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CONSTRUCTION OF ROAD-MAP FOR ACCESS TO "DIGITAL INCLUSION" AS A MECHANISM FOR TRANSFORMING THE SYSTEM OF PUBLIC SERVICES PROVISION

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Можей К.А., Лук'янов Д.В. Побудова дорожньої карти доступу до «цифрової інклюзії» як механізму трансформації системи надання державних послуг.
У статті представлені результати побудови дорожньої карти доступу до «цифрової інклюзії» на прикладі трансформації системи надання державних послуг в відомчих установах Республіки Білорусь. Визначено зміст поняття «цифрова інклюзія», розглянуті його складові частини і визначені цільові групи, на які орієнтована «цифрова інклюзія». Розглянуто приклади успішного впровадження принципів «цифровий інклюзії» і напрямки подальшого розвитку. Надано універсальний механізм моніторингу та оцінки проведення заходів дорожньої карти розвитку принципів «цифрова інклюзія».
Ключові слова: цифрова інклюзія, державні цифрові послуги, управління проектами і програмами, дорожня карта, інформаційно-комунікаційні технології (ІКТ), електронний уряд, цифровий уряд
Mozhei K.A., Lukianov D.V. Construction of road-map for access to "digital inclusion" as a mechanism for transforming the system of public services provision.
The article presents the results of the construction of a road map for access to "digital inclusion" on the example of the transformation of the system for the provision of public services in the departmental institutions of the Republic of Belarus. The content of the concept of "digital inclusion" is defined, its components are considered and target groups are identified, to which "digital inclusion" is oriented. Examples of successful implementation of the principles of "digital inclusion" and the direction for further development are considered. A universal mechanism for monitoring and evaluating the implementation of road map activities for the principles of "digital inclusion" was provided.
Keywords: digital inclusion, public digital services, project and program management, road map, information and communication technologies (ICT), eGovernment, dGovernment

The public service delivery system's transformation implies their digitization, in which departmental processes rely primarily on data. This kind of transformation entails digital services' redesign with user-oriented approach, that take into account the horizontal integration and interaction of various public authorities, that require the authorities of different levels interaction and assume changes in the organization of the management system [2]. In addition, digital transformation involves works' carrying to achieve the required level of electronic services' use, which will be supported by changes in administrative regulations of legal framework, in which electronic services will not only be convenient for users, but also internal administrative processes will be sufficiently digital.

The development and maintenance of digital government mechanisms contributes to solution of the so-called "digital inclusion" issues, taking into account geographical and demographic characteristics. Digital inclusion is aimed at achieving a certain level of inclusion in digital technologies and services' use, that involves the unimpeded development and use of public services [2].

First of all, addressing issues of digital inclusion improves digital services for citizenry and businesses, satisfies users' expectations about ease and convenience of access to public services, increases the effectiveness of administrative procedures, including redistributing resources to routine management processes.

Analysis of recent researches and publications

Digital transformation ensures the effective implementation of all functions of the state in modern society. Innovative governments facilitate to citizens access to government services, moves from simple services' administration to regular involvement of citizens and businesses in design and even in provision of public services. The analysis of the best world experience in digital government's organization and functioning allows us to state the beginning of the stage of transition to services' "digitalization" technologies, that provide horizontal and vertical interaction between government agencies (Government to Government), government authorities and individuals (Government to Citizens/Citizens to Government), government authorities and businesses (Government to Business/Business to Government), government authorities and non-governmental non-profit public bodies (Government to Nonprofit). Understanding the digital government's concept has long been based not only on the presence of the state in the network and on interaction of government agencies. The digital government is implementing the process of increasing the number and complexity of public services that are provided and the process of organizing various types of transactions. Thus, the transition from electronic to

digital government requires qualitative changes in internal and external work of state structures' organization. It should be noted that such organizations as the United Nations, the Council of Europe, the World Bank, the International Telecommunication Union, the Organization for Economic Cooperation and Development, the research holding "Romir Monitoring", Microsoft, Deloitte, SAP, Oracle, EPAM, IBM and others set about research into digital transformation.

The aim of the article is on the basis of theoretical analysis, is the development of an approach to building road-maps for development of digital inclusion as a mechanism for transforming the delivery system of public services.

