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Digital competence of society as a component of modern public administration

Цифрова компетентність суспільства як складова реалізації сучасного публічного управління

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Abstract


Today, digital transformation covers all areas of human activity, including the public administration sector. At the same time, the effectiveness of reforms in this area largely depends on society's digital competence, which determines people's ability to use innovative products and services. The study aims to analyse the impact of society's digital competence on developing e-government as a component of digital public administration. The study used statistical analysis, correlation analysis, and multivariate regression analysis. It was found that there is a significant or high correlation between the level of the population's digital competence and the development of e-government. Assessment of the impact of separate indicators characterising the citizens' digital competence on the E-Government Development Index (EGDI) revealed that

Анотація


На сьогодні цифровою трансформацією охоплені усі сфери глобальної діяльності людей, у тому числі сектор публічного управління. При цьому ефективність реформ у цій сфері у значному ступені залежить від цифрової компетентності суспільства, яка визначає можливості людей користуватися інноваційними продуктами та послугами. Метою дослідження є аналіз впливу цифрової компетентності суспільства на розвиток електронного урядування як складової публічного управління у цифровому середовищі. У ході дослідження застосовувались методи статистичного аналізу, кореляційного аналізу, аналізу за методом багатовимірної регресії. В результаті дослідження було виявлено, що між показниками, що демонструють рівень цифрової компетентності населення та


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approximately 74.54% of the variation in this indicator can be explained through the used independent variables, namely, “Digital Skills among Population”, “Global Science and Technology Skills” and “E-Participation Index”. The novelty of the research is to quantify the impact of citizens’ digital competence on the level of e-government development in European countries. Government officials can use the results to further develop strategies and measures to improve digital public administration.

Keywords: digital competence, media literacy, quality of public services, netocracy, information society.

Introduction

In today's world, digital technologies determine not only society’s daily life but also public affairs management (Alvarenga et al., 2020). Public administration is transforming significantly, introducing the latest digital developments into its practice (Kravtsov, 2022; Semchuk, 2022). This has led to the emergence of the “e-government” concept (Eom & Lee, 2022), which has many advantages in the context of increased transparency (Bisogno et al., 2022), access to information (Mensah & Mwakapesa, 2023), reduction of information asymmetry (Yan & Lyu, 2023), and more significant opportunities for citizens to influence government decision-making (Anshari & Hamdan, 2022). The development of e-government is a critical factor in the effectiveness of public administration in modern conditions (Doran et al., 2023).

The effectiveness of public administration in the digital transformation era significantly depends on society’s digital competence (Kvitka et al., 2020; Razumei & Razumei, 2020; Peng, 2022). “Digital competence” is a broader concept than “digital literacy” (Falloon, 2020) and is defined as the ability of citizens to effectively use Internet resources, information and communication technologies to solve personal and professional tasks and other goals (Storozhenko, 2023). As defined in “The Digital Competence Framework for Citizens”

Vuorikari et al., 2022), digital competence is a key competence in the context of the Fourth

розвитком електронного уряду існує помітна або висока сила зв’язку. Оцінка впливу окремих показників, що характеризують цифрову компетентність громадян, на індекс розвитку електронного уряду дозволила виявити, що приблизно 74,54% варіації у рівні цього показника можна пояснити через використані незалежні змінні, а саме – «Digital Skills among Population», «Global science and technology skills» та «E-Participation Index». Новизна дослідження полягає у кількісному визначенні впливу цифрової компетентності громадян на рівень розвитку електронного уряду в країнах Європи. Результати роботи можуть бути використані держслужбовцями у цілях розробки стратегії та заходів для подальшого покращення публічного управління в цифровому середовищі.

Ключові слова: цифрова компетентність, медіаграмотність, якість публічних послуг, нетократія, інформаційне суспільство.

Industrial Revolution. It covers information and media literacy, communication and collaboration, digital content creation, security and problem-solving, and lifelong learning. Digital competence is not limited to technological knowledge but focuses on the social, cognitive and emotional dimensions of living and working in a digital environment (Mokhova & Orlova, 2021). Therefore, digital competence involves not only the application of digital skills but also changes the established way of life, necessitating continuous personal and professional development.

