



# Assessment of the Quality of Governance and Competitiveness at the Local Level: The Case of Slovenian Municipalities

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## Abstract

The article draws on research on the quality of governance and its impact on Slovenian municipalities' competitiveness. It presents the research results guided by two hypotheses: "*Municipalities with a higher quality of governance are more competitive*" and "*The assessments of the quality of governance in Slovenian municipalities vary more than the assessments of the quality of governance in EU regions*". Starting from the general idea of governance as an undirected network of vertical and horizontal relations supports the importance of the research on the quality of governance and public administration in the EU environment on the local, regional, and national levels. As the low quality of governance impacts divergence in cohesion, mainly less developed and catching-up EU countries should focus on the development of the quality of governance and competitiveness at the regional and local levels. According to the research results, the Slovenian municipalities form several groups according to the behavior measured by the correlation between the quality of governance and the level of competitiveness. Additionally, the international comparison indicates that the quality of governance measured in Slovenian municipalities varies at least as much as in the EU regions. The evidence supports the quest for further research on the quality of governance and competitiveness to understand the dynamics of the development at the local and regional levels and develop proposals for improvement and measures adapted to the needs and capacities of groups of municipalities with similar behavior.

## Keywords:

Quality of governance; competitiveness; impartiality; local community; municipality, cohesion.

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## 1. Introduction

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The concept of quality of governance has been gaining in importance since 2000. In the beginning, it was defined as state capacity for managing a nation's affairs (Leftwich 1993). Researchers developed numerous measures of different aspects of governance until Fukuyama (2013) pointed out the poor state of empirical measures of the quality of governance. He listed several different governance measures. Many of them focused on the quality of democracy (Coppedge et al. 2011; Puddington and Piano 2013). The measures of Weberian bureaucracy attracted less attention. Evans and Rauch (1999) and Worldwide Governance Indicators (Kaufmann et al. 2011) purport to measure state capacity but with no precise mapping onto Weberian categories. The Quality of Government Institute developed measures of quality of governance based on the assumption that impartiality is a proxy for overall state quality (Rothstein and Teorell 2012). Rothstein argued that impartiality signified the capacity for good governance; however, the validity of the measure needed to be empirically verified. Finally, Fukuyama pointed out the need for a better conceptualization of governance and disaggregation of the states into their parts by function, region, and level of government. Furthermore, based on a general definition of governance "as a government's ability to make and enforce rules and to deliver services" he suggested four paths to evaluating the quality of governance: procedural measures, input measures, output measures, and measures of bureaucratic autonomy.

Despite the doubts expressed by Fukuyama, impartiality was proven as an acceptable proxy measure for good governance. The authors of the measure gathered data at the regional level in 2010, 2013, and 2017 and provided the European Quality of Government Index (EQI) (Charron et al. 2019). They conceptualized and analyzed different aspects of the quality of governance both at the national and regional levels (Charron et al. 2010, 2015a, 2018, 2019; Rothstein 2013; Rothstein et al. 2013; Rothstein and Teorell 2012). They analyzed the antecedents of quality of governance in European regions (Charron and Lapuente 2013) and the conditional effect of governance and self-rule on the allocation of Structural regional funds (Charron 2016b).

According to Danon (2014), "the territorial competitiveness is a capacity of a locality to attract and retain mobile factors of production, by providing favorable conditions for a sustainable and simultaneous growth of productivity and employment rate." The sources of territorial competitiveness can be defined with five main points (Camagni 2002): (1) supply-side factors; (2) cooperative processes; (3) innovative *milieu* (Ratti et al. 1997); (4) bottom-up generative development process; (5) location territories as communities of economic entities that operate in their interest when trying to retain or attract firms. The study of regional competitiveness allows us to seek ways to improve it (Kitson et al. 2004).

Public administration is an integrated professional system with the administration of self-governing municipalities and holders of public authority built around state administration. It plays a significant role in the development and implementation of public policies, and thereupon it influences economic competitiveness and the quality of citizens' life. Since the classic local governance merely refers to institutions set up to provide specific services and goods on a relatively small territory, a shift from the traditional context can be observed. Modern local governance is a step forward and a much broader concept, exceeding the legal aspects and including a variety of (in)formal relations between different players in this and related fields (Bačlija et al. 2013, 99). As local governance in its classical form simply refers to institutions providing specific public services in a particular territory, contemporary local governance exceeds the legal aspects with the dedication to their local users solving their problems and fostering a community's socioeconomic development. That means that besides authoritative decision-making (e.g. local urban planning, defining parking regime, local tax setting, and collection, social benefits...), municipalities strengthen their legitimacy by providing quality public services and promoting democracy, with public participation and co-decision-making at the local level (Kovač 2014). Municipalities in a country thus operate in a uniform institutional and organizational environment while experiencing different environmental, demographic, and socioeconomic potentials. To foster sound economic growth, they should attract skilled and creative people, provide quality cultural facilities, and encourage the development of social networks and institutional arrangements (Kitson et al. 2004). Hence, local (regional) competitiveness means municipalities' capacity to provide circumstances for sustainable development so the citizens can enjoy a high level of well-being (Huovari et al. 2002).

To sum up, in decentralized public administration systems, municipalities are responsible for almost all functions (decision-making, implementation, and supervisory responsibilities) transferred from the state to the local level. The higher level of governance (state, regional administration) defines the operational framework, which influences the municipality's development potential. Hence, the municipalities' operational framework includes the environmental, sociodemographic, and economic conditions within the given legal and institutional shell. According to the definition of territorial competitiveness (Danon 2014) and its dimensions (Camagni 2002) mentioned above, good local governance means fostering the potentials and leveraging the municipal competitiveness resulting in environmental, sociodemographic, and economic outcomes.

Researchers developed various approaches and indicators of good governance of countries and regions (Ardielli 2019; Barabashev et al. 2019; Biswas et al. 2019; Bovaird and Löffler 2003; Cruz and Marques 2017; Im and Campbell 2020). Research showed that a higher quality of governance of countries was linked to better results in the field of development and well-being of citizens (Charron et al. 2015a; Johnston 2010; Matei and Matei 2009; Nemeč et al. 2020; Nistotskaya et al. 2015;

Ulman 2013). However, it was difficult to explain the phenomenon with cause-and-effect models at the local level due to the lack of research.

