

The Impact of COVID-19 Pandemic on the E-Government Development And on The Reduction of Digital Exclusion

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Abstract

The paper is up-to-date, it focuses on an analysis of the impact of the pandemic crisis on the development of e-government, and on the reduction of digital exclusion, on the example of Poland. The crisis caused by the pandemic had an impact on the development of e-government services, causing need for rapid digitalization of the administration, i.e. in a shorter time than the deadlines assumed in the implementation of the EU directives in this area, there was a change in the way the administration (in particular administration providing services) operates. We observe - the increase in digital readiness of the society, - increase in digital competences and thus a decrease in digital exclusion. The analysis is based on a review of instruments which were applied in order to implement e-government in order to raise digital competences of officers and administration clients, as a reaction to a specific pandemic situation, in the context of the right to freedom from exclusion. In the light of the available statistics the pandemic crisis has influenced the development of public e-services and contributed to an increase in the digitalization of the administration. The deadlines for the expansion of the e-government system resulting from EU acts have not yet passed, while a satisfactory level of the development of the e-government sector in Poland has already been achieved. The lack of face-to-face contact in the customer-administration relationship meant that citizens had to adapt to the situation and move to virtual contact, thus increasing their digital readiness.

Keywords: public administration, digitalization, inclusion

Introduction

Aims And Research Assumptions

The main objective of paper is an analysis of the impact of the pandemic crisis on the development of e-government, and on the reduction of digital exclusion, on the example of Poland.

The following hypotheses were accepted in the paper: firstly, it was concluded that the crisis caused by the pandemic had an impact on the development of e-government services, causing need for rapid digitalization of the administration, i.e. in a shorter time than the deadlines assumed in the implementation of the EU directives in this area, there was a change in the way the administration (in particular administration providing services) operates; secondly we observe - the increase in digital readiness of the society, - increase in digital competences and thus a decrease in digital exclusion.

The analysis is based on a review of instruments which were applied in order to implement e-government in order to raise digital competences of officers and administration clients, as a reaction to a specific pandemic situation, in the context of the right to freedom from exclusion.

The subjective range of the article includes public administration bodies at the national and regional levels as well as potential 'clients' of the administration; as far as the objective range is concerned, it constitutes an analysis of the use of available instruments for implementing e-government and digital inclusion; in the spatial sense, the article focuses on Poland; and in the time sense, the focus is placed on the situation of pandemic Covid -19 and its effects over time.

Reasons for taking the question into consideration

The digitalization of the administration is connected, among others, with public obligations imposed on the administration by the national and EU legal regulations.

The state of pandemic emergency has necessitated the accelerated digitalization of the administration, as it needs to provide uninterrupted services to meet the needs of citizens while reducing the risk of contagion.

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The epidemic threat forced the acceleration of digitalization of a large part of the society almost *ad hoc*, due to the need to adapt to the remote mode in a very short time of almost all activities related to the performance of public tasks. Particular areas of digitalization referred to: the operation of the administration, social assistance - including the use of e-government tools to conduct proceedings aimed at providing assistance, services, and at the realization of assigned tasks within the range of the government administration (e.g. family benefits), health care, among others, through e-prescriptions, e-registrations, e-doctor consultations, e-quarantine, as well as remote learning.

The topics presented above were taken up due to the need for the rapid development of public e-services and the identification of the possibilities of effective digital inclusion of administration employees and its clients, as well as the need to create appropriate policies and legal frameworks in this area as a response to the pandemic crisis.

Poland is ranked 25th out of 28 EU member states in the Digital Economy and Society Index (DESI) 2019 ranking developed by the European Commission. The results achieved by Poland in the analyzed period were below the EU average and improved more slowly than the EU average, but the pandemic situation undoubtedly accelerated the process. The latest McKinsey report, published in October 2020, "Digital Challengers in the next normal: Central and Eastern Europe on a path to digitally-led growth", shows that the digital economy in Poland grew at a rate of 7.2% between 2017 and 2019, reaching a value of €32.7 billion (or around PLN 144 billion) in 2019. But between January and May 2020, investment in digitalization accelerated sharply and its growth reached 18.4%, which is 2.5 times higher than in previous years (Jak urosnąć i przyspieszyć cyfrową transformację, 2021).