The level of society’s digital competence largely determines the effectiveness of public administration. In turn, public administration can influence digital competence levels through the introduction of state programmes for testing and training in digital and media literacy, preparation of relevant draft laws in education, labour and other sectors, control over the security of state platforms and ensuring their convenience for different segments of the population, etc. In the context of these mutual influences, there is an effective interaction between the state and society, which creates new forms and mechanisms of democratic participation necessary for the further development of public administration based on netocracy.

The main challenge faced by the development of e-government in relation to citizens' digital competence is the insufficient level of digital

competence of a part of the population, which may be related to age, education, personal and other reasons. This can hinder the development of e-government due to the limitations created when using e-services for a part of the population with insufficient digital competence. This actualises the key research question of the work - to what extent does the development of electronic government depend on the digital competence of the population? In addition, it is important to determine which measures from the public administration can contribute to increasing the population's digital competence level.

The study aims to analyse the impact of society's digital competence on e-government development as a component of digital public administration. This aim requires solving several tasks:

- to determine the relationship between the citizens' digital competence and the development of digital public administration;
- to identify the impact of citizens' digital competence indicators on the development of e-government;
- to determine the place of the population's digital competence in the public administration system in Ukraine.

Literature review

The digital competence of society has often been studied in the context of public administration. The majority of such works relate to aspects of the development of a digital society, a necessary prerequisite for which is the development of the population's digital skills, as well as the strengthening of digital inclusion. Poliovyi (2021) explores public administration modernisation in the context of the development of the digital society, namely the areas for the digital economy development (improvement of the population's digital skills and digital competencies in some sectors). This direction involves the development of citizens' digital skills in general. Also, it focuses on the need to develop digital competencies of education and science workers, healthcare professionals, entrepreneurs, and officials and the introduction of new digital professions. Blažič & Blažič (2020) dwell on the development of digital competence in older adults, as this category of the population has the most difficulty developing digital skills. The researchers explore how older people can bridge the digital divide and note that the problem is particularly acute due to the trend

towards demographic ageing. Tsekeris (2019) explores ways to deal with different challenges and existential fears of European citizens by forming a digital skills ecosystem. Such a system will allow for the consolidation of liberal principles and activate people's joint creativity through collective evolution, displacing outdated standards of top-down control. Oberländer et al. (2020) have clarified the definition and framework of digital competencies and noted a gap between the existing digital competence of citizens and the needs they face in the workplace.

Some studies have emphasised the need to develop digital competencies for citizens in general and public administration professionals. Orlova & Shlyakhtina (2021) claim that modern transformation processes in public administration require the development of digital competencies in civil service leaders. Similar conclusions are drawn by Wodecka-Hyjek et al. (2021), who note that developed digital competencies of employees will contribute to improving the efficiency of human resource management in public organisations and public administration. Fedorova et al. (2019) study the changes in the requirements for the competencies of managers in the civil service in the digital economy. The researchers emphasise the need to develop so-called "soft skills" (communication, management, etc.).

Many works empirically reveal the relationship between the digital skills of the population and the development of e-government. Chohan & Hu (2022) explore the possibilities of enhancing digital inclusion through e-government and identify the impact of information and communication technology curricula on improving digital competence using e-government services. Scientists empirically confirm the hypothesis that e-government educational programs in the field of information and communication technologies can increase the level of digital literacy and improve the formation of an information society. Tai et al. (2020) investigate whether the rise of e-participation affects citizens' mobilisation to participate in public affairs offline based on an analysis of a representative sample of citizens in the United States of America. An empirical study by Rodríguez-Hevíá et al. (2020) argues a close connection between e-government and the digital divide. Researchers argue that e-government policies can both exacerbate the divide and hinder it. Researchers have found that despite having access to the Internet, many users have a significant skills gap. In particular, the work focuses on increasing attention to the digital

inclusion of the elderly. Abdulkareem & Ramli (2021) investigate the prognostic role of digital literacy in improving e-government performance. The central assumption in the study is that citizens with a high level of digital literacy will be able to use e-government services, which will lead to higher efficiency of the latter.

The literature review allows us to note that the problem of civil servants' digital competence has been studied extensively. At the same time, a much smaller number of studies are aimed at establishing the relationship between the citizens' digital competence and public administration, in particular, e-government. Most of the works containing empirical studies reveal the impact of e-government on the digital divide, while the impact of digital competencies of the population on e-government is not sufficiently discussed. Therefore, our study will seek to fill this gap by applying correlation analysis and multivariate regression analysis to indicators characterising the level of development of e-government and citizens' digital competence.