European integration introduced institutional and political transformations with essential changes in the field of regional policy. The new approach to policy-making was described by Marks (1993) as “continuous negotiation among nested governments at several territorial tiers – supranational, national, regional and local”: The EU institutions, national states and regions and municipalities had been involved in new non-hierarchical networks, where entities take part in the development and implementation of policies at each level (Tortola 2017). Consequently, the main challenges for local government in Europe are structural and institutional within the undirected network defined by horizontal and vertical intergovernmental relations (Nemec and S de Vries, 2015; Rijavec and Pevcin, 2018). The openness from the EU enlargement could lead to greater regional and local convergence. In general, less developed countries could benefit from new opportunities for development; however, less developed regions within these countries are placed under intense pressure. Their potential to be competitive could be hindered by the low quality of political institutions, infrastructure, and human capital. Yet, impartial and uncorrupted state institutions could lower transaction costs for entrepreneurial activity and economic growth (Charron 2016a). In the network of intergovernmental relations, policy decision making and implementation are distributed over all levels of governance. Consequently, the quality of governance as a factor of regional development and cohesion in a country depends on the behavior of municipal, regional and national governments.

Hence, in light of regional convergence cohesion, the quality of governance is one of the most critical factors. In states with lower quality of governance, urban regions experienced higher economic development than peripheral regions. In such circumstances, cohesion policies generate more divergence and cannot solve the cohesion problem without considering the quality of governance (Charron 2016a). Consequently, the crises caused by the COVID-19 pandemic and the big EU recovery fund make the challenge of regional convergence cohesion in less developed and catching-up EU member states critical.

Following Fukuyama’s (2013) quest for further research of governance at the regional and local levels, the problem of diverging cohesion and suggestions for further search of the links between the measurements of quality of governance and the results at the local and regional level, we provide research on the connection between the two. There are various reasons for the lack of such studies at the regional level. A significant obstacle is that it is complicated to obtain data on the quality of governance. This may also be because of the expectation that the differences in the quality of governance on certain complete territories are not as large as in countries. However, studies showed significant variability in impartiality as the measure of governance between the regions (Charron et al. 2010). Therefore, it is appropriate

and necessary to examine the impact of the quality of governance on territorial competitiveness.

Accordingly, this research provides a model for evaluating the behavior of local communities in terms of the quality of governance, using the model of impartiality (Charron et al. 2015a) as the measure of behavior and the level of competitiveness with the ISSO<sup>2</sup> model (ISSO 2015) as the measure of the development of municipalities. The model has been proven by testing hypothesis (H1): *Municipalities with a higher quality of governance are more competitive.*

Furthermore, to stress the importance of the analysis of Quality of Governance at the local level, we performed a comparative analysis of the results of our research and the results of the QoG regional study (Charron et al. 2014) and tested hypothesis (H2): *The assessments of the quality of governance in Slovenian municipalities vary more than the assessments of the quality of governance in EU regions.*

The article is divided into four sections. The next section provides the theoretical background for measuring corruption, impartiality, competitiveness, and the research methodology. In the third section, results and a discussion are presented, followed by the conclusion.

## **2. Methodology, data, research, specifically the model used**

The methodological chapter first presents the methodological basis of the research, which includes approaches to measuring good governance with the proxy measure impartiality within a territorial framework. This is followed by the justification of the research approach and the presentation of input data at the end of the chapter.

### **2.1 Measurement of good governance**

The measurement of the quality of governance is still in development. Researchers have conceptualized the concept of good governance in different ways. Some of them have paid more attention to political circumstances (quality of democracy, participation and civic engagement). In contrast, others have defined the measures around the governments' ability to enforce rules and to convey public services (state capacity, corruption, transparency and the rule of law, effectiveness, (im)partiality and others). Since this research focuses on policy implementation, the latter approach is discussed in the rest of the section.

The researchers employ different approaches to the definition of the measurement model of good governance. Many of them use simple proxy measures where the level of corruption is one of the most common measures (Arnone and Borlini 2014; Beerli and Navot 2013; Im and Campbell 2020; Subarna and Sanyal 2010). More complex measurement models consist of several dimensions, e.g. ur-

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2 The Information System of Slovenian Municipalities.

ban development, accountability, transparency, participation, effectiveness, equality, vision and planning, sustainability, legitimacy and bureaucracy, civic capacity, service delivery, efficient economy, relationship, security (Biswas et al. 2019); voice and accountability, political stability, government effectiveness, regulatory quality, the rule of law, control of corruption (Ardielli 2019); voice and accountability, political stability, government effectiveness, market access and regulation, the rule of law and prevention of corruption (Cruz and Marques 2017); control of corruption, government effectiveness, the rule of law and voice and accountability (Charron et al. 2015a). The studies observe the phenomena at the national, regional, and local levels, whereas local studies have become more frequent only recently.

The Quality of Government Institute of the University of Gothenburg offers five datasets of quality of government measurements, which are available on its website (QoG EQI Data 2017). Quality of governance at the regional level is covered by the QoG EU Regional Data datasets (Charron et al. 2014), which focuses on the perception and experiences with public service corruption at the regional level.

The QoG EU Regional Data dataset includes aggregated data by region, obtained in surveys. The data in the area of corruption and partiality refer to Charron et al. (2014):

- assessment of impartiality in public education and health care, and in the enforcement of regulations (advantages for certain people, equality of citizens, and assessment of the incidence of corruption);
- opinion on the scope of bribery in public services;
- actual bribe-paying.
- corruption in elections;
- media reports on corruption.

Impartiality as a proxy for the quality of governance is the aggregate value of assessments of advantages for specific people and equal treatment of all citizens, and corruption is the aggregate value of assessment of the incidence of corruption, opinion on bribery and bribe-paying.

The data are collected for 28 EU Member States and two accession countries (Turkey and Serbia). Slovenia is undivided in this study, meaning that the results can be compared with the European regions. Still, they do not provide any insight into the internal structure, neither by region nor by local community.

## **2.2 Measurement of regional and local competitiveness**

As mentioned in the introduction, territorial competitiveness is a locality's ability to provide conditions for sustainable growth. The development of territorial competitiveness is based on the cooperation of public administrations and community, and they jointly develop a range of preconditions: (1) territorial quality and efficiency of public services; (2) spatial specialization with the extension of roles for

complementary specialization developed in a complementary territorial context; (3) development of local synergies between the actors, inclusion of external firms into the local relational network (Kitson et al. 2004). Scholars conceptualize it as a multidimensional construct comprising different preconditions and/or outcomes defining the complete measurement (Dijkstra et al. 2011; ISSO 2015; Malešič et al. 2013) or focusing on the measurements of efficiency (Afonso and Fernandes, 2008; Biščak and Benčina, 2019; Kalb et al., 2012), well-being (Jēkabsone and Sloka 2014), sustainable development (Moreno-Pires and Fidélis 2015) or economic potential of territorial unites (Pečar 2014).

Building on the Global Competitiveness Index, the European Commission has developed the Regional Competitiveness Index (Annoni and Dijkstra 2013), which follows the Global Competitiveness Index pillars. The definition of the European Regional Competitiveness Index comprises three groups or dimensions of competitiveness with eleven posts: (I) Basic group ((1) Institutions, (2) Macroeconomic stability, (3) Infrastructure, (4) Health and (5) Quality of primary and secondary education), (II) Efficiency group ((6) Higher education, training, and lifelong learning, (7) Labor market efficiency and (8) Market size) and (III) Innovation group ((9) Technological readiness, (10) Business sophistication and (11) Innovation) (Dijkstra et al. 2011).

