

# *The Role of E-Government in the Evaluation of the Quality of Governance in the Countries of the European Union*

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The introduction of information and communication technologies is a priority for most economies as they take steps to reform their public administration; however, this requires considerable effort and is quite costly. The paper aims to verify whether and how the degree of maturity of e-government affects a country's quality of governance. The analysis was performed using correlation and regression analysis on a sample of European Union member states in the period from 2003 to 2020. In addition, bag plots were used to provide graphical interpretation. The analysis proved a relationship between the degree of utilisation of e-government and the quality of governance. The implementation of information and communication tech-

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nologies has had a positive effect on the evaluation of the quality of governance in the analysed countries.

*Keywords:* e-government, e-governance, digital era governance, e-services, Worldwide Governance Indicators, E-Government Development Index

## 1. Introduction

Modern governance concepts allow public sector organisations to provide new and improved public services to better meet consumer needs. These new concepts can increase the efficiency of public service delivery and the exercise of public power by increasing efficiency and reducing bureaucratic and transaction costs.

In recent years, service management experts have been introducing fundamental changes to service delivery processes. A growing role in service delivery is attributed to service users as co-producers of innovation in the service delivery process. Not even public administration has been able to avoid the introduction of information and communication systems, which is reflected in the exercise of public power, communication with citizens, and the way public services are provided.

Society has moved into a so-called era of digital governance, which is characterised by modern ways of providing public services to citizens. In this era, services are provided online, they are highly personalised, and networks and voluntary partnerships between different stakeholders are being established.

The aim of this article is to examine the relationship between the quality of governance and the level of use of information and communication technologies in public administration. Correlation and regression analysis are used to answer the question of whether and how e-government tools affect the quality of governance in the country.

## 2. E-Government and its Influence on the Quality of Governance

With the development of technology, a new phenomenon is emerging that is fundamentally affecting the functioning of public administration.

It is a new way of communicating between state offices, as well as a new way of providing public services. Public administration is responding to dynamic changes in information and communication technologies and their maturity, and is using them in governance. “Public administration reflects the institutional foundations of the way countries are governed” (Holmberg & Rothstein, 2012, p. 253). Public administration addresses the needs of society and operates based on organisational structures, processes, roles, relationships, policies, and programmes. It brings about sustainable economic prosperity, social cohesion, and citizen well-being (Kaufmann, Kraay & Zoido-Lobaton, 1999). Finally, it influences social trust and creates conditions for the creation of public values (Halleröd et al., 2013, p. 19).

## 2.1. Quality of Governance

Although there is a consensus among experts that special importance should be attached to the quality of governance, approaches to the definition of this concept vary widely. This article is based on World Bank research on quantifying the quality of governance. The World Bank puts governance at the forefront of its interest in terms of the traditions and institutions through which power is exercised in a country. These include: 1) procedures used to select, control, and exchange governments; 2) governmental power to effectively formulate and implement appropriate government policies; and 3) the respect of citizens and the state for institutions that regulate social and economic relations between them (Kaufmann, Kraay & Mastruzzi, 2010, p. 222).

The quality of governance is then defined and evaluated by the World Bank (Kaufmann, Kraay & Mastruzzi, 2010, p. 223) in three areas using the following criteria:

- 1) Procedures for selecting, controlling, and exchanging governments:
  - *Voice and Accountability* is crucial when it comes to how citizens participate in the choice of government, as well as for freedom of expression, freedom of association, and the state of the free media.
  - *Political Stability and Absence of Violence/Terrorism* is a criterion related to the likelihood that a government will be destabilised or overthrown by unconstitutional or violent means, including politically motivated violence and terrorism.

- 2) Governmental power to effectively formulate and implement appropriate government policies
  - *Government Effectiveness* is a criterion indicating the quality of public services, the quality of civil service performance and the degree of its independence from political pressures, the quality of the formulation and implementation of public policies, and the credibility of the government's commitment to such policies.
  - *Regulatory Quality* is a criterion related to the government's ability to choose appropriate policies and implement legislation that enables and supports private sector development.
- 3) Respect of citizens and the state for institutions that regulate social and economic relations between them
  - *Rule of Law* maps trust in the law, its observance and enforcement, the protection of property rights, the activities of the police and courts, and the likelihood of crime and violence.
  - *Control of Corruption* is a criterion concerning the abuse of public power to pursue private interests, including petty and serious forms of corruption and the degree of control over the state by elites or private interests.