Methods

The conducted research is based first on the epistemological approach to understanding and obtaining information. The research procedure involves three interrelated and interdependent stages. The first stage examines the relationship between citizens' digital competence and the development of digital public administration in European countries. This is done by determining the relationship between the following groups of indicators: on the one hand, indicators that characterise the citizens' digital competence – “E-Government Index” and its sub-indices “Online Service Index”, “Human Capital Index” and “Telecommunication Infrastructure Index”; on the other hand, indicators that demonstrate the level of e-government development – “Digital Skills among Population”, “Global science and technology skills” and “E-Participation Index”.

The second stage of the study reveals the significance and strength of the impact of citizens' digital competence indicators on the development of e-government.

The third stage reveals the correlation between digital competence and e-government development in Ukraine. The analysis includes indicators such as the “E-Government Development Index” and “E-Participation Index” for Ukraine for the period from 2003 to 2022, the level of general digital skills of the

Ukrainian population in % in 2019 and 2021, the Media Literacy Index of the Ukrainian population in % for 2020-2022, as well as the growth rates of digital competence and e-government development indicators.

Sample

The sample size is equal to 45 European countries, the data of which was used in the study. The digital competence and e-government indicators for Ukraine are disclosed separately and in more detail. Ukraine is of particular scientific interest as a developing country with intentions of European integration. Therefore, such a vector of development as digital transformation in all spheres of life and activity is particularly important.

For data analysis, such software as Excel and STATISTA were used in the work.

Methods

Statistical analysis was used to assess changes in the studied indicators over time, and correlation analysis was used to determine the relationship between citizens' digital competence and the development of digital public administration. The multivariate regression analysis provides an opportunity to assess the impact of citizens' digital competence on the development of e-government.

Limitations of the study

This study has its limitations. First, the study assessed the impact of the population's digital competence not on public administration in general but on public administration in the digital environment (meaning the development of e-government as a critical component of the effectiveness of modern public administration). Hence, the study did not determine the impact of the population's digital competence on the offline aspects of public administration.

Secondly, “digital competence” is a broader concept than “digital skills” and “media literacy” and encompasses a large number of characteristics. The study mainly assessed the digital competence of the population by their digital skills.

Third, the years of conducting research used to define the indices differ. For example, the E-Government Index and the E-Participation Index have been defined for quite some time, and data for the last 20 years are available. At the

same time, indices such as “Digital Skills among Population” and “Global Science and Technology Skills” are component indices of the Digital Skills Gap Index, and this data is available only for 2021.

The above limitations are mainly due to the lack of necessary quantitative data for the relevant periods. They are also related to the limitations of the scope of this research paper.

Results

To conduct a correlation analysis, we used indicators that characterise the population’s digital competence on the one hand and indicators of e-government development on the other. Studying the correlations between these indicators will allow us to determine the relationship between the population’s digital competence and the effectiveness of digital public administration, expressed through the level of e-government development. Table 1 shows the results of the correlation analysis between the studied indicators.

Table 1.
Results of the correlation analysis between the studied indicators

	E-Government Index	Online Service Index	Human Capital Index	Telecommunication Infrastructure Index
Digital Skills among the Population	0,707864	0,472664	0,610652	0,720944
Global science and technology skills	0,574072	0,257826	0,526553	0,705004
E-Participation Index	0,681942	0,827953	0,373623	0,408730

Source: calculated by the author based on data from Wiley (2021); United Nations (2022)

As can be seen from the data in Table 1, the degree of the relationship between many of the indicators is significant or high. Focusing on the indicators “Digital Skills among Population” and “Global Science and Technology Skills”, we can see that there is a strong correlation with the “Telecommunication Infrastructure Index”, as well as with the E-Government Index for “Digital Skills among Population” indicator. Therefore, the level of citizens’ digital competence is most closely related to the level of e-government and telecommunications infrastructure development. The E-Participation Index correlates highly with the Online Service Index, so the more developed

the electronic services for citizens are, the higher their e-participation is.