Concept of e-government

For the sake of clarity it is necessary to verify the meaning of the concept of e-government. The definitions of e-government are mainly contained in the documents of international organizations (e.g. World Bank - WB (2004), UN - OECD (2003), EU - EU (2004)), national normative acts (containing the so-called legal definitions), and can also be developed through the doctrine. Hence, they may have different meanings from the normative perspective.

The definitions of e-government indicated by the World Bank as well as by the UN are often cited. For example, The Belgian Federal Government definition is based on the one which the World Bank defines as "the continuous optimization of service delivery and governance by transforming internal and external relationships through technology, internet and new media." "This optimization of service delivery and governance relies on a number of important building blocks. One of them is the integration of back-offices (...) via a 'Service Oriented Architecture'" (SOA) that spans multiple administrative contexts. The components of the SOA are authentication and authorization mechanisms (Huysmans).

Researchers try to create their own definitions by highlighting different aspects of the phenomenon. This is due to the fact, among others, that the very concept of administration appears in literature in three meanings. According to Jan Boć (Boć 2004, p. 13), administration means:

- a. "separate organizational structures within the state, which are established especially for the realization of specific goals within the area of public tasks,
- b. specific activities with special characteristics, which are undertaken in order to realize public goals,
- c. people employed (...) in structures distinguished in the first sense". (item a).

The process of informatization leads to the transformation of the administration into e-government, i.e. changes the way it works through the implementation of Information and Communication Technologies (ICT). In many aspects this process is connected with the realization of the obligations specified in both EU and national regulations, which are incumbent on the administration in this respect.

The existing definitions of e-government take into account, to various degrees, the above mentioned elements of the phenomenon of administration. This especially concerns definitions created through the doctrine. They are created by specialists from different fields, such as management, communication technologies, law or political sciences.

As indicated by Å. G. Grönlund and T. A. Horan, the term e-Government (e-Gov) emerged in the late 1990s (Grönlund & Horan 2004, p. 714). Some authors (e.g. García-Sánchez, Rodríguez-Domínguez, Frias-Aceituno 2013) use the terms electronic administration and digital administration interchangeably. They point to the evolution of this concept which includes, as distinguished by T. Riley, the successive stages of e-government development: e-government, e-governance and e-democracy (Riley 2001). T. Riley connects the development of e-government with the way of performing tasks, taking into account the transformation of the administration itself, and especially the demand for transparency in its operations. Progressing digitalization facilitates its implementation.

On the other hand, Tolbert and Mossberger (2006, p. 357) define e-governance as an "entrepreneurial approach", which is expressed by "a flexible and convenient interface with government around the clock and experience of 'one-stop shopping' for information and services". However, according to Mossberger et al. (2006), e-democracy is "the participatory approach", which "allows citizens to become more knowledgeable about government and political issues, and the interactivity of the

medium allows for new forms of communication with elected officials and between citizens - through chat rooms, listservs, e-mail, and bulletin board systems”.

E-government is also analyzed from the perspective of the goals one wants to achieve through digitalization. Researchers do not have a common catalog of digitalization goals or digitalization indicators. The literature often indicates that e-government, among other things:

- facilitates communication. It aims at simplifying and improving the relationships and transactions between public organizations and their users and citizens (García-Sánchez et al., 2013).
- brings benefits. A reduction of costs is most often indicated as one of the benefits related to the process of digitalization of public administration activities - significant cost reductions are derived from the use of new and more efficient technologies (Kim, 2007; Tolbert et al. 2008, Torres L, Pina V, Royo S. 2005).
- "The implementation of electronic administration aims at simplifying and improving the relationships and transactions between public organizations and their users and citizens" (García-Sánchez et al., 2013),
- is a tool to reduce digital exclusion.

The above indicated understanding of e-government is closely related to the concept of e-democracy. The term e-democracy is directly related to the term digital inclusion. Digital inclusion is essential for citizens' participation in public policies. As indicated by the European Parliament, with technology developing at an accelerating rate, the digital society and economy are now a fact of life, meaning that digital skills are essential for the successful professional realization and the personal development of all citizens (European Parliament, Report on education in the digital era..., 2018). For a fully functioning e-democracy there must be digital readiness in society.