## 2.2. E-Government

The term *e-government* represents the use of information technology by public institutions to ensure an exchange of information with citizens, private organisations, and other public institutions so as to increase the efficiency of internal functioning and provide fast, accessible, and quality services (Achmad, Patu & Ashariana, 2021). New ways of delivering services are being created, resulting in modernised, integrated, and seamless services which are delivered to citizens (Alkrajji & Ameen, 2021). Potential benefits of the electronisation of public administration include greater quality of public services at a lower cost, greater transparency and accountability, reduction of corruption and improved decision-making processes (Lupu & Lazăr, 2015, p. 366).

Due to the implementation of e-government tools, residents are better informed and can participate in decision-making processes, which places them in the role of co-producers of public services. This involvement of citizens in the management and provision of public services is called co-creation (Payne, Storbacka & Frow, 2008). In connection with the

involvement of citizens as new participants in the process of creating and providing public services, it is necessary to mention the concept of *participatory budgeting*. This is a democratic, inclusive process whereby a certain population decides on public resources. “Participatory budgeting is a paradigm which empowers residents to directly decide how a portion of the public budget is spent” (Aziz & Shah, 2021, p. 215).

However, not all authors are convinced of the benefits of e-government with regard to the public sector or its clients. Many argue that citizens do not communicate with the government very often (Heeks, 2006, p. 6) and prefer traditional communication channels instead of e-government services (Reddick & Turner, 2012, p. 9; Rey-Moreno, Medina-Molina & Barrera-Barrera, 2018, p. 19). E-government information and communication systems are constantly evolving and improving as governments learn by trial and error. The impact of information technologies on public administrations and their customers can often be difficult to identify, as there may be ways that go beyond the traditional services to which users are accustomed. The evaluation of such modern services requires a certain time interval (Panagiotopoulos, Klievink & Cordella 2019, p. 3). The time lag between the introduction of a technological innovation and the observation of the associated benefits may also play a role (Agarwal & Lucas Jr, 2005; Valle-Cruz, 2019). Individual e-government tools can only directly affect those who use the services, while they indirectly affect others who do not use them. Individuals may perceive the impact in different ways due to the differences in group membership with different levels of access to public e-services.

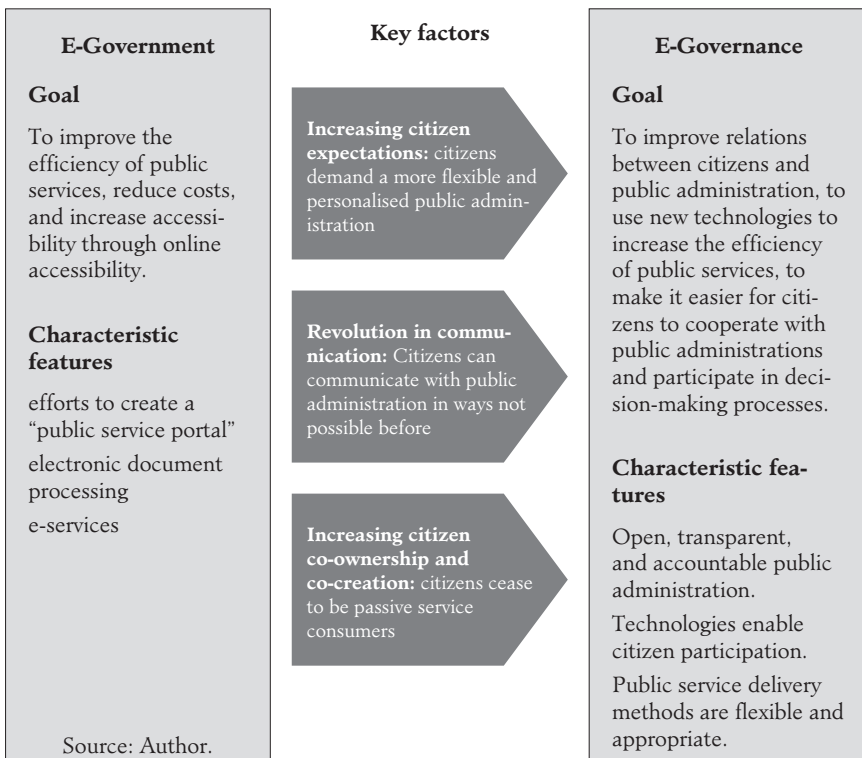
Another term for the use of information and communication technologies to improve public services and increase democratic participation is the term *digital government*. The European Parliament defines this concept as a “concept which extends the e-Government model by building on the notion of new services that public sector open data can support, as well as the collaborative community of public authorities, businesses, citizens and civil society which can develop them” (Davies, 2015). This definition says clearly that the concept of digital governance is more oriented towards the involvement of citizens in public administration and the quality of public services than the classical concept of e-government. However, the European Parliament favours the use of the better known and well-established concept of e-government in its documents.