According to Malešič et al. (2013), the local community's achievements can be defined with twelve dimensions: (1) income and residence, (2) employment opportunities, (3) economic power of local community, (4) health, (5) education, (6) economic security, (7) physical security, (8) work and life balance, (9) personal well-being, (10) demographic challenge, (11) local community governance, and (12) environment.

The ISSO (the Information System of Slovenian Municipalities) system (ISSO 2015), developed by two private organizations (SBR d.o.o. and Planet GV d.o.o.) to provide support for the Golden Stone project (Golden Stone 2019), makes it possible to address the local communities' achievements in a more complex manner. The methodology of the ISSO index (2015) takes account of eight dimensions: (1) demography, (2) budget – municipality efficiency, (3) economy, (4) labor market, (5) level of education, (6) standard of living, (7) social cohesion and political culture, and (8) environment. Indicators (54) constituting the said dimensions are divided into three groups depending on the type of measurement: activity indicators, change indicators, and state indicators. The data source is publicly accessible databases, mostly from the databases of the Statistical Office of the Republic of Slovenia (SORS 2017) and the Ministry of Finance of the Republic of Slovenia (MFRS 2017).

The differences between the three index definitions (European Regional Competitiveness Index, Well Being Index, and ISSO) mentioned above are due to different emphases. The European Regional Competitiveness Index (Dijkstra et al. 2011) highlights the importance of innovation. The other two indices (ISSO 2015; Malešič

et al. 2013) highlight the importance of local community residents' well-being. It can be stated that all three indices measure competitiveness; however, the first two indices include some dimensions related to the quality of governance while the third does not.

Accordingly, the ISSO data model is an appropriate choice for studying the correlation between the quality of governance and competitiveness of Slovenian municipalities. It is an integrated database and is a proper basis for analyses of achievements of Slovenian municipalities. Its drawback is that it is not publicly available. For the study, access to the database was provided by the database owners with the possibility of sharing the data with other researchers.

### 2.3 Quality of governance and competitiveness

In the observation of the link between governance and different aspects of development, the research considers numerous different concepts. Measures of governance on the side of predictors include quality of democracy, state capacity, corruption, transparency, the rule of law, participation and civic engagement, effectiveness, (im)partiality, and others. The political and economic development on the response side is measured as well-being, economic performance, or competitiveness. The observation units in the research are mostly countries and less frequently regions and municipalities.

Numerous studies research the impact of the level of corruption or partiality. The response concepts used in the studies are economic and social environment (Matei and Matei 2009), national competitiveness (IMD 2015; Subarna and Sanyal 2010; Transparency International 2015; Ulman 2013; WEF 2015), the effectiveness of local authority, including its financial soundness and representativeness and economic growth (Beerli and Navot 2013).

On the other hand, many studies employ a more complex measurement of the quality of governance on the side of predictors. Good governance results in improvements in public policy implementation and impacts citizens' quality of life (Bovaird and Löffler 2003). Better governance quality reduces income inequality and enhances growth (Gradstein and Dabla-Norris 2004). Quality of governance has proven an essential factor of economic growth and development in many studies. It forms the leading variables of the economic growth and development factor in the EU (Stanickova 2015), it was one of the six development factors (Ručinsky and Ručinsky 2007), and one of the eight dimensions of the productive environment (Martin, n.d.). In regions providing a higher quality of governance, more people engage in legitimate business venturing (Nistotskaya et al. 2015).

The quality of governance influences the convergence/divergence trends in the EU (Charron 2016a). Accordingly, a low quality of governance increases regional divergence with the concentration of competitiveness power in urban regions.



The COVID-19 pandemic crisis incited the big EU recovery fund and opened the critical question of regional convergence cohesion.

## 2.4 Research approach

As mentioned above, Slovenia is divided into only two NUTS 2 regions and has no regional level of governance. Hence, it is critical to developing the governance capacities of municipalities. The development of municipalities' capability to fulfill the local population's common needs and interests is one of the strategic guidelines of the Strategy of Development of Local Self-Government until 2020 (Government of the Republic of Slovenia 2016). Slovenian municipalities are not among the smallest in the EU. The average municipality has 96 km<sup>2</sup> and 9,759 inhabitants, compared to 49 km<sup>2</sup> and 5,630 inhabitants in the EU. However, of 212 municipalities, 52.1 % have less than 5,000 inhabitants (SORS 2017). The share of local taxes in local revenues amounted to 8.89 % in 2015, the percentage of local expenditure in GDP 5.7 %, and the share of local expenditure in total public expenditure 12.96 %. In terms of the public debt, municipalities are not a problem since municipal indebtedness amounts to 2 % of GDP and 3 % of the total debt of the Republic of Slovenia (MFRS 2017). The distribution of powers between the local and central levels is based on the state's unitary structure (Article 4 of the Constitution) and the constitutional provision regarding municipal powers. In practice, municipalities perform mainly service functions (providing public services), while the central government exercises mostly regulatory functions (legal regulation). State or municipal authorities rarely offer public services; in most cases, specialized legal persons are established (e.g. public company, public institution, public fund, public agency) or concessions are granted (Pevcin and Rakar 2018). In health, education, and police, competencies are divided between the state and municipalities (Rakar and Virant 2019).

The article confronts the state in the field of how well public services function in municipalities with the development results. The quality of public services' functioning was measured employing survey research, and secondary data from the Information System of Slovenian Municipalities (ISSO 2015) were used for the assessment of development results.

The questionnaire for assessing the quality of governance has been derived from the questionnaire developed by the Quality of Government Institute of the University of Gothenburg (Teorell et al. 2013). The questionnaire measures government quality as citizens' opinions on quality and the level of impartiality and corruption in three public services, i.e. health care, education, and municipal police. The structure of the questionnaire is apparent from Table 2 in the Appendices. It includes sixteen variables (five for quality, six for impartiality, and five for corruption). Twelve of them are measures of the three public services mentioned above. The remaining four variables (bribe paying, bribe paying others, media reports, and

fairness of elections) consider the general view of quality of governance in the municipalities.

The data collected were processed in two ways according to the research needs. For the correlation analysis, the values of variables, which were the answers of survey participants answers, were aggregated on municipalities first. Next, the assessments of quality, partiality, and corruption were calculated and aggregated into the overall assessment of governance quality. Finally, standardized values for the four variables mentioned above were calculated. In this way, four indices were obtained: quality of governance index (QoG), corruption index (C), impartiality index (I), and quality index (Q). Table 1 in the Appendices presents the index values for the municipalities under consideration.