Legal foundations of e-government as a condition for digitalization of administration and digital inclusion

Legal framework

All activities of the administration, including those related to electronification, must have a legal basis, due to the principle of legalism applicable to the administration in a democratic state. "It is one of the basic principles derived from the common constitutional traditions of all EU Member States and thus one of the core values on which the Union is founded" (A new EU Framework..., 2014). It is referred to in Article 2 of the Treaty on European Union. It is also contained in Article 7 of the Constitution of the Republic of Poland (the organs of public authority shall function on the basis of, and within the limits of, the law).

The scope of the activity of a public authority, the procedure, the appropriateness of the forms of activity must result from the regulations contained in the universally binding law. It follows from this principle that the performance of a public task is an obligation and not a privilege of the administration (Stahl, 2007, p. 100). The digitalization of the administration is an instrument for the realization of the internal market in the EU. At the same time, the digital administration should contribute to the sustainable development, the environmental protection or an increase in the efficiency and transparency of the administration. This is indicated, among others, by items 9 and 11 of DIRECTIVE (EU) 2016/2102

The legal norms must therefore contain adequate authorization for the administration to act using ICT, as well as indicate the legal framework in which this is to be done. For this reason, legal norms can be a barrier to the use of ICT by the administration, even during the era of the Covid-19 threat. The lack of appropriate legal regulations thus constitutes a key barrier to the development of e-government.

The pandemic has shown that the digitalization of administration, especially the transition to the next stages of development, requires on the one hand equipping the administration with appropriate communication tools and officials with digital skills, and on the other hand requires the introduction of appropriate legal regulations.

The threat of the coronavirus has given rise to the need to reduce personal contacts, including the ones in public life. Thus, restrictions on the admission of parties are based on §24a(1) of the Regulation of the Council of Ministers of 2 November 2020 amending the Regulation on the establishment of certain restrictions, orders and prohibitions in connection with the occurrence of an epidemic (Journal of Laws of 2020, item 1931). Until December 4, 2020, in public administration offices or organizational units performing tasks of a public nature, the heads of public administration offices, directors general of offices or the head of an organizational unit have to shall instruct employees to perform remote work.

On the basis of Article 3 of the Covid-Law, during the period of validity of the state of epidemic emergency or the state of pandemic declared due to COVID-19 as well as for the period of 3 months after their cancellation, the legislator allowed the employer to reschedule employees to the so-called remote work, in order to counteract COVID-19. This refers to the work specified in the contract of employment but performed outside the place where it is normally performed. This standard also

applies to employees of administrative bodies. If an employee does not possess the necessary digital skills, the employer is obliged to train them and provide assistance in case of problems with this type of work (the so-called helpdesk).

Legal regulations may make the use of ICT obligatory or possible. In the second case it is up to the administration to assess which way of communication will be appropriate. The Covid-19 threat alone does not entitle the administration to use ICT. It is necessary to introduce appropriate legal regulations. Some of the changes related to the use of ICT in administration were planned before the pandemic occurred, which undoubtedly was a great convenience in the face of the sudden threat of Covid-19.

The Public Procurement Law, which came into force on 1.01.2021 and introduced full digitalization of the public procurement process, can be indicated as an example of the obligation to use ICT, which was planned in advance. This change results from the EP and the Council Directive 2014/24/EU and applies to all EU countries. On the other hand, the introduction of certain IT solutions in the administration may force the digitalization of its clients. This applies especially to entrepreneurs. The obligations of entrepreneurs which arise from the Act may require appropriate IT solutions in the operation of the business as well as the possession of appropriate digital competences to apply them. An interesting example illustrating this relationship is the obligation to use the so-called JPK_VAT (standard audit file for VAT), which has been applicable in Poland since 1.10.2020 to all entrepreneurs. Declarations covering the settlement of this tax can be submitted only electronically. At the same time the administration provides clients with free applications enabling them to fulfill this obligation.

The new Act on Computerization will effectively introduce digital default, i.e. the primacy of electronic solutions over traditional solutions.