The concept of *e-governance* is also based on the use of information and communication technologies in public administration to increase the ef-

efficiency of public administration processes. Compared to the e-government concept, e-governance emphasizes the involvement of citizens in decision-making processes and creates more transparent and efficient governments (Budd & Harris, 2009). E-governance is also highly focused on democratic processes through the interaction of various economic entities and governments. The government acts as a coordinating body in a democratic system, and citizens and other stakeholders promote their interests and express their views, which are taken into account by the government (Margolis & Moreno-Riado, 2010). Some authors (Howard, 2001; Bannister & Walsh, 2002) argue that e-government is a subset of e-governance. According to these authors, e-governance is a broader concept and includes the use of information technologies by the government and citizens to ensure greater involvement of citizens in governance.

Figure 1 provides a clear overview of the basic differences between the goals and focus of *e-government* and *e-governance*.

Figure 1: *Transition from e-government to e-governance*



Early 1990s e-government programmes and publications did not include realistic, detailed, or well-defined benchmarks. This changed in 2001, when the sharing of best practices and ideas was a key theme of the *UN Third Global Forum on Reinventing Government*. As a result, the UN's Department of Economic and Social Affairs produced a comparative study about member states and their preparedness for e-government.

There are several comparative studies on e-government that can be used to compare countries nowadays, many of which are regularly published by trusted organisations such as the European Commission, the United Nations, the Organization for Economic Co-operation and Development (OECD), and the like.

The EU has produced a series of e-government benchmark reports. These annual reports are focused on the best-performing European countries that have implemented the most mature e-government services. However, according to this indicator, the long-term comparability of countries over time is complicated as the rating system has changed over time (Lněnička, 2015, p. 76). Also “the E-Government Development Index (EGDI) of the UN is broader than that of the EU because of the added social component” (Lněnička, 2015, p. 76). Grönlund (2011, p. 27) compares EGDI to the EU index, but emphasizes its more relevant results and notes that “greater technical sophistication yields a better score”.

Another well-known study on e-government is the Open Government Data Report, which is regularly published by the OECD. It is a cross-country mapping project that will help build a knowledge base on e-government policies, strategies, and initiatives and support the development of a methodology for assessing the impact of e-government on governance quality. Despite a growing awareness of this project, however, it has only been around since 2013 and has therefore not been available for as long as other e-government indicators (OECD, 2018).

According to Grönlund (2011, p. 26) “in a global perspective, frequently cited indexes include the recurrent UN e-Government rankings”. The E-Participation Index (EPI) is a supplementary index of the E-Government Survey. It expands the scope of the UN survey by focusing on citizens' use of online services, interactions with stakeholders, and involvement in decision-making processes (United Nations, 2022).

The E-Participation Index focuses on the demand side of e-government, i.e. how interested citizens are in public administration and to what extent they get involved in it. In contrast, the E-Government Development Index assesses the development of public administration in the field of

electronics. The executor of the anti-corruption policy is the government, which takes concrete steps and uses specific tools (including e-government tools) to fight corruption.

In view of this, the UN E-Government Survey and its E-Government Development Index remain the most basic and widely used surveys in scientific analysis, despite the existence of many other reports evaluating electronic public administration (Molnár, 2020).

### 3. Materials and Methods

The article aims to analyse the influence of the use of e-government on the evaluation of the quality of governance in a selected set of countries. To this end, the following hypotheses are tested:  $H_1$ : There is a relationship between the quality of a country's governance and its use of e-government.  $H_2$ : The degree of utilisation of e-government affects the quality of governance.

The first hypothesis will be verified using correlation analysis. The outcome of this analysis will be to determine whether there is a correlation between the level of electronic public administration and its quality. Thus, if there is a mutual relationship between variables, it can be assumed that variables influence each other. Regression analysis will then verify the one-sided relationship between the variables. The analysis will help verify whether the degree of use of information and communication technologies in public administration affects the quality of public administration.