The assessment of development results in municipalities was carried out using the data collected in the ISSO database with a standardized ISSO competitiveness index. To test the hypothesis that *municipalities with a higher quality of governance are more competitive*, the relationship between the quality of governance and competitiveness was examined by a cross-sectional correlation analysis using Pearson's correlation coefficient. A hierarchical cluster analysis with Ward's method and squared Euclidean distance was used to analyze the structure of the sample and identify homogeneous subgroups.

The hypothesis on higher variability of QoG in Slovenian municipalities compared to QoG research in EU regions was tested using the Levene's test for Equality of Variance with Bonferroni correction for multiple comparisons. To prepare the data for the test, microdata of the two studies – Slovenian municipalities and QoG EU regions research (Charron et al. 2014) – were aggregated to the level of municipalities and regions, and the files were merged. Finally, the differences in variance between the group of Slovenian municipalities and the group of EU regions were tested for sixteen variables as provided in Table 2 (Appendices, Table 2).

## 2.5 Data

As stated above, the research analyzes two types of data. In the following section, the procedure and key data of the survey research on the assessments of the quality of governance in municipalities are presented first. Next, the reviews of the quality of governance index values and the ISSO competitiveness index, compared between municipalities, are provided. The chapter concludes the comparative review of arithmetic means of the quality of governance measurements for all the data collected.

The survey research was carried out in June and July 2015. The main part of the survey was carried out in the field by directly interviewing the citizens with 1,262 applicable surveys. Another part was carried out in the form of online surveys with 410 applicable surveys. In total, 1,672 applicable surveys were obtained. The sample of municipalities was determined in two steps. First, all urban (larger) mu-

municipalities (11) were included, and then another 20 municipalities were randomly selected.

The sample size is between 54 and 118 for urban municipalities and between 19 and 60 for other municipalities. The low N in some municipalities could implicate less conclusive results and decrease the reliability of the analysis; nevertheless, the samples' descriptive statistics demonstrate fairly balanced statistics. Only five municipalities demonstrate variables with higher kurtosis and skewness ( $> \text{abs}(2)$ ), with only two municipalities having more than three such variables (four and five), while standard deviation is distributed over the municipalities rather evenly. Consequently, the margin of error for most of the variables varies from 5% to 15%. Since we aim to present the model for the evaluation of municipalities' behavior, the reliability level of the results is acceptable.

As mentioned above, the values for the four aggregated indices – quality of governance index (QOG), corruption index (C), impartiality index (I) and quality index (Q) – for the municipalities under consideration are presented in Table 1 in the Appendices. Municipalities are ranked by the quality of the governance index value from the highest to the lowest scoring. The letter U in the Type column indicates the type of municipality and denotes the largest 11 urban areas of 211 Slovenian municipalities. In contrast, the letter M indicates non-urban municipalities in the sample. At the top of the scale, there are three municipalities from the outskirts of Ljubljana (region 8), followed by three municipalities from the Savinjska region (region 4), comprising one urban municipality, and one municipality from the Pomurska region (region 1). There are five municipalities from different regions at the bottom of the scale, three of them being urban municipalities.

The data shows that the quality of public services scores low in urban municipalities. Eight out of eleven urban municipalities are ranked in the second half of the scale. The average value of the quality of services index is negative, i.e.  $-0.40$  (lower than the overall average). Since urban municipalities are larger and more developed with higher governance capacities, this finding is somewhat surprising.

The second part of the data is the ISSO competitiveness index, which is presented in the ISSO column of Table 1 in the Appendices. Since the table is classified by the values of the quality of governance index, the ISSO competitiveness index values are presented in an unordered sequence. To facilitate the reading of values of the ISSO index in the table, we marked the municipalities in parenthesis with QoG ranks ( $R_{\text{QoG}}$ ). The competitiveness index's highest values are at the bottom of the table for urban municipalities Ljubljana (29, 1.83) and Koper (27, 1.36). The index value is also greater than 1 for two urban municipalities – Novo mesto (20, 1.16) and Kranj (8, 1.45). Indices for other urban municipalities are also mostly greater than 0. Among non-urban municipalities, only one municipality's index – Komenda (14, 1.30) – is greater than 1. The bottom half of the competitiveness scale includes the municipalities of Laško (31,  $-1.06$ ), Ljutomer (28,  $-1.59$ ) and Beltinci

(26, -1.31). The lowest value of the competitiveness index is found with one of the smallest Slovenian municipalities – Kuzma (18, -2.43). The fact that the competitiveness index is significantly higher for urban municipalities is also confirmed by the calculation of the index mean value of 0.63 for urban municipalities and -0.35 for non-urban municipalities. This fact is not surprising, since urban municipalities are the centers of development in respective areas, and they represent territories with faster development. Greater competitiveness is ensured by their level of development, their status of centers of larger territories, infrastructure, educational institutions, and the strength of the economy.

### **3. Results**

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According to the research objectives, the results of the research are presented in two parts. Firstly, to test the hypothesis that municipalities with a higher quality of governance are more competitive (H1), we examine the correlation between the index of quality of governance and municipalities' competitiveness index. Secondly, the hypothesis that the assessments of the quality of governance in Slovenian municipalities vary more than the assessments of the quality of governance in EU regions (H2) is tested.

#### **3.1 H1: Municipalities with a higher quality of governance are more competitive**

The discussion on the relationship between the quality of governance index and the competitiveness index leans on the scatter plot shown in Figure 1. The results demonstrate two behavior models among the units under consideration. For the municipalities with relatively low competitiveness, which constitute a larger group<sup>3</sup> among the units under consideration, a strong correlation is observed between the quality of governance and competitiveness. Municipalities with a lower quality of services and higher competitiveness constitute the second group.<sup>4</sup> When the two outlying urban municipalities<sup>5</sup> located in the top left-hand corner (with the lowest assessment of quality at the highest competitiveness index) are excluded from the group, the rest of the units demonstrate a moderate, yet no significant relationship between both variables.

