup>. Overall, the budget for the National Programme for Informatisation was increased by about 10% to UAH 602 mn in 2021<sup>51</sup>.

42 CDTOs are in all Ministries and in half of the oblast state administrations.

43 <https://zakon.rada.gov.ua/laws/show/1368-IX#Text>

44 [http://w1.c1.rada.gov.ua/pls/zweb2/webproc4\\_2?pf3516=5495&skl=10](http://w1.c1.rada.gov.ua/pls/zweb2/webproc4_2?pf3516=5495&skl=10)

45 <https://thedigital.gov.ua/projects/e-residency>

46 <https://www.president.gov.ua/documents/6472019-29441>

47 <https://www.kmu.gov.ua/npas/pro-zatverdzhennya-programi-diyalnosti-kabinetu-ministriv-t120620>

48 <https://www.epravda.com.ua/news/2019/11/5/653364/>

49 <https://www.epravda.com.ua/news/2021/10/6/678504/>

50 Funded and implemented by the EU, UNDP, USAID, and SDC.

51 <https://zakon.rada.gov.ua/laws/show/1082-20#n154>

## Hurdles to digitalization

### Troubled legacy of state-run data registries for eServices

A 2019-2021 audit of government-owned data registries revealed multiple issues with data quality and IT solution integrity, and an endemic absence of required documentation explaining how electronic systems functioned<sup>52</sup>. According to 2017 estimates<sup>53</sup>, Ukraine had over 130 large-scale data registries (up to 340 in total) that belonged to over 40 Ministries and other central-level government institutions, with some of them needing to be processed (being in paper form or Excel files on USB flash drives). In addition, the government often fails to collect and present eService usage data disaggregated by sex, age, and other social identifiers, despite its critical importance in assessing progress towards the 2030 Agenda.

### Lack of MDT's direct influence on local duty bearers

With decentralization in Ukraine, the responsibility for public services is being transferred to regional administrations. MDT representatives note that, as a result, they have limited control over local TSNAPs employees, e.g., pushing to accelerate the processing of the e-requests. This negatively affects the experiences of digitalization for people who use State services.

### Vested interests within state agencies

As the central body responsible for digital transformation across the government, MDT has made it a priority to avoid duplicating public funding of IT. This caused opposition from other central state entities, which had relative freedom in allocating state funding or receiving technical assistance for their IT systems development. The design, deployment, upkeep, and periodic upgrades for these registries by a line ministry became a “turf” to keep, with annual budgets for software and hardware maintenance reaching UAH 21 million per ministry<sup>54</sup>. It was therefore not realistic to expect the new MDT to perform a comprehensive reform of all registries in the few months prior to the COVID-19 outbreak. Establishing a new inter-ministerial coordination and oversight model is ongoing, with MDT noting significant progress in 2021.

### Polarized feedback from civil society stakeholders

Ukraine's civil society organizations (CSOs) active in digital transformation reform, including cybersecurity industry experts, have been split in their reactions to the new platforms and digital solutions promoted by MDT. For example, concerns have been voiced over the speed of development, the quality of the solutions, the prediction of possible mistakes; and, the robustness of the Diia ecosystem elements to cybersecurity threats. This was due to continued IT security incidents, both globally<sup>55</sup> and in

52 [https://tapas.org.ua/wp-content/uploads/2021/07/Zvit\\_Analiz\\_potochnogo\\_stanu\\_reestriv-UA.pdf](https://tapas.org.ua/wp-content/uploads/2021/07/Zvit_Analiz_potochnogo_stanu_reestriv-UA.pdf) та <https://www.pravojustice.eu/storage/app/uploads/public/5e4/d34/1a1/5e4d341a1c90a684530773.pdf>

53 <https://tapas.org.ua/en/all/news/e-mapping-report/>

54 <https://tapas.org.ua/en/all/news/e-mapping-report/>

55 E.g., see <https://www.bloomberg.com/news/articles/2021-06-04/hackers-breached-colonial-pipeline-using-compromised-password>, <https://www.theguardian.com/technology/2021/jul/06/kaseya-ransomware-attack-explained-russia-hackers>, <https://www.bloomberg.com/news/articles/2021-07-06/russian-state-hackers-breached-republican-national-committee>, <https://www.reuters.com/world/europe/german-pharmacies-stop-issuing-covid-vaccine-passes-after-security-breach-2021-07-22/>

Ukraine<sup>56</sup>, and the unavailability of publicly accessible documentation about new electronic solution platforms. Human rights CSOs reported weak personal data protection and poor consideration for human rights in conceptualising, business process reengineering<sup>57</sup>, inclusive testing, and implementing new eServices<sup>58</sup>.