At the level of EU standards, specific digitalization solutions are introduced by:

- Regulation (EU) 2018/1724 of the European Parliament and of the Council of 2 October 2018 establishing a single digital gateway to provide access to information, to procedures and to assistance and problem-solving services and amending Regulation (EU) No 1024/2012 (eur-lex, CELEX:32018R1724)

- Regulation (EU) 2018/1807 of the European Parliament and of the Council of 14 November 2018 on a framework for the free flow of non-personal data within the European Union (eur-lex, CELEX:32018R1807)

Other digital solutions could be applied thanks to special regulations introduced due to the pandemic, the so-called 'covid laws'. An example of this is Article 31zp item 4 of the Act on Special Solutions Related to Preventing, Counteracting and Combating Covid-19, other Infectious Diseases and Emergencies Caused by Them of 2 March 2020. It regulates the manner in which applications for the exemption from payment of social or health insurance contributions may be submitted. These applications can be submitted only "in the form of an electronic document using the information profile created in the ICT system made available by the Social Insurance Institution (ZUS), in the form of an electronic document bearing a qualified electronic signature, a trusted signature, a personal signature or using the method of confirming the origin and integrity of data made available free of charge by the Social Insurance Institution in the ICT system" (Article 31zp item 4 of the Act on Special Solutions Related to Preventing, Counteracting and Combating Covid-19, other Infectious Diseases and Emergencies Caused by Them, 2020).

Digitalization in the back-office and front-office area

The need for digitalization arose in connection with the pandemic in both areas of the administration, i.e. back-office (related to the functioning of the administration bodies themselves) and front-office (e-services, e-participation).

According to the GUS (Statistics Poland) study for 2019 in the area of back-office, In Poland in 2019, the percentage of public administration units using broadband Internet access technology through a fixed connection was 99.8%. All county and marshal offices had this type of access to the global network. Almost half of the surveyed units declared using the fastest Internet connection within the range of at least 30, but less than 100 Mbit/s. (Information society in Poland, 2020, p. 43). Public administration units most often provided employees with remote access to the office's business e-mail (86.8%). The possibility to use applications dedicated to the unit was provided by 34.0% of the offices, and slightly less - access to data and access and possibility to modify official documents (28.7% and 28.3%, respectively). On the other hand, 53.7% (11.8 percentage points more than in the previous year) of public administration units had an intranet. For most of them it served as a system of data exchange between the unit's departments (83.9%). Moreover, it enabled the use of an information bulletin (53.3%), a group work system (37.1%) and a customer service system (15.3%) (Information society in Poland, 2020, p. 46). In addition, public administration is increasingly using the Electronic Document Management (EZD) system to manage the process of dealing with cases. In 2019 the percentage of entities using EZD was 76.7%, increasing by 11.4 percentage points year over year (Information society in Poland, 2020, p. 51). In 2020 as many as 81.2% of public administration units declared the use of the EZD system, whereby it was used much more often in government administration units (94.6%) than in local administration units (80.7%) (Wegner, 2020, p. 1). In 2020 as many as 99.3% of public administration units offered e-services to citizens, 62.0% of them enabled e-submission of the Family 500+ application, and 25.5% of offices provided the possibility of online participation for voting or public consultations. All county and marshal offices provided services via

the Internet (Information society in Poland, 2020, p. 2). Thus, one can see a systematic increase in the development of e-government services.

Many of the introduced solutions are temporary, because they are based on the so-called 'special laws', i.e. laws passed as a reaction to the presence of the epidemic threat. They, however, resulted in the fact that both administration officers and clients wishing to use public e-services had to undertake actions allowing them to interact with the administration, through appropriate identification and authentication tools, thus some of them had to acquire digital competences unknown to them before. Trusted signature serves this purpose. During the pandemic many citizens decided to set up the so-called trusted profile allowing them to remotely contact with the administration.