#### 3.1. Data

The Worldwide Governance Indicators (WGI) set was used in the analysis to show the quality of governance in a particular country. These indicators have been compiled by the World Bank (Kaufmann, Kraay & Mastruzzi, 2010a) since 1996 and consist of six dimensions: 1) Voice and Accountability, 2) Political Stability and Absence of Violence/Terrorism, 3) Government Effectiveness, 4) Regulatory Quality, 5) Rule of Law, and 6) Control of Corruption. WGI takes values in the range from  $<-2.5$  to  $2.5$ ; in percentage terms from 0% to 100%, respectively (i.e. from the worst rating to the best) (World Bank, 2022).

The E-Government Development Index (EGDI) was chosen as the indicator to evaluate the level of e-government use in a particular country. The index demonstrates how each country uses information technologies



to support and involve its citizens. The EGDI consists of three indices (factors), namely the Online Services Index, the Telecommunications Index, and the Human Capital Index. EGDI was compiled for the first time in 2003 and has an interval of  $<0; 1>$ , where 1 indicates e-government methods are used often, while 0 indicates these methods are not used much in public administration (United Nations, 2020).

Countries belonging to the EU-27 were included in the analysis, and the period chosen was from 2003 to 2020. First, the relationship between EGDI and WGI in two time periods (2003 and 2020) is examined. It is then examined whether there is a relationship between the change in EGDI during this period and the change in WGI during the same period.

### 3.2. Methods

To meet the goal of the paper, bag plots will be used to provide a graphical interpretation of the correlation and linear regression analyses. All tests are performed at the significance level of 5%. The parameter estimates used are derived from the least-squares method, and the software Statistica 11 was used to perform the analysis.

Bag plots are two-dimensional graphs used to graphically interpret statistical data. They describe a relationship between two explanatory variables. Combinations of dependent and independent variables of individual countries represent points in the graph. Fifty per cent of the observations (between the first and third quartiles) and the median of the observations can be found in the inner dark blue part, which is indicated by a dark square. The outer area of the bag is the light blue part, containing observations that have different values than the points in the dark area, but these are not outliers. Outside these two areas are the outliers, which are marked with an asterisk. The graph also shows other characteristics, such as the position of a country among all evaluated countries. The slope of the bag shows whether the relationship between the evaluated variables is positive or negative. A positive relationship between the evaluated variables is expected if the slope of the bag is increasing, while a negative relationship is expected if the slope is decreasing.

Pearson's correlation coefficient will be used to verify the existence of a relationship between the selected variables. The coefficient quantifies the strength of the relationship between the variables, taking values from the interval  $<-1.1>$ . Minus values of the coefficient indicate a negative dependence, while plus values indicate a positive dependence of the var-

iables. If the examined variables are independent, the correlation coefficient reaches 0 (Hogg, McKean & Craig, 2005).

Linear regression analysis will be used to verify the existence of one-sided dependence of one variable on another. Simple regression is used to examine the dependence of only one independent variable. The formula of the linear regression function can be expressed as follows:

$$y = \alpha + \beta_1 * x_1 + \varepsilon \quad (1)$$

Parameter  $y$  is the dependent variable, while parameter  $x$  denotes independent variables. Alpha ( $\alpha$ ) determines the distance of the intersection of the regression line with the  $y$ -axis from the origin of the coordinates (value of the regression function for  $x = 0$ ). Beta ( $\beta$ ) is a regression coefficient that indicates how much the dependent variable changes when the value of the independent variable is increased by one. The index  $n$  represents the number of independent variables. The symbol  $\varepsilon$  represents residual variance. This is a graphical representation of the distance of points from a line (Brook & Arnold, 2018).

The estimate of the quality of governance depending on the evaluation of a country's use of e-government using simple linear regression has the form:

$$WGI = \alpha + \beta * EGDI + \varepsilon, \quad (2)$$

where WGI is the assessment of a country's quality of governance and EGDI is the assessment of the degree to which a country utilises e-government.

The estimate of the change in the quality of governance caused by the utilisation of e-government in the country can be expressed as:

$$\Delta WGI = \alpha + \beta * \Delta EGDI + \varepsilon, \quad (3)$$

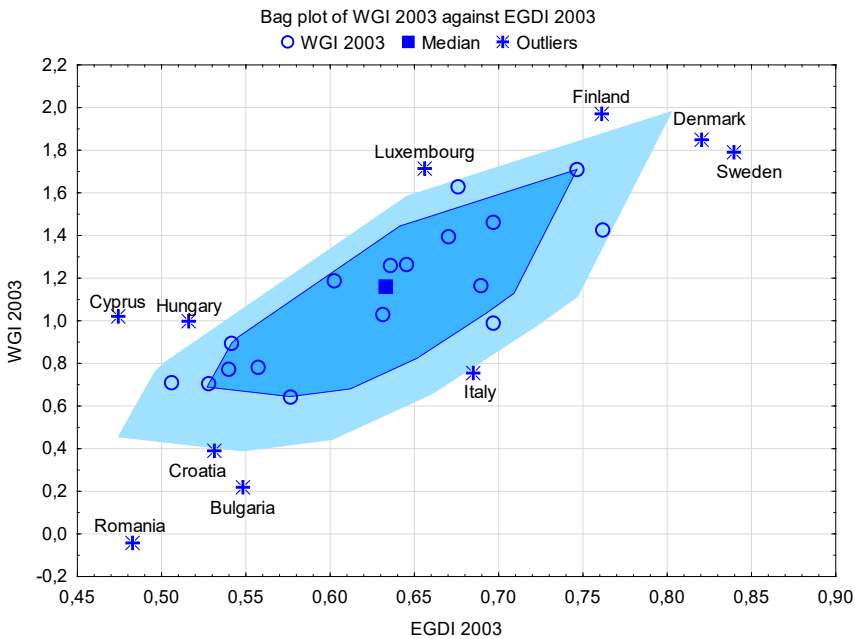
where  $\Delta WGI$  is the change in the quality of a country's administration and  $\Delta EGDI$  is a change in the assessment of a country's degree of e-government use.

## 4. Results

Figure 2 shows a bag plot of the selected set of countries using data from 2003. The x-axis shows an index evaluating the degree of a country's utilisation of e-government (EGDI 2003), while the y-axis shows an index evaluating the quality of governance (WGI 2003).

The ability to make better use of information technologies in public administration is expressed by higher EGDI values, whereas a higher level of the quality of governance in a country is characterised by higher WGI values. At first glance, the positive view of the slope of the bag plot confirms a positive relationship between the quality of governance and the degree of utilisation of e-government in the selected group of countries in 2003. The country most lagging behind in terms of quality of governance and use of e-government is Romania, which in 2003 reached a value of only -0.04 in the Worldwide Governance Indicators and a value of 0.48 in the E-Governance Development Index. Other lagging countries are, for example, Bulgaria and Croatia. In contrast, the countries of northern Europe overtook the other countries in the evaluation of both indicators and are placed outside the bag plot. Pearson's correlation coefficient reached 0.746558, which means a strong dependence of the observed variables in 2003 in the observed group of countries.

Figure 2: Bag plot 2003

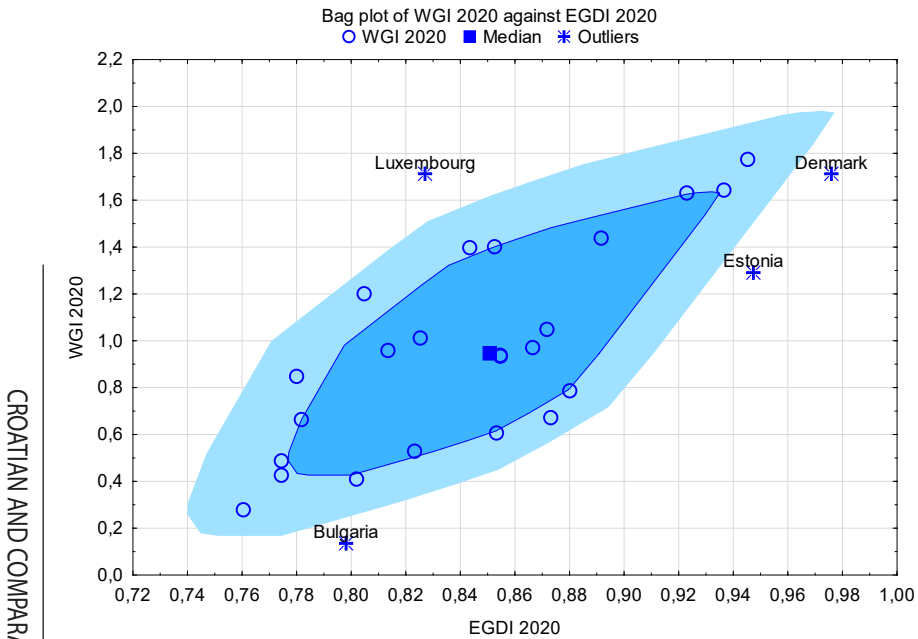


Source: Author, based on World Bank (2022) and United Nations (2003).