There are also calls for a thorough risk analysis of state digitalization, for example, to address concerns about profiling. Finally, CSOs advocating gender equality call for better incorporation of the diverse needs of all citizens – women, men, girls, and boys, especially the most disadvantaged and vulnerable – in eService delivery.

### Developing effective cybersecurity protection in State IT systems

Many State IT systems lack the required State certification to process data and are operating, de facto, illicitly. According to recent amendments introduced to the Law of Ukraine on the Protection of Information in Information and Telecommunications Systems, it is possible to create either an integrated information protection system (IIPS, known in Ukrainian as KSZI) or an information security management system (ISMS) in a given IT system. Under this amended law, IIPS built according to the national regulatory framework is not required if an ISMS system is aligned with the ISO/IEC 27001 international standard. However, the respective procedures and regulatory documents for ISMS certification have not yet been developed, which may cause major problems in putting eServices into commercial operation.

The State Service for Specialized Communications and Information Protection (SSSCIP) is responsible for certifying state-run IT systems for information protection measures. This Service is undergoing reform so that it can respond to existing and emerging threats in the cyber realm. The Bill #2655 registered in 2021 is aimed at storing data and relocating processes in a cybersecure national cloud, which should altogether unify the cybersecurity policy and reduce the financial burden on local actors, who previously were annually purchasing security-connected hard- and software. This effort is seen as a solution that will centralize cybersecurity efforts and help set and identify responsible parties. The new “Law on bug bounty” with set criteria is also to be introduced to bring cybersecurity checks in line with Ukrainian legal framework.

56 See <https://www.kyivpost.com/technology/signature-on-presidents-website-by-user-named-joe-biden-is-planned-hacker-attack.html>, <https://ain.ua/2021/07/01/kejs-kredit-cherez-diia/>, <https://www.reuters.com/article/russia-ukraine-cyber-idINL8N2Q53AH>

57 <https://www.pravda.com.ua/columns/2021/07/18/7300821/>

58 <https://instingov.org/wp-content/uploads/2021/09/Ukraine-report-eng-pdf>



# Recommendations

A review of Ukraine's path of digital transformation to address COVID-19 challenges to date suggests that the government should focus on the following to improve Ukrainians' access to and relevant user experiences with eServices:

**Enable greater accessibility to eService delivery platforms.** The updated accessibility standards should become part of Ukraine's regulatory framework so that the State has a clear mechanism for verifying compliance with Web Content Accessibility Guidelines (WCAG) for applicable resources and within mobile applications. The capacities of relevant State body departments need to be developed to ensure accessibility (including WCAG, gender equality, and Universal Design principles) while planning IT systems, e.g., there is a need to regulate the use of plain language and conduct appropriate training for personnel responsible for communications via eServices, including preparing instructions, automatic answers, online chatting, etc. It is important to focus on

non-discriminatory and gender-responsive communication principles, among other priorities, to avoid any stereotyping, discrimination, sexism, or harassment. Properly implementing the pertinent sections of the National Strategy for a Barrier-Free Environment in Ukraine will enable the country to achieve significant progress in this area.

**Keep the traditional, paper-based and TSNAP-facilitated modality of service provision.** The Government should render public (administrative and social administrative) services not only through online means, but also through a network of physical centres (TSNAPs or the more digitally oriented Diia.Centres) that have personnel trained to guide users through the service flow, answer questions, and assist them step-by-step in receiving a service. Government programmes that envisage continued support to libraries as spaces with free access to the internet and eServices should be scaled up. The physical spaces where hesitant, economically underprivileged, elderly, or other types of users can get quality advice and access to eServices are essential.

Apply the “leave no one behind” principle in eService design. The designers of eServices should widely engage all potential users – women and men from diverse groups, especially the most disadvantaged and vulnerable – to provide tailored support to their different needs. For example, beta-testing for a service or a platform aspect should be accompanied by dedicated tests with vulnerable groups in order to understand their experiences in accessing and using digital tools, the impact on them, and to determine how potential gaps may be addressed. To fully benefit from technologies that employ artificial intelligence, the public sector is also advised to apply the human rights-based approach in design and implementation<sup>59</sup>.