Identifying the impact of citizens’ digital competence indicators on e-government development

In the context of the study, it is of particular interest to determine the impact of the population’s digital competence on implementing public administration in the digital environment. Using the multivariate regression method (Table 2), we assessed the impact of indicators characterising the population’s digital competence level on the E-Government Index.

Table 2.
Results of the analysis using the multivariate regression method

	BETA	BETA standard error	B	Standard error B	t(42)	p-value
Free member			0,449655	0,034395	13,07324	0,000000
Digital Skills among the Population	0,334765	0,098067	0,015070	0,004415	3,41363	0,001455
Global science and technology skills	0,319292	0,090937	0,013569	0,003865	3,51112	0,001100
E-Participation Index	0,502226	0,083264	0,275067	0,045603	6,03172	0,000000

Source: calculated by the author

In the multivariate regression analysis, the variable “E-Government Index” was the dependent variable, and “Digital Skills among Population”, “Global Science and Technology

Skills”, and “E-Participation Index” were the independent variables. In such a way, how each independent variable influences the “E-Government Index” variable was assessed.

The “E-Government Index” is a key indicator for characterising the development of e-government. The “Digital Skills among Population”, “Global Science and Technology Skills”, and “E-Participation Index” indicate the level of development of citizens’ digital competence.

The analysis results suggest that given the value of the coefficient of determination R², which is about 0.7454, approximately 74.54% of the variation in the level of the “E-Government Index” can be explained by the independent variables. The F-statistic is $F(3, 41) = 43.939$, and the p-value is less than 0.00000, which indicates a significant impact of the independent variables on the dependent variable.

The free member has a statistically significant effect on the “E-Government Index” with a high t-statistic ($t(41) = 13.07324$) and a low p-value ($p < 0.000000$). This means that, despite other variables, there is a constant that has a significant impact on the “E-Government Index”.

The indicators “Digital Skills among Population” and “Global Science and Technology Skills” also have a statistically significant impact on the “E-Government Index”, with high t-statistics ($t(41) = 3.41363$ and $t(41) = 3.51112$, respectively) and low p-values ($p = 0.001455$ and $p = 0.001100$, respectively). The “E-Participation Index” has the most considerable positive impact on the “E-Government Index” with a high t-statistic ($t(41) = 6.03172$) and a low p-value ($p < 0.000000$).

Hence, all the variables included in the analysis have a statistically significant impact on the dependent variable “E-Government Index” and may be necessary for improving the efficiency of e-government. The regression model can predict the “E-Government Index” based on the independent variables.

From the conducted analysis, it can be concluded that the correlation between citizens’ digital competence and the development of public administration in the digital environment is close, because about 75% of the variation in the level of development of electronic government can be explained by the change in indicators related to the development of digital competences of the population. This influence of digital skills on the level of development of e-government can be explained by the fact that the effectiveness of e-government depends, first of all, on the ability of citizens to use it properly. These opportunities, in turn, depend on the digital competences available to the population.

The place of the population’s digital competence in the public administration system in Ukraine

When determining the place of the population’s digital competence in the public administration system in Ukraine, it is also worth referring to statistics first. Figure 1 shows the values of the “E-Government Development Index” and the “E-Participation Index” for Ukraine from 2003 to 2022.