Digital identity - identification and authentication of administration clients

Identification and authentication can be done using various tools. An application or a request submitted by an administered entity (a client) must bear a qualified electronic signature, a trusted signature or a personal signature, or be authenticated in a way that ensures the possibility of confirming the origin and integrity of the verified data in the electronic form. Legal standards precisely regulate the prerequisites for making such requests. Among the most popular tools at the moment is the trusted signature, authenticated with the trusted profile. The trusted profile is a tool provided by the government administration that enables easy and free confirmation of the identity on the Internet. According to www.gov.pl, on 1 January 2020 there were 4,647,391 people using the trusted profile (2,114,370 Poles set up the trusted profile throughout 2019) while on 8 December 2020 the trusted profile was used by 8,629,501 Poles (as many as 4,004,650 people set up the trusted profile in the period between 1 January and 7 December 2020). A sharp increase started in April 2020, that is after the outbreak of the pandemic. From April to the end of June 2020 there were 1,385,905 new trusted profiles, from the beginning of July to the end of September 2020 the number amounted to 810,924, from the beginning of October to 7 December 2020 the number reached 591,804. This year alone Poles set up more than 4 million trusted profiles. In comparison, for the whole of 2019 the number of trusted profiles set up by Poles stood at 2,114,370 (Tylko w tym roku..., 2020). The Act of 5 July 2018 amending the Act on trust services and some other acts (Journal of Laws of 2018, item 1544) introduced the concept of 'trusted signature'. Such a clear increase in the number of trusted profile accounts indicates a definite digital inclusion in the e-government area of people who have not used this possibility so far.

Implementation Tools

The key areas of the administration that had to undergo accelerated digitalization in connection with the pandemic include, first of all, health care (e-sick leave certificates, e-prescriptions) and education. The tax administration, on the other hand, was already heavily digitized before the pandemic broke out, thanks to the gradual introduction of gov-tech tools, such as the JPK standard audit file and e-declarations. According to gov.pl online administration, the pandemic has increased the willingness of citizens to make use of the available e-services.

An upward trend is visible while comparing the number of applications submitted in the most popular procedures through e-services of the administration in November 2020 and in 2019. Statistical data in this regard are presented below.

- Obtain an identity card - 30,866 applications (13,795 a year before)
- Obtain a certified copy of a Register Office record - 25,226 times (4,745 a year before)
- E-meldunek (e-services that allow you to register your residence or check out online) - 19,114 times (4,656 in November 2019)
- Report the birth of a child - 15,400 children (3,837 one year before) (Profil zaufany, 2021)

Digitalization of the health care administration has its legal basis in the Act on the Information System in Health Care of 28 April 2011 (t. jedn. of 26 March 2020 (Dz.U. of 2020 item 702), which in Article 7 introduces the obligation to create an Electronic Platform for Collection, Analysis and Sharing of Digital Medical Records. It is an ICT system which allows, in particular, the access of service recipients to the information on provided and planned health care services, which is collected in the Medical Information System (SIM), as well as reports on the availability of data concerning them; etc. Actions in the field of eHealth have been taken at the EU level, with the aim to introduce the system of Emergency Medical Services (EMS) (The project was co-financed by the Directorate General for "Health & Consumers" of the European Commission and the World Health Organization (WHO) Regional Office for Europe).

Since July 2020 Poles have been able to check the results of the Covid-19 tests on the IKP, i.e. Patient Online Account (visits to doctors or completed prescriptions are stored there). It was the moment when the long-existing ICT solution began to be used on a large scale in reality.

In mid-2020 the Patient Online Account was used by 2.5 million Poles. In November there were already 3.5 million active users. The boom was already visible in March last year - then the account was activated by as many as 16% of Poles, which indicates a direct connection with the epidemic.

The mObywatel application is an important tool for the development of e-government. The application currently comprises six services. The mObywatel service, which can be used e.g. to collect registered mail at the post office, on trains, but also everywhere where the traditional, plastic ID card is not needed. The mLegitymacja szkolna is a digital version of a school ID card entitling learners to all statutory discounts and price reductions. The mStudent ID is a student ID confirming affiliation to a university, and thus entitling students to statutory discounts. The mVehicle is an electronic document prepared for owners and co-owners of vehicles. The ePrescription allows an access to a list of unfilled prescriptions issued for you and your family. The Pole Abroad service will tell you what to do in the case there are problems during your trip.

The ePUAP platform and electronic signature are other important e-government tools. The ePUAP is an electronic portal for public administration services which enables sending and receiving official correspondence with the use of electronic communication tools. Each government office is obliged to have an Electronic Submission Box. Each document sent to the office can be signed using the qualified electronic signature or the trusted profile (ePUAP, 2021).