The main part

Digital inclusion is focused on issues of stimulating the transition of a sufficient number of citizens and organizations to digital communication channels and eliminating the problems of inequality in access to digital services. The World Bank's projections for measuring success in the implementation of public digital services (for 2020) demonstrate a characteristic trend towards development of "digital inclusion" principles in public digital services' provision. For example, the proposed measures of measurement include such components as the time of result's achievement, the degree of digital channels' adoption by the population, the reduction in number of people who need help to interact online, the degree of transition to digital independence of people, the time savings, user ratings of public digital services' level [2].

Thus, redesigning and revising the existing digital public services and creating new ones, taking into account the approach to "digital inclusion", requires the development of plans for use of information and communication technologies for each departmental public authority. It can be developed and assigned key performance indicators (a mechanism for measuring progress in the implementation of various aspects of the digital government) that can be targeted, for example, to the degree of satisfaction with public digital services and their penetration to them.

In accordance with World Bank's developed recommendations for transition to digital government of the Russian Federation, it was suggested to develop a strategy for increasing the availability of digital technologies, to identify incentives and barriers to various groups of citizens' transition to digital channels, to promote the competence in information and communication technologies, to modernize the information and communication infrastructure in order to reach small towns and rural areas, to provide access to low-income population to digital public services, to explain the advantages and ease of digital public services' use [2]. In view of the best practices and world experience in digital government systems' building, it is necessary to harmonize these recommendations with existing and planned programs for the development of digital government mechanisms and design of public services, taking into account the principle of "digital inclusion".

The solution of digital inclusion's issues – is solving of digital divide issues that creates difficulties in doing business, access to medical services and information, gathering research, finding work, training, fulfilling school assignments, providing government services, voting, communicating on a daily basis. In addition, in some countries, the issue of reducing and eliminating digital gender inequalities in access to use and impact of information and communication technologies are raised. For example, in Germany is implementing the "Women20" program, which tackles issues of gender segregation, ensuring equal access to information and communication technologies, strengthening women's entrepreneurial and employment potential in the field of information and communication technologies, investing in research and developing digital tools to achieve sustainable levels life, support social entrepreneurship of women, the establishment of gender criteria in science and scientific research, strengthen the economy and social and political ties of women [4].

The International Telecommunication Union defines digital inclusion as the empowerment of people through information and communication technologies. Activities in the field of digital interaction should be aimed at ensuring the accessibility and use of information and communication technologies for the social and economic development of vulnerable groups of population: rural residents, people with disabilities, women and girls, youth and children, indigenous peoples [5].

It should be noted that digital inclusion is often defined in such broad aspects as "digital skills", "connectivity", "accessibility" [6]. However, these concepts do not contradict each other and are components for studying the issues of digital inclusion.

The Government of Great Britain has developed the "Government Digital Inclusion Strategy", which determines how the Government, the public and private sectors, volunteers will increase the possibilities for digital integration. The research identified four types of problems that people can face when they switch to the online mode [6]:

1. "access": accessibility, location, cost, manufacturability, infrastructure, language;
2. "skills": literacy skills, digital skills, security and confidentiality skills;
3. "motivation": risks, needs, financial benefits, social benefits, health and well-being;
4. "trust": identity, security, standards, reputation.

Digital inclusion, in this context, will mean overcoming all these problems. Alone, the Government can not solve these problems and there is an interest in developing financing for projects and programs using a public-private partnership mechanism that can provide planned results in all four of the above-mentioned areas.

"Digital Ajenda of Ukraine" until 2020 also includes issues of digital inclusion. In the program they are considered under the concept of "digital divide", which is aimed at eliminating technical, organizational and financial constraints, providing the possibility of using the "digital" world. The existing restrictions in these areas fall into the "digital divide" segment. The main criteria for the provision of digital services, in the context of eliminating the digital divide, should be affordability for users of communication services, accessibility at the place of residence, and availability over time. In addition, an effective way to specified areas of digital transformation's implement can be the service funds or development funds of "digital" infrastructure, which allow to generate additional economic incentives for the receipt of private investments. A common feature of such funds is that these funds adhere to the principle of national development of information and communication technologies, implying an active channelling of resources to the regions and to those segments of the population belonging to the "digital divide" segment. Also, the above-mentioned strategy focuses on the fact that in order to overcome the "digital divide" and ensure equal access to digital services (including, to the digital economy) is very important to develop and implement the National Development Plan of broadband Internet access, which determines specific ways to achieve universal access to public services, the volume of construction of telecommunication networks and the necessary investment, with funding arrangements (including the introduction of mechanisms state and private partnership) [3].