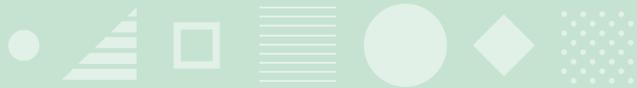
Develop comprehensive connectivity solutions in distant communities in partnership with private sector ISPs. A company that wins a tender to provide broadband services to communities could also be required to teach people digital skills. This service will create the connection between the Internet infrastructure, public access computers (as in libraries), and skills (training-the-trainer and user training). Businesses might be interested in increasing digital literacy and demonstrating the possibilities of the Internet as this can drive up demand for further internet services. Such partnerships can ensure connectivity in the regions by enabling both Internet infrastructure and increasing level of digital literacy of the dwellers.

Ensure that eService platforms have State-issued cyber-tech security certification. New features for State portals and applications should be certified prior to public use. Flagship digital transformation products should follow due processes for mandated security testing and re-certification to ensure their credibility among potential users.

Develop clear rules (legislative or sub-legislative) on introducing new digital solutions. With the constant evolution of digital solutions, it is an arduous task to prioritise comprehensive legal framework when launching digitalization solutions. However, the pillars of State digital solutions should include policies on privacy, information security, personal data protection, and accountability in data exchange between public authorities. Importantly, standards and rules should be envisioned not only for technical solution operation, but also for the human component, with clear administrative and criminal liability for non-compliance.

Disclose documentation, specifications, and information protection mechanisms in flagship digital transformation products. Disclosing software code for open vulnerability searches could be one such step, in addition to the bug bounty programme State-owned enterprise Diia runs in collaboration with international partners. Such transparency would help increase support for digitalization reform by major stakeholders, such as NGOs, businesses, and the international community. Finally, proactive cooperation with the Office of the Ombudsperson, and the community of human rights and gender equality CSOs may also ensure greater support of digital transformation from civil society.

<sup>59</sup> [https://www.undp.org/content/ukraine/en/home/library/democratic\\_governance/human-rights-and-eservice-innovation-an-unlikely-crossbreed-or-an-essential-need](https://www.undp.org/content/ukraine/en/home/library/democratic_governance/human-rights-and-eservice-innovation-an-unlikely-crossbreed-or-an-essential-need)



# Conclusions

The Ministry of Digital Transformation is the main driver of digital transformation in Ukraine and initiated important reforms during the brief period before the onset of the Covid-19 pandemic. These reforms came into demand as the healthcare crisis hit. Strong political will for rapid digital transformation reform, however, often faces obstacles from deeply rooted vested interests in Government institutions' IT system creation, maintenance, and upgrade. In addition, there is a lack of practice in considering the specific needs and priorities of women and men from diverse groups, especially those who face social or other disadvantages in accessing government services and technology.

The "need for speed" in MDT-initiated IT product design and releases has allowed the Ministry to demonstrate "quick and tangible wins" in delivering on the Government's "Your State in Your Smartphone" commitment, and, importantly, to provide Ukrainians with a wide range of eServices.

The speed, however, came at the price of curtailing dialogue with civil society, using mass user testing without deliberately involving more vulnerable social groups; and limited public information about the architecture of the produced solutions (software code), the documentation that describes their operations, and the details required for data protection procedures and tests.

To prevent diverse social groups from being left behind during lockdown periods, digital transformation public policy should increasingly incorporate principles that underpin gender equality and human rights-based approaches. Essential elements of HRBA that need to be strengthened over the next several years include: Participation of target groups in discussing the need for digitalized services for them; participatory and gender-responsive design for policy reengineered solutions; testing of user experiences and with diverse audiences; non-discrimination; and, the reform team's accountability to the electronic solution users that they serve.

State funding in forthcoming budgets should be foreseen to: a) expand internet access to rural areas, b) provide access to internet-enabled computers, and c) ensure digital literacy training for service providers, even when the COVID pandemic subsides.

Promoting digital skills and capabilities among diverse population groups will be an important enabler in ensuring an inclusive digital transformation in Ukraine. MDT has stated this as one of its priorities and has been implementing various training programmes since autumn 2019 under the versatile [Osvita.diiia.gov.ua](https://osvita.diiia.gov.ua) portal and its educational series. Other non-digital channels for increasing digital skills should be tested and deployed, given that utilisation of a web-based portal for digital education presupposes that users have an internet-enabled device and basic digital skills, which may not be the case for some social groups.

A joint Adult Digital Literacy policy in Ukraine implemented by MDT and Ministry of Education could also become an enhancing factor in helping various audiences acquire digital skills.

Ensuring inclusive eServices may help Ukraine deliver on its international human rights commitments by reducing poverty, empowering women and people with disabilities, and ensuring access to justice for all persons under the jurisdiction of Ukraine.