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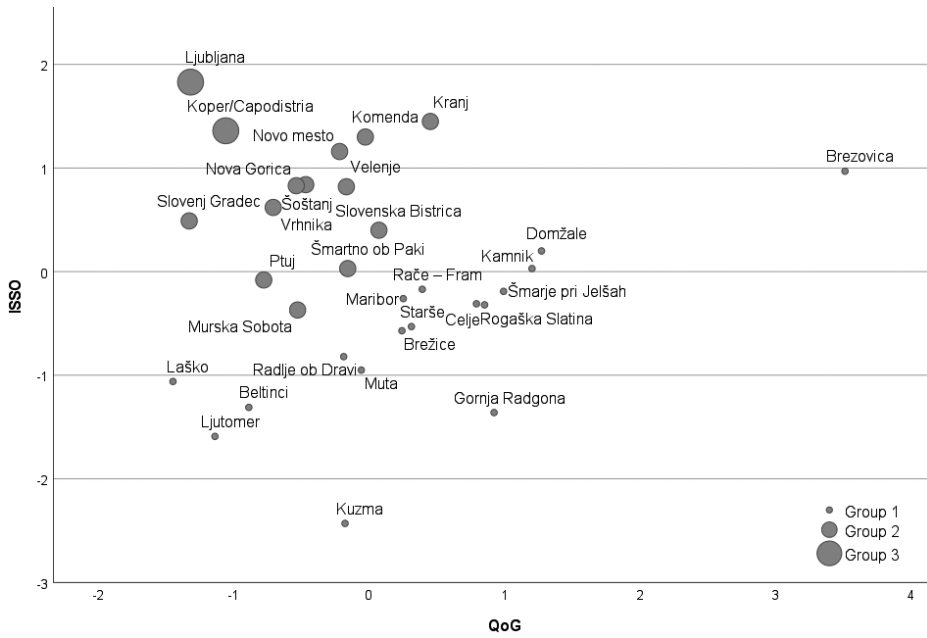
3 Group 1 – denoted by small buttons.

4 Group 2 – denoted by medium buttons.

5 Group 3 – denoted by big buttons.

**Figure 1**

Scatter plot with QoG as the independent and ISSO as the dependent variable



Source: own and ISSO (2015)

Note: QOG – quality of governance index, ISSO – ISSO competitiveness index.

The value of the correlation coefficient across the total sample ( $r = 0.039$ ) indicates that the hypothesis on the correlation between both indices should be rejected. However, it can be seen that quite a large group of municipalities is distributed in the same direction in the center of the graph. Using hierarchical cluster analysis, we divided the sample into two groups. In this way, a group of 17 municipalities was obtained, showing a strong, statistically significant relationship between both variables ( $r = 0.754$ ). The result indicates that in the set of the municipalities with heterogeneous behavior, subsets of municipalities expressing similar behavior regarding impartiality and competitiveness could be found.

Based on the results of the research, it is difficult to identify all causes of this phenomenon. It may appear due to the combination of greater citizen criticism and the different local policy in areas where the economic potential is stronger. For some municipalities, in particular for two outliers, the result can be linked to the political situation in the municipalities, the behavior of responsible persons and the attitude towards the citizens.

### **3.2 H2: The assessments of the quality of governance in Slovenian municipalities vary more than the assessments of the quality of governance in EU regions**

The hypothesis that the assessments of the quality of governance in Slovenian municipalities vary more than the assessments of the quality of governance in EU regions can be accepted on the basis of the results of the Levene's test given in Table 2 (Appendices, Table 2).

The procedure testing the hypothesis includes two steps, i.e. the analysis of differences in standard deviations and the test of null hypotheses for 16 variables given, from which the QoG index and three QoG pillars (Quality, Impartiality and Corruption) are aggregated. All the data used in the logical reasoning below are given in Table 2 (Appendices, Table 2).

The hypothesis is confirmed if at least one null hypothesis for variables where the standard deviation for Slovenian municipalities is greater than for EU regions is rejected. and all null hypotheses for variables where the standard deviation for Slovenian municipalities is smaller than for EU regions are retained.

The descriptive statistic shows that the standard deviation in Slovenian municipalities is greater for 12 variables out of 16. The results of the Levene's test with Bonferroni correction with  $\alpha = 0.05/16 = 0.0031$  allow to reject 6 null hypotheses (edqual, sig. = 0.000, lawqual, sig. = 0.000, media, sig. = 0.000, Redimaprt1, sig. = 0.000, Redimaprt2, sig. = 0.000, and, Redcorr, sig. = 0.000). On the other hand, for all variables with smaller standard deviation for Slovenian municipalities, the null hypothesis that there is no difference between the two groups has to be retained.

Consequently, the fact that 6 out of the 12 variables with higher standard deviation in favor of Slovenian municipalities differ significantly and none of the remaining four variables express significantly lower standard deviation allows us to *accept the hypothesis that the variability of the quality of governance in Slovenian municipalities is higher than in European regions.*

## **4. Discussion**

Our study aimed to analyze the influence of the quality of governance on competitiveness at the local level. We formulated the research idea in two hypotheses: (H1): *Municipalities with a higher quality of governance are more competitive;* and (H2): *The assessments of the quality of governance in Slovenian municipalities vary more than the assessments of the quality of governance in EU regions.*

The results confirmed the later hypothesis that the variability of the quality of governance in the group of Slovenian municipalities was higher than in the group of EU regions. This supported our claim that the behavior of Slovenian municipalities was more heterogeneous than the behavior of EU regions. Consequently, tackling

the challenges of cohesive development policymaking and more importantly, policy implementation should be based on the evidence measured at all governance levels.

We rejected the former hypothesis and confirmed the expected heterogeneity in the behavior of municipalities. However, the data showed that the population of municipalities build two groups depending on the behavior model. Municipalities with a lower level of competitiveness formed a group with a strong positive correlation between the level of quality of governance and competitiveness. Lesser-developed municipalities suffered from a lower quality of governance, which hindered their capacity for cohesion. The second group of municipalities with a higher level of competitiveness included almost all urban municipalities. After excluding two outliers with the highest level of competitiveness and the lowest level of quality of governance, the rest of the municipalities in this group demonstrated a moderate positive correlation between the quality of governance and competitiveness. The same challenge as in the first group indicates the need for further development of local governance. The two outliers were the municipalities with specific positions (the capital of Slovenia and the largest city on the Slovenian coast) under the strong leadership of mayors.

Our study results are in line with the results of other studies, with the difference that the other studies analyze the phenomenon at the regional and national level. The quality of governance was proven a critical factor of economic growth and development in many studies. It formed the leading variables of economic growth and the development factor in the EU (Stanickova 2015), it was one of six development factors (Ručinska and Ručinsky 2007), and one of eight dimensions of the productive environment (Martin, n.d.). Different stages of development of regions (countries) comprised different kinds of competition (factor-driven, investment-driven, and innovation-driven) (Porter, n.d.). In this way, factor-driven regions compete by low costs, investment-driven economies compete by advantages from the economies of scale, and innovation-driven economies compete by producing innovative products and services (Ručinska and Ručinsky 2007). Finally, the evidence of the lower trust level of the residents of capital cities in their local administration (de Vries and Sobis 2018) supports the outlying position of the capital city of Slovenia.

Considering the local administration to be a part of the public administration system and following Charron (2016a), who defines governance as an important factor of regional cohesion, the quality of governance at the local level deserves much more attention than received. The national governments need to support regional and municipal administrations and policymakers to develop their capacities for governance supportive to the development of competitiveness. However, to be successful in this dwelling, they should consider the differences amongst municipalities and adapt their measures to the needs of groups of municipalities with similar behavior.

## 5. Conclusions

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The article presents the results of the study on the quality of governance in Slovenian municipalities to devise a model for evaluating the behavior of local communities concerning the quality of governance and stressing the importance of the analysis of quality of governance at the local level.