Figure 3 shows a bag plot of the selected set of countries using data from 2020. The x-axis shows an evaluation of EGDI 2020, and the y-axis shows an evaluation of WGI 2020.

The variables for 2020 also showed a positive relationship between the quality of governance and use of e-government, which is evident from the positive trend. Again, the bag plot shows several outliers. The most remote country in terms of the variables analysed is Denmark, which achieved an exceptionally positive assessment of both indicators in 2020. Bulgaria is on the imaginary opposite side of outlying values. Bulgaria lags behind the other countries in the analysis throughout the period under review. Pearson's correlation coefficient for 2020 reached the value of 0.750543, which indicates a strong dependence of the observed variables in the observed period.

Figure 3: Bag plot 2020



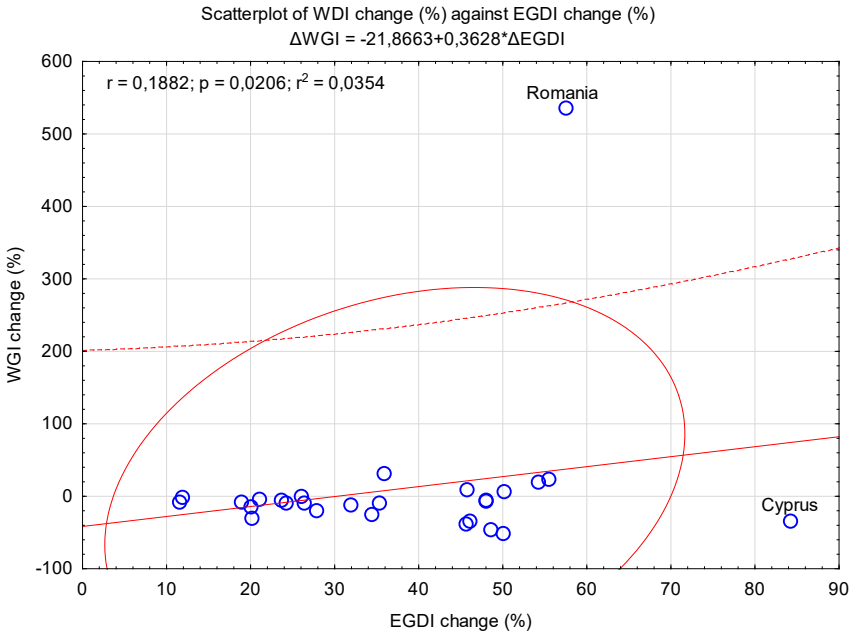
Source: Author, based on World Bank (2022) and United Nations (2020).

The proven orientation direction of both bag plots together with the correlation coefficient values confirm hypothesis  $H_1$  and it can be summarised that there is an interdependence between the quality of governance and the degree of e-government use in the analysed group of countries.

Next, Figure 4 shows a linear regression model that demonstrates changes in the quality of governance and the use of e-government in the select-

ed set of countries between 2003 and 2020. The horizontal axis shows the percentage change in EGDI between 2003 and 2020, while the vertical axis shows the percentage change in WGI for the same period. The data are interpolated by a linear regression line; the confidence interval is 0.95.

Figure 4: Bag plot  $\Delta WGI$  vs.  $\Delta EGDI$



Source: Author, based on World Bank (2022) and United Nations (2003, 2020).

Although Cyprus is certainly not one of the best-rated countries in terms of quality of governance, it has seen the largest improvement in this variable. Cyprus has progressed significantly, especially during the pandemic, despite the problematic integration of e-government technologies. As they transition from bureaucratic administration to modern public governance, the Cypriot public sector is called upon to increase their levels of efficiency and effectiveness in response to their emerging role. "The introduction of e-Governance is a contemporary requirement that is increasingly merged in the administrative function of all developed countries" (Rossidis & Belias, 2021, p. 60). The efforts of the Cypriot government in the field of e-health have been particularly successful (Ilhan, Iseri & Uyar, 2020). Cyprus is a European jumper and has improved by 18 places since the previous EGDI measurement in 2018 (United Nations, 2020).

Another outlier is Romania. Unfortunately, although it ranks among the jumpers in the observed period, Romania has recorded below average values in both monitored indicators in comparison with the other countries in the analysed group. In 2003, Romania was the only country in the EU with a negative WGI value and thus came last in the total rankings. Although the value increased several times over the analysed period and indicates that Romania can indeed be described as a jumper in the analysed group of countries, with a WGI value of 0.28 it only came second last among the countries in question. In 2003, Romania outperformed only Bulgaria out of all the EU countries in terms of quality of governance. In summary, Romania gained the privileged position of jumper not because of the excellent values in the monitored indicators, but because of the specific position of the initial and final values of the index.