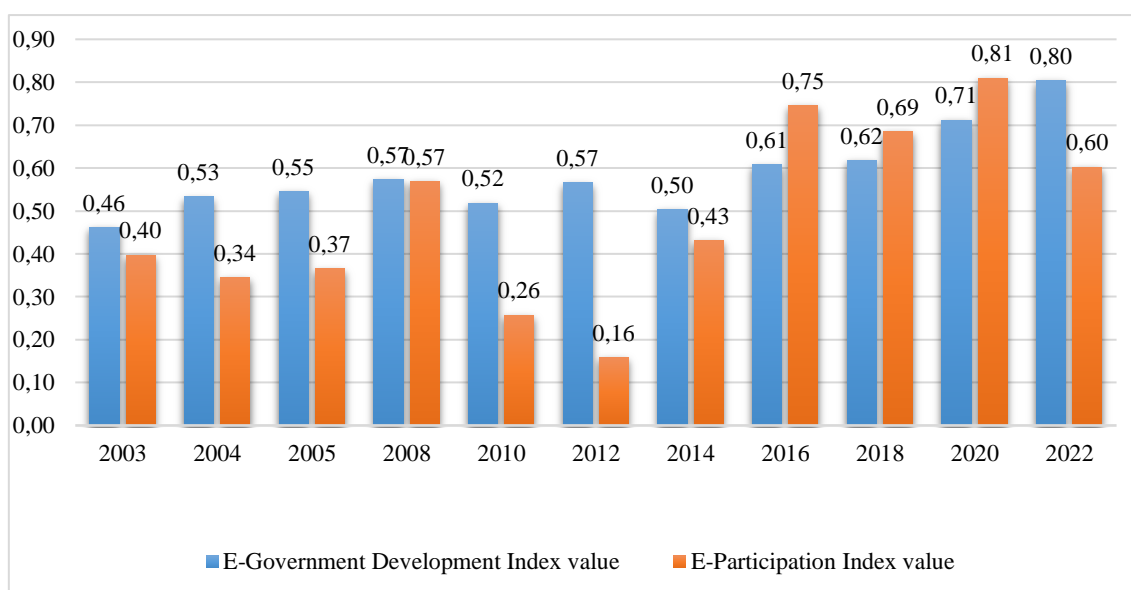


Figure 1. Values of the “E-Government Development Index” and “E-Participation Index” for Ukraine for the period from 2003 to 2022

Source: constructed by the author from United Nations (2022)

As can be seen from Figure 1, the “E-Government Development Index” for Ukraine has a more stable upward trend than the “E-Participation Index”, which is characterised by significant fluctuations. At the same time, the correlation between the indicators is 0.618450, or about 61.85%, which is lower than the value calculated for European countries (0.681942). However, this may be due to differences in the calculation methodology – for Ukraine, the observations were the values of the “E-Government Development Index” and the “E-Participation Index” in 2003-2022, while for European countries, these were the values of the indices for each country in the last year of the study. In general, the strength of the connection between the two indices can be defined as significant.

In determining the impact of the population’s digital competence on e-government development, it is impossible to apply the same approach to Ukraine as was applied to European countries in the previous section. This is because the values of such indices as “Digital Skills among Population” and “Global Science and Technology Skills” are available only for 2021. Therefore, it is impossible to study their changes over time. At the same time, when the observations are not periods but individual countries, using these indices is entirely appropriate. Hence, in the case of Ukraine, it is possible to assess the impact of the “E-Participation Index” alone.

In the course of assessing the impact of the “E-Participation Index” on the “E-Government Development Index” using the multivariate regression method, the following results were obtained. The coefficient of determination R^2 is approximately 0.3825, which means that about 38.25% of the variation in the dependent variable “E-Government Development Index” can be explained using the independent variable “E-Participation Index” in the regression model. The value of the F-statistic $F(1,9)$ is approximately 5.5744, and the p-value is less

than 0.04253. This indicates that the independent variable “E-Participation Index value” is statistically significant in predicting the dependent variable “E-Government Development Index”. The beta coefficient for the independent variable “E-Participation Index” is approximately 0.2901. This means that for every one unit change in the “E-Participation Index”, the dependent variable “E-Government Development Index” changes by about 0.2901 units in the same direction. The standard error of the estimate for the “E-Participation Index” is approximately 0.1229, meaning there is a certain degree of error in the predictions.

The “Digital Skills among Population” and “Global Science and Technology Skills” indicators, available only for 2021, are 5.9 and 4.8 for Ukraine, respectively, with a maximum value of 10. The leader in the “Digital Skills among Population” index in Europe is Finland (10), and in “Global Science and Technology Skills” – Austria (9.6).

In the absence of values for the indicators “Digital Skills among Population” and “Global Science and Technology Skills” over time, the change in the level of digital competence of the population in Ukraine can also be assessed using local indicators. Such indicators in the study are the Population’s Level of General Digital Skills and the Population’s Media Literacy Index. The latter index was taken into account in the study, as the Digital Competence Framework for Citizens defines media literacy as a component of digital competence, which “encompasses concepts such as information and media literacy, communication and collaboration, digital content creation (including programming), security (including personal data protection in the digital environment and cybersecurity), as well as problem-solving and lifelong learning” (Vuorikari et al., 2022). The level of general digital skills and the Media Literacy Index of the Ukrainian population are presented in Figures 2 and 3.