For this end, we tested two hypotheses: (H1): *Municipalities with a higher quality of governance are more competitive.* and (H2): *The assessments of the quality of governance in Slovenian municipalities vary more than the assessments of the quality of governance in EU regions.* The first hypothesis was rejected. The additional evidence of existing different behavior models confirms a strong correlation between the quality of governance and competitiveness in less competitive (developed) municipalities, a moderate correlation between both in moderately competitive municipalities, and no correlation in the most competitive municipalities. The second hypothesis was confirmed. This confirms that the variability of the quality of governance in Slovenian municipalities is higher than in the group of EU regions.

Our research results provide new evidence in the direction of the research proposed by Fukuyama (2013) and Charron (2016a) and add a specific case to the theory of good governance measured as impartiality. Furthermore, the results demonstrate a correlation between the quality of governance and competitiveness, supporting the importance of the problem of divergent cohesion influenced by the low capacity for governance in less developed and catching-up EU countries (Charron 2016a). The issue is going to be one of the crucial challenges of regional cohesion in the time of the big EU recovery fund mitigating the socio-economic impact of the COVID-19 outbreak.

Our research may have three main limitations. The first is the small sample, which influences the statistical support of the findings. Nevertheless, we provided acceptable evidence for an interesting phenomenon. The second limitation is outdated data. We gathered the data for the quality of governance in 2015. Since the two-level survey research is time-consuming and requires a great deal of effort, we conducted a limited study with some smaller samples. This was meant as a first step in the more comprehensive comparative study. However, the research field was less developed, and we have only recently been able to develop a sound theoretical and evidential support for the research. Nevertheless, in light of the new circumstances conditioned by the COVID-19 pandemic, our research contributes evidence on important challenges affecting the efficient use of big EU recovery funds.

If possible, we suggest further comparative research, taking into account more determinants, studying different kinds of behavior of municipalities (regions), and developing suggestions and guidelines for decision-makers and public servants. The results should demonstrate evidence of the erratic behavior of regions and municipalities and the consequences of the low quality of governance for the development



of regions' and municipalities' competitiveness. The suggestions for decision-makers and public servants should be based on the evidence on the factors of divergent/convergent cohesion. The research and development of the innovative milieu in larger territorial units should be implemented as a bottom-up process, which must consider the behavior models (operations of territorial communities) from the lowest level upwards.

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## Appendices

**Table 1**  
Values of quality of governance indices and ISSO competitiveness index

RQoG	Municipality	Type	Region	Quality of governance				Competitiveness	
				QoG	C	I	Q	ISSO	ISSO
1	Brezovica	M	8	3.51	2.82	3.51	2.84	0.97	
2	Domžale	M	8	1.27	1.01	0.67	1.64	0.20	
3	Kamnik	M	8	1.20	0.80	0.59	1.74	0.03	
4	Šmarje pri Jelšah	M	4	0.99	1.01	0.89	0.69	-0.19	
5	Gornja Radgona	M	1	0.92	1.36	0.37	0.67	-1.36	
6	Celje	U	4	0.85	0.87	0.70	0.66	-0.32	
7	Rogaška Slatina	M	4	0.79	0.86	0.55	0.66	-0.31	
8	Kranj	U	9	0.45	0.04	0.57	0.56	1.45	
9	Rače – Fram	M	2	0.39	0.11	0.85	0.06	-0.17	
10	Starše	M	2	0.31	-0.21	0.34	0.67	-0.53	
11	Maribor	U	2	0.25	0.62	-0.10	0.12	-0.26	
12	Brežice	M	6	0.24	-0.26	0.50	0.38	-0.57	
13	Slovenska Bistrica	M	2	0.07	0.23	-0.55	0.51	0.40	
14	Komenda	M	8	-0.03	1.77	-0.18	-1.65	1.30	
15	Muta	M	3	-0.06	-1.12	0.34	0.63	-0.95	
16	Šmartno ob Paki	M	4	-0.16	-0.97	0.65	-0.10	0.03	



17	Velenje	U	4	-0.17	1.05	-0.76	-0.75	0.82
18	Kuzma	M	1	-0.18	-0.80	0.47	-0.14	-2.43
19	Radlje ob Dravi	M	3	-0.19	-0.81	0.08	0.23	-0.82
20	Novo mesto	U	7	-0.22	-1.00	0.32	0.11	1.16
21	Šoštanj	M	4	-0.47	-0.54	-0.05	-0.64	0.84
22	Mirska Sobotla	U	1	-0.53	-0.24	-0.48	-0.67	-0.37
23	Nova Gorica	U	11	-0.54	-0.52	-0.64	-0.24	0.83
24	Vrhnika	M	8	-0.71	-0.77	-0.10	-1.00	0.62
25	Ptuj	U	2	-0.78	0.22	-1.42	-0.84	-0.08
26	Beltinci	M	1	-0.89	-0.89	-0.79	-0.66	-1.31
27	Koper	U	12	-1.06	-1.07	-0.92	-0.77	1.36
28	Ljutomer	M	1	-1.14	-0.47	-1.52	-1.00	-1.59
29	Ljubljana	U	8	-1.32	-1.05	-0.89	-1.51	1.83
30	Slovenj Gradec	U	3	-1.33	-0.83	-1.82	-0.83	0.49
31	Laško	M	4	-1.45	-1.24	-1.18	-1.36	-1.06

Source: own and ISSO (ISSO, 2015)

Note:  $R_{QoG}$  – Rank of QoG, QoG – quality of governance index, C – corruption index, I – impartiality index, Q – quality index, ISSO – ISSO competitiveness index.

**Table 2**  
Comparison of variability between the Slovenian municipalities and EU regions

Name	Group	N	Mean	Std. Dev.	Min.	Max.	Levene Statistic	df1	df2	Sig.
edqual	EU	212	6.40	0.485	4.94	7.72	84.30	1	241	0.000
	SI	31	6.62	1.156	4.86	9.00				
helqual	EU	212	6.29	0.849	4.30	7.83	0.93	1	241	0.336
	SI	31	6.17	0.997	4.37	8.78				
lawqual	EU	212	6.33	0.543	3.99	7.61	16.58	1	241	0.000
	SI	31	5.50	0.955	4.03	8.30				
elections	EU	212	5.80	1.015	3.72	8.20	2.27	1	241	0.133
	SI	31	5.21	1.318	2.17	6.93				
media	EU	212	4.80	0.598	2.70	6.75	35.50	1	241	0.000
	SI	31	5.44	1.386	3.42	8.76				
Redimpart1	EU	212	4.38	0.692	2.72	7.24	34.92	1	241	0.000
	SI	31	4.50	1.456	0.89	6.82				
Rhelimpart1	EU	212	4.83	0.841	2.75	7.66	4.95	1	241	0.027
	SI	31	5.94	1.190	1.96	7.83				
Rlawimpart1	EU	212	4.11	0.945	2.07	7.91	0.60	1	241	0.441
	SI	31	4.86	1.078	2.19	7.48				
Redimpart2	EU	212	2.20	0.252	1.55	3.22	18.06	1	241	0.000
	SI	31	2.17	0.396	1.26	2.76				