A simple linear regression was used to estimate the change in the quality of governance based on knowing the change in the use of e-government. It describes the dependence of the dependent variable (quality of governance) on independent variables (use of e-government). The estimated model explaining the relationship between the the quality of governance and the use of e-government is expressed as:

$$\Delta WGI = -21,8663 + 0,3628 * \Delta EGDI + \varepsilon \quad (4)$$

The positive slope of the linear regression line confirms the positive impact of the use of e-government on the quality of governance in the selected group of countries. Under unchanging conditions, it turned out over the period under review that a one per cent change in the evaluation of the use of e-government led to an increase in the evaluation of the quality of administration by more than 0.36%. However, the regression model shows a low value of the coefficient of determination ( $R^2 = 0.0354$ ), so the model explains the variability of the independent variable (WGI) by only about 3.5%.

This proves a certain dependence of the change in the quality of governance on the change in the use of e-government. The performed linear regression analysis confirms hypothesis  $H_2$  about the influence of e-government on the quality of governance. However, the low share of explained variability suggests that the change in WGI is influenced by some other factors not considered in the analysis.

## 5. Discussion

Nowadays, *quality* is a term often used in various fields; therefore, its definition can be seen as quite diverse. The demand for high quality governance (in terms of both governance and public administration) is now an essential part of modern democracies and the economy.

As the use of information and communication technologies in public administration grows, the influence of these technologies on the quality of public administration is also increasingly discussed. Electronic public administration is no longer limited to basic tools; instead public administration in most developed countries has moved from e-government to e-governance, which is characterised by the increased quality of public services and level of involvement of various stakeholders, including citizens. By means of tools such as participatory budgeting or co-creation of public service, citizens become co-creators of public value and strong influencers of the quality of public administration.

The aim of this paper was to analyse the impact of electronic public administration on the quality of public administration in the European Union. In order to achieve this, hypothesis H<sub>1</sub> – there is a relationship between the quality of a country's governance and its use of e-government – was verified. The correlation analysis showed a mutual correlation between the variables in both 2003 and 2020. In the period under review, there is a two-way relationship between electronic public administration and its quality in the countries of the European Union. The conclusions of our analysis confirm the conclusions of a number of studies demonstrating the relationship between the electronisation of public administration and its quality (e.g. Payne, Storbacka & Frow, 2008; Lupu & Lazăr, 2015; Achmad, Patu & Ashariana, 2021; Alkrajji & Ameen, 2021).

Another hypothesis that helped to achieve the goal set out in this paper was hypothesis H<sub>2</sub>: the degree of utilisation of e-government affects the quality of governance. This hypothesis was verified using regression analysis. Linear regression showed the effect of the degree of electronisation on the quality of public administration, although with a relatively low coefficient of determination. The main reason for this may be the fact that the quality of public administration is influenced by a number of factors that were not taken into account in this analysis. Out of the countries analysed, Romania and Cyprus deserve greater attention, as they stood out from the rest of the countries in the bag plot. In the case of Cyprus, this is an exemplary case of the use of e-government tools and indicates considerable progress in the

period under review; however, this is not reflected in the quality of public administration. However, this finding only confirms the analyses of Agarwal and Lucas Jr (2005), Valle-Cruz (2019), or Panagiotopoulos, Klievink and Cordella (2019), who have shown that the impact of electronic tools will be observed with a certain time lag. In the case of Romania, on the other hand, there has been significant improvement in the quality of public administration, although improvements in the computerisation of public administration in other countries have been more significant. As noted before, this development of variables may be due to other factors affecting the quality of public administration, as well as the varying sensitivity of the WGI indicator across countries. The author of this article believes these facts may serve as inspiration for future research and intends to address the determinants of public administration quality in future analyses.

## 6. Conclusion

This paper has verified the validity of the assumptions about the influence of a country's use of e-government on the quality of governance. The analysis was performed on a set of 27 EU member states from the years 2003 to 2020. Bag plots were used for graphical interpretation of the analysed data. Correlation analysis showed that there is a correlation between the level of e-government use and the quality of administration. Linear regression analysis proved that the use of information and communication technologies was reflected in a better assessment of the quality of governance in the time period and the countries under analysis. However, the regression model showed low variability, which means that the quality of governance in the sample is also affected by other factors.