For the Republic of Belarus, issues of digital inclusion can be decisive in the design of public digital services. The State Program for the Development of the Digital Economy and the Information Society for 2016-2020 envisages the implementation of works based on a modern information and communication infrastructure aimed at increasing the availability of public services and improving the conditions that facilitate the transformation of human activities under the influence of information and communication technologies. The informatization infrastructure in the Republic of Belarus until 2020 will be determined by the development of an effective and transparent public administration system through the introduction of advanced information and communication technologies, ensuring transparency and ease of communication between citizens, business and the state through their electronic transfer, services, creating conditions for stimulating the use of electronic services, providing continuity and security of information flows [1]. In particular, with the help of the tasks set by the digital economy, to successfully address issues of human capital development, e-health, e-education, e-employment and social protection. In particular, the previous program showed high results of developments and their implementation in such areas as the state system of electronic services, confidence and security in the use of information and communication technologies, raising the level of informatization in the healthcare sphere, improving the quality and effectiveness of information relations between the population and the state in areas of employment and social protection of the population, creating conditions for the development of the information society on the basis of human capital's development and the widespread introduction of e-learning elements.

To ensure the development and construction of digital inclusion elements in the provision of public digital services, we have proposed a roadmap for maintaining and developing the principles of digital inclusion, which can be considered as a project proposal for developing an approach to building the principles of digital inclusion in government departmental institutions (fig. 1).

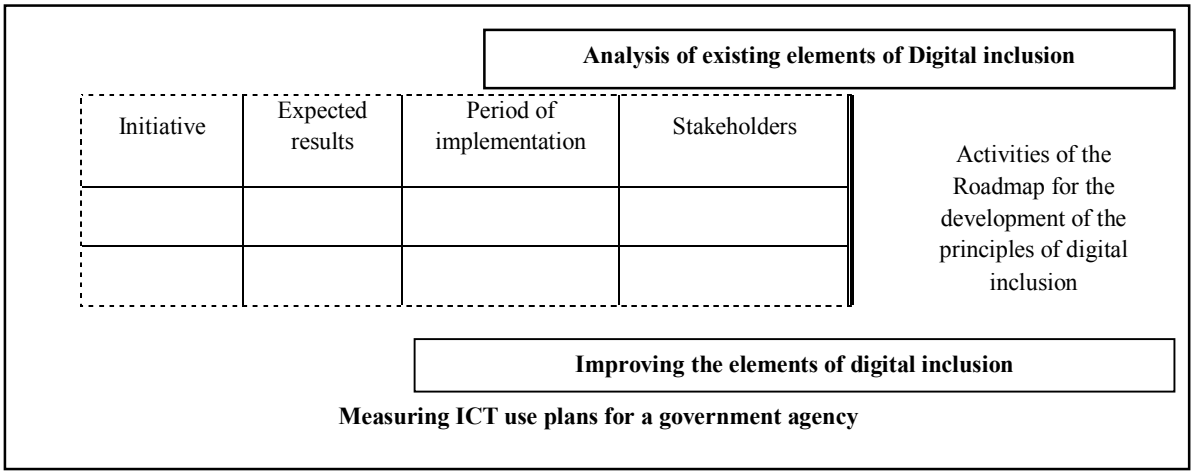

Fig. 1. Roadmap for the maintenance and development of "digital inclusion" principles
Source: Own elaboration

The proposed initiatives can be reflected in the plans for use of information and communication technologies and developed for each departmental public authority.

The initial stage in the construction of the roadmap should be the analysis of existing elements of digital inclusion, their state, coverage and user satisfaction. In addition, factors that contribute and adversely affect at development of digital inclusion principles based on their geographic, demographic, economic and other

characteristics of the region are indicated. The analysis should also take into account the specifics and areas of work with the categories of citizens of a departmental institution.