Rhelimp2	EU	212	2.32	0.347	1.47	3.34	1.90	1	241	0.170
	SI	31	2.65	0.297	1.78	3.21				
Rlawimp2	EU	212	2.24	0.333	1.56	3.41	1.87	1	241	0.172
	SI	31	2.43	0.278	1.85	3.00				
Redcorr	EU	212	3.28	1.003	0.94	7.37	15.43	1	241	0.000
	SI	31	4.00	1.522	0.81	6.06				
Rhelcorr	EU	212	3.98	1.222	1.11	7.88	0.04	1	241	0.838
	SI	31	5.59	1.301	1.81	7.83				
Rlawcorr	EU	212	3.72	1.157	1.00	8.18	0.27	1	241	0.602
	SI	31	4.69	1.072	2.28	6.26				
Rothercorr	EU	212	4.04	1.154	1.66	7.45	2.82	1	241	0.094
	SI	31	4.31	0.930	1.59	6.47				
Rbribe	EU	212	1.97	0.035	1.79	2.00	0.18	1	241	0.668
	SI	31	1.97	0.053	1.70	2.00				

Source: own

Note: *edqual* – quality of public education in respondent's area, *helqual* – quality of public health care system in respondent's area, *lawqual* – quality of law enforcement in respondent's area, *elections* – perceived fairness of elections in respondent's area, *media* – perceived fairness and ability to report political corruption of the media in respondent's area, *Redimp1* – impartiality of public education in respondent's area – advantages, *Rhelimp1* – impartiality of public health care system in respondent's area – advantages, *Rlawimp1* – impartiality of law enforcement in respondent's area – impartiality of public health care system in respondent's area – advantages, *Redimp2* – impartiality of public education in respondent's area – equality, *Rhelimp2* – impartiality of public health care system in respondent's area – equality, *Rlawimp2* – impartiality of law enforcement in respondent's area – equality, *Redcorr* – perceived corruption of public education in respondent's area, *Rhelcorr* – perceived corruption of public health care system in respondent's area, *Rlawcorr* – perceived corruption of law enforcement in respondent's area, *Rothercorr* – amount of perceived bribery by others in respondent's area, *Rbribe* – respondent's own experience with bribery in public services.



## Stakeholder Involvement in the Civil Security Systems: How (Dis)Similar are the CEE Countries Compared to the Rest of Europe?

*Věra-Karin Brázová<sup>1</sup>*

### Abstract

Civil security is one of the crucial public goods provided by the state to protect its society from devastating disasters. The increasing complexity of disasters and the expanding scope of non-military challenges call for an increased heterogeneity of core actors and for more participatory governance. Yet little is known about the patterns of stakeholder involvement in civil security across countries. Based on a comprehensive dataset covering 22 European countries, the article presents systematic evidence on the official involvement of different types of stakeholders in the national civil security governance systems. The goal is to explore whether the European countries with similar characteristics fall into geographically and culturally similar categories and whether similar patterns can be observed across the Central and Eastern European (CEE) region. The research questions addressed are: Do the European countries with similar characteristics fall into geographically and culturally similar categories? Is the CEE region distinct from others? To answer the questions, a hierarchical cluster analysis is conducted using security governance as a framework for analysis. The association is further tested between the different clusters of countries and broader cultural variables. The results suggest that despite sharing cultural similarities and geographical proximity, the CEE countries form mixed clusters with other non-CEE European countries. While the involvement of civil society organizations is quite universal, especially the involvement of private for-profit actors and multilateral engagement seem to discriminate among different types of civil security governance setup.

### Keywords:

Civil security; security governance; stakeholder involvement; cluster analysis; comparative analysis.

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## 1. Introduction

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Official systematic collaboration with different stakeholders in terms of co-production and co-implementation of public goods is viewed as an effective strategy enhancing governance capacities (Huitema et al. 2009, Hefetz et al. 2014, Voorberg et al. 2015, Nemeč et al. 2019). This holds also for the public good of civil security, where the increasing complexity of disasters and the expanding scope of non-military challenges call for increased heterogeneity of core actors and for more participatory governance (Ahrens and Rudolph 2006; Gable 2012; Hermansson 2016; Nowell et al. 2018; Okada et al. 2018).

Yet little is known about the patterns of stakeholder involvement across countries. Despite a growing number of case studies, comparative research is surprisingly scarce. Although several studies in the field concluded with a call for a comparative research across a larger number of countries (Roberts 2010; Zurita et al. 2015), such an approach remains under-explored. One exception here is an OECD (2017) study on risk governance in Austria, France and Switzerland, which devoted only a brief attention to the participation of other actors than the state institutions; a study by Aldrich (2019) concentrating on frictions in cooperation after disasters across the globe; and a comparative work by Driessen et al. (2016), which focuses on the narrower issue of floods. An analysis which would systematically present and assess the differences and similarities across a larger number of countries is lacking.

The article fills this gap by presenting systematic evidence on the official involvement of different types of stakeholders in the national civil security systems and exploring similarities and differences in the setup. The aim is thus to provide grounds for further theoretical and practical discussion on stakeholder involvement and co-implementation of civil security as a public good with potential implications also for regional collaboration and policy responses to future disasters (see Joyce and McCaffrey 2015). The article does so by providing a cross-country comparison of a broad range of 22 European countries, encompassing all its geographical regions to gain an increased and deeper understanding of civil security governance. The advantage of this approach is the coverage of a large geographic area while ensuring basic comparability, as all the countries in the study are either EU member states or states closely associated with the EU through a series of bilateral treaties, such as Switzerland.

Especially Central and Eastern Europe (CEE) is under-researched in this respect with the slight exception of Poland (see Driessen et al. 2016; Schimak et al. 2020). There were noted cultural differences in the defence sector between CEE and Western Europe (Grant and Milenski 2018, 191) and the CEE countries often face similar threats due to the regional dimension of disasters (Kešetović and Samardžija 2014, 217). While there is no unified approach in civil security governance (see Gable 2012), the goal of the paper is to assess whether the CEE countries have devel-

oped a distinct pattern of stakeholders involved in civil security based on common cultural and geographical factors or whether other patterns across Europe prevail. By doing so, the article shall contribute to the current debate on the pages of the *NISPCee Journal* on common European/CEE model(s) of governance (Koprić 2016) and stakeholder involvement in public services provision (Nemec et al. 2019) by presenting empirical evidence from the field of civil security.