Digital exclusion and inclusion as a result of rapid development of e-government

As indicated by D. Bogdanov there is a clear division between those who use IT facilities and online resources and those who do not. This phenomenon is most often referred to as the digital exclusion or e-exclusion. The people defined as 50+ in terms of age are the most threatened group, and in Poland they constitute one third of all residents (Bogdanov 2013, p. 361). According to a study by the Public Opinion Research Centre (CBOS) conducted before the pandemic in 2017, the online presence is mostly determined by the user's age. Internet use is common among the youngest respondents and almost universal among those aged 25-34. It is also used by the majority of respondents aged 35 to 44, and by seven out of ten of those aged 45 to 54. More than half of those aged 55-64 and three-quarters of the oldest Poles (65+) remain offline (Feliksiak 2017, p. 2). As far as older respondents are concerned, more than half of them are digitally excluded, including up to three quarters of those aged 65+. Poor education of older people is a significant factor that makes them stay offline. Age not only differentiates online presence itself, but also the ways of using the internet (Feliksiak 2017, p. 17).

A study conducted by the Office of Electronic Communications shows that the most frequently cited reasons for not using the Internet among seniors are lack of skills (54.6%) and lack of needs (47.1%). This is followed by excessively high costs of access (18.5%) (Wykluczenie cyfrowe podczas pandemii, 2020).

In recent years the issue of digital exclusion has not been raised often as trends in this area have been positive. However, the situation changed in 2020. According to Statistics Poland data, 3.63 million people aged 55-74 have never used the Internet. They account for 80.4 % of all nonusers. The pandemic deepened the digital exclusion of the most vulnerable groups. Almost 5 million Poles still do not use a computer, and the prices of electronic equipment constitute one of the most significant barriers (Wykluczenie cyfrowe podczas pandemii, 2020).

A report by the Consumer Federation of January 2021 indicates that the pandemic revealed that it is not only seniors who remain digitally excluded. As many as 50-70 thousand students do not have any computer or tablet at home, and more than 1 million (one in four) have to share devices with siblings or parents working remotely, which makes remote education a real impossibility (Wykluczenie cyfrowe podczas pandemii, 2020).

Access to the Internet and e-government services should be universal as it is the best expression of the modern democracy. However, the pandemic has shown that there are barriers, especially lack of computer equipment and lack of digital skills among both civil servants and other citizens. This is most often caused by the poor economic situation of the digitally excluded or by their age, and sometimes this is due to the lack of Internet coverage in some locations.

Conclusions

On the basis of the analysis carried out in the paragraphs above, it should be concluded that the hypotheses posed in the introduction have been verified positively. It can be noted that in the light of the available statistics the pandemic crisis has indeed influenced the development of public e-services and contributed to an increase in the digitalization of the administration. This happened earlier than expected because the deadlines for the expansion of the e-government system resulting from EU acts have not yet passed, while a satisfactory level of the development of the e-government sector in Poland has already been achieved. The fundamental lack of face-to-face contact in the customer-administration relationship meant that citizens had to adapt to the situation and move to virtual contact, thus increasing their digital readiness.

The introduction of such a possibility and its implementation by the administration resulted in a rapid digitalization of civil servants, both in terms of digital skills and an increased digitalization of the computer equipment. This resulted in the purchase of equipment for employees and students (e.g. the Remote School Plus program or the allocation of nearly PLN 400 million for the purchase of computer equipment for students and teachers by the Ministry of Digitalization).

Thus resulted in at least partial levelling of opportunities for weaker entities, and thus in the reduction of digital exclusion and an increase in digital competence of entities that benefited from the above-mentioned support.

Taking advantage of ICT tools by users allows them to discover their usefulness, which may influence the willingness to use them in the future. Thus, officials can become future advocates of using modern IT tools in the administration work.

The digital exclusion of seniors is most disturbing. Actions aimed at digital inclusion of this group should be undertaken, e.g. by providing free computer training for seniors, creating senior-friendly spaces in administrative institutions, where free assistance and access to computers would be provided. Such actions and greater involvement in the fight against digital exclusion should become the current priority of the state and local governments, with the support from NGOs.

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