The analysis of the impact of electronic public administration on its quality confirmed the conclusions of a number of studies regarding the positive impact of the use of information and communication technologies. Although the bag plots show clearly that not all the countries in the sample have observed a clear positive effect of electronisation on the quality of public administration, an overall conclusion can be drawn for the member states of the European Union. Electronic public administration is not a panacea, nor is it the only factor influencing the quality of public administration. However, it is one of the tools available and it can be argued that the costs (which are significant in the case of the introduction and maintenance of information and communication technologies) are properly invested by governments.



The paper points to the need for further research into the impact of the use of e-government on the quality of governance. Further research in this area could explore this relationship to provide a framework for the effective implementation of e-government as part of governance reform steps that will lead to a real and noticeable improvement in the quality of governance.

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## THE ROLE OF E-GOVERNMENT IN THE EVALUATION OF THE QUALITY OF GOVERNANCE IN THE COUNTRIES OF THE EUROPEAN UNION

### *Summary*

*E-government is a tool that uses information and communication technologies to increase the transparency of public administration and thus supports the accountability of administrative bodies and ensures their proper operation and compliance with the law. Thanks to the use of information and communication technologies, citizens are given access to information on various activities and how state and local governments manage public resources. The prevailing view is that the use of the internet holds great promise for both better citizen participation and democratic governance, as it gives citizens access to public information and communication with government officials and promotes better accountability of public officials to the public. Well-designed e-government services have the potential to change the quality and efficiency of public service delivery and public administration. Not all authors are convinced of the positive benefits of using e-government for public administration and its clients. Many authors argue that citizens prefer traditional communication channels and that modern technologies complicate the way they communicate with public administration. Finally, the impact of information technologies on public administration and its customers can often be difficult to identify because technologies are constantly evolving and modernising. The evaluation of these modern services requires some time due to the delay between the introduction of technological innovations and its observable benefits. This paper aims to examine the relationship between a country's quality of governance and the level of e-government use. The analysis specifically seeks to answer the following questions: is the quality of governance affected by the use of e-government in EU member states in the period 2003–2020 and if so, how?*

*Keywords: e-government, e-governance, digital era governance, e-services, Worldwide Governance Indicators, E-Government Development Index*

## ULOGA E-UPRAVE U PROCJENI KVALITETE UPRAVLJANJA U ZEMLJAMA EUROPSKE UNIJE

### Sažetak

*E-uprava je alat koji korištenjem informacijskim i komunikacijskim tehnologijama može povećati transparentnost javne uprave i na taj način poduprijeti odgovornost upravnih tijela te osigurati njezinu pravilnu provedbu i poštivanje zakona. Zahvaljujući korištenju informacijskim i komunikacijskim tehnologijama, građanima se može omogućiti pristup informacijama o svim aktivnostima i upravljanju javnim resursima državne uprave i lokalne samouprave. Prevladava stajalište da je korištenje internetom veliko obećanje i za bolje sudjelovanje građana i za demokratsko upravljanje jer građanima omogućuje pristup javnim informacijama i komunikaciju s državnim dužnosnicima te promiče bolju odgovornost javnih dužnosnika prema javnosti. Dobro osmišljene usluge e-uprave imaju potencijal promijeniti kvalitetu i učinkovitost pružanja javnih usluga. Nisu svi autori uvjereni u pozitivne prednosti korištenja e-upravom za javnu upravu i njezine klijente. Mnogi autori tvrde da građani preferiraju tradicionalne kanale komunikacije te da im moderne tehnologije otežavaju komunikaciju s javnom upravom. Konačno, utjecaj informacijske tehnologije na javnu upravu i njihove korisnike često je teško identificirati jer se ona neprestano razvija i modernizira. Za evaluaciju takvih modernih usluga potreban je određeni vremenski odmak zbog vremenske razlike između uvođenja informacijskih inovacija i njihovih prednosti. Ovaj rad ima cilj ispitati odnos između kvalitete javnog upravljanja i razine korištenja e-uprave. Analiza posebno nastoji odgovoriti na pitanje utječe li i, ako da, kako na kvalitetu upravljanja utječe e-vlada u državama članicama Europske unije od 2003. do 2020.*

*Ključne riječi: e-vlada, e-uprava, upravljanje u digitalnom dobu, e-usluge, globalni indikatori upravljanja, indeks razvoja e-uprave*