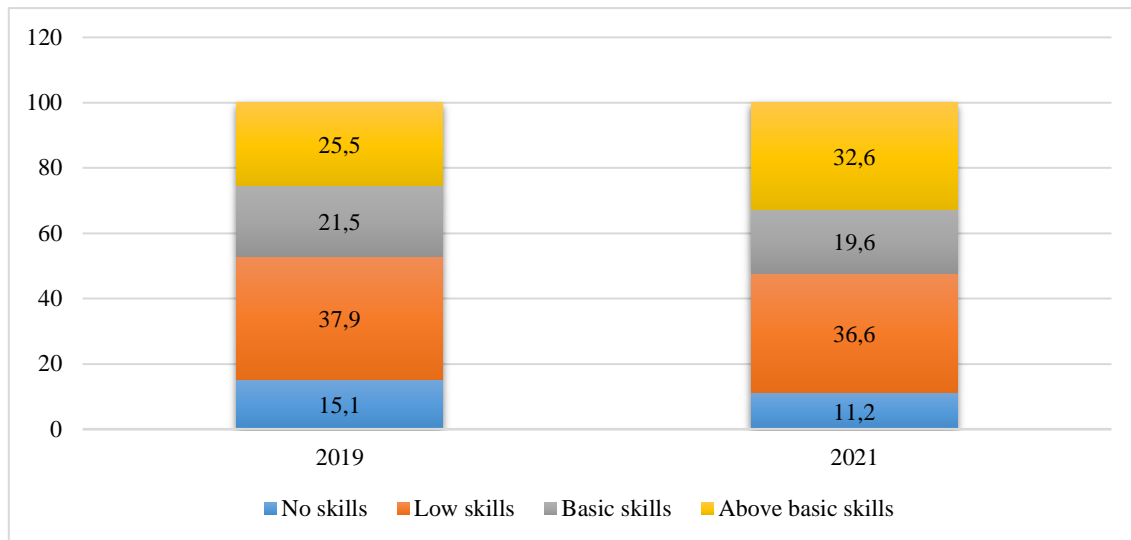


Figure 2. The general level of digital skills of the Ukrainian population (%)
Source: constructed by the author according to Diia. Osvita (2021)

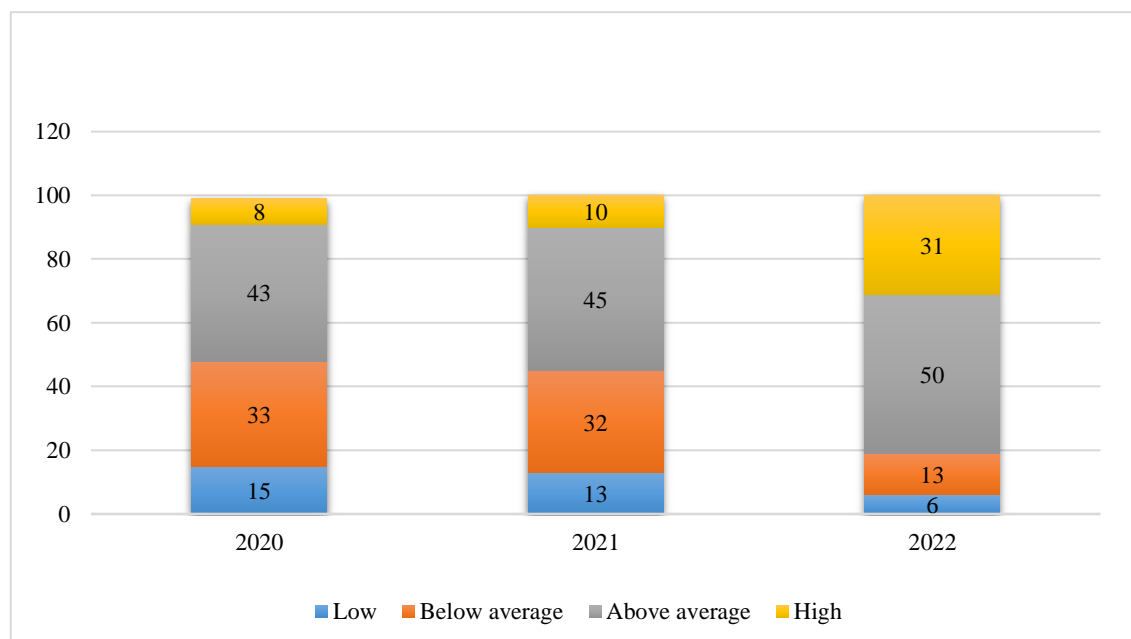


Figure 3. Media literacy index of the Ukrainian population (%)
Source: compiled by the author from Detector Media (2023)