Based on the analysis that was carried out, road map activities are compiled, the expected results from their implementation and interested parties to which are appointed, which will facilitate the implementation of digital inclusion principles. It is important to note that the activities are recommended to be painted after the target audiences of the provision of public digital services in a particular region will be analyzed, and also their needs and socioeconomic status will be determined.

After analyzing and drawing up the roadmap activities, we can proceed to drawing up proposals for maintaining and improving the principles of digital inclusion in a departmental institution, where we can analyze the data received with the way the digital inclusion principle is currently implemented and how it can be implemented, and what opportunities are opened for the development of the principle of digital inclusion in the provision of public digital services.

Measures of road map for the development of the principles of digital inclusion can be described in terms of directions, results, their tasks and work. Such a detailed breakdown by content will allow you to take into account the criteria of importance and ease of work and build a hierarchy of their implementation (table 1).

Table 1. The distribution matrix of road map activities

№	Idea / project	V	L	V·L
Direction 1.				
Goal of direction 1.				
Result of direction 1.1.				
Task 1.1.1.				
1.	Work 1.1.1.1			
2.	Work 1.1.1.2.			
3.	Work 1.1.1.3.			

Source: Own elaboration

Table 2. The matrix of activities distribution and their results by target groups

Events	Result
Target group 1	
Event 1.1. Event 1.2. Event 1.3.	The result of event 1.1. The result of event 1.2. The result of event 1.3.

Source: Own elaboration

In addition to content distribution, it is necessary to structure activities for the target groups, which are covered by the activities of the road map for access to digital inclusion. The selected target groups will be a segment that is affected by the principles of digital inclusion. First of all, it is important to describe the economic and social characteristics of the target groups and determine their needs for access to digital public services (table 2).

Conclusions

Thus, the proposed scheme can be used as a template in the construction of similar road maps and be filled in accordance with the criteria for the activities of individual institutions. In addition, the principle of digital inclusion in the provision of services can be considered within the framework of corporate social responsibility of business, which expands its significance in the international and national space.

Abstract

The transformation of the public service delivery system implies their digitization, in which departmental processes rely primarily on data. The development and support of digital government mechanisms contributes to the solution of the so-called "digital integration" issues. First of all, addressing digital connectivity issues improves digital services for citizens and businesses, satisfies users expectations regarding the simplicity and ease of access to public services, increases the efficiency of administrative procedures, including the redistribution of resources in routine management processes. Digital inclusion focuses on the issues of stimulating the transition of a sufficient number of citizens and organizations to digital communication channels and eliminating the problems of inequality in access to digital services. Revision and revision of existing digital public services and the creation of new ones, taking into account the approach to "digital inclusion", requires the development of plans for the use of information and communication technologies for each departmental government body. They can be developed and provided with key performance indicators (a mechanism for measuring progress in the implementation of various aspects of digital government), which can be aimed, for

example, at the level of satisfaction with digital public services and their penetration. It should be noted that digital inclusion is often defined in such broad aspects as "digital skills", "connectivity", "accessibility". However, these concepts do not contradict each other and are components for studying the issues of digital inclusion.

In order to ensure the development and creation of digital inclusion elements in the provision of digital digital services, we proposed a "roadmap" for maintaining and developing the principles of digital integration, which can be seen as a project proposal for developing an approach to building the principles Digital inclusion in government departmental institutions. A road map for developing the principles of digital inclusion can be described in terms of directions, results, their tasks and work. This detailed breakdown by content will allow you to take into account the criteria of importance and simplicity of work and build a hierarchy of their implementation. In addition to content distribution, it is necessary to structure activities for target groups that are covered by the road map activities for access to digital inclusion. The selected target groups will be the segment influenced by the principles of digital inclusion. First of all, it is important to record the economic and social characteristics of the target groups and determine their needs for access to digital public services.

Thus, the proposed scheme can be used as a template for the construction of similar road maps and filled in accordance with the performance criteria of individual institutions. In addition, the principle of digital inclusion in the provision of services can be considered within the framework of corporate social responsibility of business, which expands its importance in the international and national space.

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