Analysing the data in Figure 2, we can see an increase in the share of the population with digital skills above basic by 7.1% (in 2021 compared to 2019). The Media Literacy Index of the population has grown incredibly significantly (Figure 3). The proportion of the population with above-average media literacy increased by 7%, and the proportion with high media literacy rose by 23% (in 2022 compared to 2020).

In the context of the study, comparing the growth rates of the above indicators for Ukraine is helpful. For such indicators as the General Level of Digital Skills and the Media Literacy Index, the sums of the shares of the population with average and above-average values were calculated, which allows us to determine the growth rate of the population with an above-average level of digital competence. The calculations are presented in Table 3.

Table 3.
Growth rates of the population's digital competence and e-government development

2022 Ukraine	2019	2020	2021	2022	Growth rate, %.
E-Government Development Index	-	0,7119	-	0,8029	112,78
E-Participation Index	-	0,8095	-	0,6023	74,40
Online Service Index	-	0,6824	-	0,8148	119,40
Telecommunication Infrastructure Index	-	0,5942	-	0,727	122,35
Human Capital Index	-	0,8591	-	0,8669	100,90
Overall digital skills assessment (Basic skills + Above basic skills)	47		52,2	-	111,06
Media literacy index (Above average + High)	-	51	55	81	158,82

As can be seen from Table 3, the Media Literacy Index has the highest growth rate. The lowest growth rate (74.4%) is characteristic of the "E-Participation Index". The growth rate of the "E-Government Development Index" reaches 112.78%. Based on the results of the preliminary analysis for European countries, it can be assumed that 74.54% of the variation in this indicator can be explained by changes in the "Digital Skills among Population", "Global Science and Technology Skills", and "E-Participation Index". A comparison of the indicators' growth rates also shows that the growth of the "E-Government Development Index" is accompanied by an increase in general digital skills and media literacy. However, the "E-Participation Index" has declined.

The analysis shows that to improve the efficiency of public administration, in particular in the digital sphere, it is necessary to improve the population's digital competence. This can be achieved through introducing special government programmes, further development of the Digital Competence Framework and its adaptation to Ukrainian realities, development of platforms for testing and training in digital skills, educational programmes, etc. Forming a proper ecosystem of digital skills of the population will contribute to the development of public administration and public services based on netocracy.

Among the specific recommendations, it is possible to propose the implementation of digital educational projects to improve the digital literacy of the elderly, taking as an example the project launched by the National Bank of Ukraine in partnership with PrivatBank. This project is called "Financial Wisdom" and is aimed at increasing the financial literacy of older people. Taking this project as a basis, it is possible to issue a printed publication containing information about modern public digital services,

the possibilities they provide, recommendations for use, and advice on data security.

Discussion

The analysis conducted confirms that the development of e-government significantly depends on the level of society's digital competence. Therefore, developing relevant skills among citizens is one of the government's top priorities in digitalising public administration.

Poliiovyi (2021) emphasises that the digitalisation of public administration should become a prerequisite for developing the digital economy and society. According to the researcher, the digitalisation process of public administration can be intensified by introducing information and communication technologies using public-private partnership models. At the same time, the author's research demonstrated that the efforts to digitalise the public administration sector should focus primarily on the human factor and secondarily on technological aspects. This applies to both the population and civil servants. The author's conclusions are confirmed in the research by Orlova and Shlyakhtina (2021), who, studying ways to improve the digital competencies of managers in the civil service, conclude that mechanisms for assessing acquired digital competencies are insufficiently developed. In addition, efforts should be made to create effective programmes to improve the digital literacy of officials. Fedorova et al. (2019) emphasise the development of soft skills in civil servants and propose to classify such skills into five categories: communication, self-organisational, managerial, emotional and mental. Wodecka-Hyjek et al. (2021) used correlation analysis to establish a link between the level of digital competencies of management personnel and employee engagement and satisfaction on the one hand and the effectiveness

of human resource management on the other hand. These research works confirm the conclusions drawn in the study and propose specific areas for developing digital competence. Chohan & Hu (2022) conclude that e-government programmes for information and communication technology training have a significant impact. Such programmes should be used in conjunction with measures to improve digital literacy. This will help reduce the digital divide in developing countries. Among the positive effects, it is also worth noting the growth of the potential population of such states and the increase in equity in the use of public services. The author's research further found that the development of digital skills and media literacy, communication and creative skills, etc., should accompany training in information and communication technologies.

Tai et al. (2020) found that greater electronic participation of citizens increases their offline engagement. Citizens' participation in public affairs through various forms of electronic interaction is directly related to their engagement outside the digital sphere. This conclusion differs from our study, which is dedicated to the impact of e-participation on the development of e-government. Thus, comparing the author's work with this thesis reveals the main limitation of the author's research - it did not reveal the impact of digital skills on offline aspects of public administration.

Blažič & Blažič (2020) emphasise the importance of the digital divide for older adults and the possibility for technologies to facilitate the lives of this category of citizens by increasing mobility, communication opportunities, access to services, etc. The researchers also revealed the effectiveness of using particular games on a tablet to develop information and communication skills in older adults. This topic was not covered in the article, but further research could continue through a statistical analysis of the population's digital skills by age group.

Tsekeris (2019) suggests that forming a practical digital skills ecosystem among the population will contribute to strengthening humanism and democracy. In addition, it will spur responsible innovation and improved adaptability, ultimately leading to economic growth and transforming existing risks into new opportunities for the population. While this study focuses on strengthening democracy, our research emphasises the development of public administration based on netocracy, the importance of digitalising the public sphere for

the free expression of opinions and increased participation of citizens in public administration through information and communication technologies.

Oberländer et al. (2020) point out the lack of work aimed at studying the digital competence of the adult population, as well as the neglect of the context of work (education, politics, media, communications, and other areas). This work fills the gap in the study of the adult population's digital competence to some extent.

Abdulkareem & Ramli (2021) found that the level of digital literacy of the population has a significant impact on the use of e-government and its benefits (based on the example of Nigeria). These findings are consistent with the author's research, as they prove that increasing the effectiveness of e-government depends on the population's level of digital competence. The studies differ in the regions used for the analysis, so the conclusions drawn in the author's work may be valid for other countries and require additional calculations based on local data.

Conclusions

Innovative technologies transform the way society and public administration develop, forcing the latter to adapt to new challenges. Improving citizens' digital competence is crucial for ensuring effective e-government and strengthening democracy in the digital era. The interconnection between the digital competence of society and public administration reveals new opportunities to improve the efficiency and quality of public services and engage citizens more actively in shared decision-making.

The study results show a significant relationship between the population's digital competence level and the development of e-government in European countries. In particular, a high level of citizens' digital competence affects the increase in the "E-Government Index" and its sub-indices, indicating a more efficient public administration through information and communication technologies. The results also indicate the need to develop telecommunications infrastructure to increase the level of digital competence and efficiency of public administration.

The multivariate regression analysis allows for predicting the level of e-government development based on indicators of citizens' digital competence and other factors. Given the significant impact of these indicators on the effectiveness of public administration, it is

possible to develop strategies and measures to improve public administration in the digital environment further.

The digital competence of the population in Ukraine also has a significant impact on the development of e-government and public administration. The growth of the “E-Government Development Index” is accompanied by an increase in digital skills and media literacy, demonstrating the importance of digital competence for modern public administration.

To improve the effectiveness of public administration in the information society, it is necessary to actively develop programmes and initiatives to increase the digital competence of the population and adapt them to the needs of Ukrainian society. For example, the work proposed the implementation of an educational program for the elderly, which, in the form of a printed edition, will increase their awareness in the field of public digital services - following the example of the implemented program for increasing the financial literacy of the elderly "Financial Wisdom". High digital competence of the population will contribute to developing public administration and public services based on netocracy.

The key limitations of the study are related to the fact that the analysis does not reveal the impact of the population's digital skills on offline aspects of public administration. In addition, further research should cover a wider range of characteristics of digital competence of the population, in addition to existing digital skills. Further research should be aimed at developing strategies to improve citizens' digital competence, taking into account the results of this study, as well as by different age groups.

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