Utilizing security governance as a framework for analysis, the first part of the paper identifies key dimensions of civil security governance based on a literature review. In the next sections, the research methodology is outlined and the cluster analysis is conducted. The association is tested between the different clusters of countries and broader cultural characteristics identified in the research of Inglehart and Welzel (2010) and Hofstede et al. (2010). The paper further discusses the results of the cluster analysis and patterns of actors' involvement. Finally, results are summarized in the concluding part reflecting on the lessons that can be drawn for further research.

## **2. Literature review**

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### **2.1 Security governance as a framework for analysis**

Civil security is thought of as a public good ensured by the state (COM 2012), distinct from the military security on the one hand; and from the field of law and order on the other hand (Shalamanov 2006). As a specific policy domain (Miller and Douglass 2016), civil security is coupled with the issue of governance (see Kuipers et al. 2015; Hoijsink 2014) and its use as an analytical framework (Kirchner et al. 2015). Civil security governance then refers especially to the “public governance structures for crisis, risk and disaster management” (Bossong and Hegemann 2015, 7) which are in place to protect the country and its people against new and urgent threats to their security and to the functioning of the critical infrastructure (Boin et al. 2014, 5).

Governance in this field is characterized as patchy or fragmented (Lane and Hesselman 2017), yet consensus seems to exist in the literature about the need to go beyond governmental settings and to engage a broad array of stakeholders, both public and private, and to consider the national, local and international levels (ibid.; Prizzia 2008; Tierney 2012; Gall et al. 2014; Zurita et al. 2015). For conceptualization purposes, the comprehensive and integrated character of governance is stressed (Gall et al. 2014) and thus the need to consider especially those actors and organizations which are formally involved in the implementation of the laws, regulations and programmes concerning civil security (Garmestani and Benson 2013).

Although no universal list of stakeholders exists, the literature dealing with civil security governance typically addresses the state at the national but also low-

er levels of administration (Wolensky and Wolensky 1990; Krahmman 2003; Field 2012; Zurita et al. 2015; Bae et al. 2016; Lane and Hesselman 2017); civil society organizations (CSOs) (Coppola 2006; Roberts 2010; Joachim and Dembinski 2011; Zurita et al. 2015); and the private (for-profit) sector (Lethbridge 2009; Roberts 2010; Tierney 2012; Zurita et al. 2015). A large body of the literature also stresses the active engagement of the military forces as a distinct actor (Wentz 2006; Coppola 2006; Roberts 2010; Tierney 2012; Zurita et al. 2015; Bae et al. 2016) and the role of individual citizens as active participants in disaster preparedness and mitigation (Zhang and Kumaraswamy 2012; Wehn et al. 2015; Zurita et al. 2015; Aldrich 2019; OECD 2017; Lane and Hesselman 2017). Finally, at the international level, the role of transboundary assistance and coordinated international effort is stressed as an important element of the governance framework (Coppola 2006; Gopalakrishnan and Okada 2007; Roberts 2010; Ha 2015; Driessen et al. 2016; OECD 2017; Lane and Hesselman 2017).

## 2.2 Stakeholder involvement in civil security systems

The majority of risks associated with civil security is coordinated and managed centrally at the national level (Field 2012, 360; Bae et al. 2016). Yet, the state-centric approach is no longer sufficient to address the provision of civil security (Kirchner et al. 2015, 287), and a wider range of modes of governance is encouraged to be applied than the currently dominant ones primarily focusing on public actors (Driessen et al. 2016, 53). From a normative perspective, especially a broad whole-community approach is often stressed as necessary for successful civil security policies (Kapucu and Sadiq 2016).

Over the last few years, shifts in civil security governance structures have started to be debated especially within the disaster management sector (Zurita et al. 2015; Nowell et al. 2018). Zurita et al. (*ibid.*) observed a trend towards partnership between the state and public and private actors in Australia: While the national and local governments remained legally the central governing actor, through strategic outsourcing other actors started sharing the responsibility. In their analysis in the US, Nowell et al. (*ibid.*) examined patterns of (de)centralized coordination of different responders. The authors observed neither highly integrated nor centralized structure, yet expected the heterogeneity of actors to increase with the increasing complexity of disasters (*ibid.*, 711).

Many case studies worldwide reflect the trend of an increasing involvement of different stakeholders in civil security over the last decade. This concerns both the state and its institutions in the form of a growing role of local governments (Field 2012; Bae et al. 2016); an upward trend in the use of military personnel and assets in disaster relief (Canyon et al. 2017); as well as an enhancement of international (Gabrielle 2018) and cross-border cooperation in disaster preparedness and response (Brie 2017). On the side of civil society, the role of CSOs has shifted in

some countries from supplemental to a more central one (Joachim and Dembinski 2011; Zurita et al. 2015) while the incentive to engage the private sector in security provision has increased as well due to the limited resources available to the state (Tierney 2012).

Comparative analyses dealing with stakeholders involved in the national civil security governance systems are still rare. Zurita et al. (2015) call for “studies across different geographical areas and with different disaster events” to appreciate the existing variations of the civil security governance setups (*ibid.*, 395). Focusing on effectiveness, a comparative study among European national security systems undertaken by Kuipers et al. (2015) touched upon different analytical dimensions, such as perceptions of the role of government, procedures, and quality in terms of absence of controversies; yet the stakeholder involvement was not the focus of the study. Another large comparative study by Aldrich (2019) compared the level of governance in disaster responses in eighteen countries in the Americas, Asia, and East Africa and showed that democratic societies find collaboration of different stakeholders easier and value civil society and its voluntary organizations as active participants.

In a narrower field of flood governance, a study by Driessen et al. (2016) focused on seven (mostly North-Western) European countries, where only one case (Poland) represented the CEE region. The authors point to the necessity of steering at different levels of government, i.e. the national, regional/local, transboundary and EU levels and recommend the consideration of other stakeholders, namely citizens, NGOs, and businesses (*ibid.*, 53). The same set of countries was also used in the study by Dieperink et al. (2018), which concludes that in flood resilience, the “governance systems tend to be multilevel” (*ibid.*, 30).

In the CEE region, collaborative relations between state and non-state actors were analyzed by Börzel and Buzogány (2010) for environmental policy. Their study showed a deficit in cooperative state-society relations (*ibid.*). According to a later study on new modes of governance (Börzel and Fagan 2015), NGOs in the CEE/Western Balkan countries lack capacities to function as partners of the state in public policy-making while private economic actors are more effective in this regard (*ibid.*).

### **3. Research methodology**

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The paper aims to provide a systematic comparison (see Azarian 2011), exploring and empirically assessing the existing patterns of stakeholder involvement in the national civil security governance systems across different European countries, covering all its geographical regions, including CEE. The research questions are: Do the European countries with similar characteristics fall into geographically and culturally similar categories? Is the CEE region distinct from others in terms of different types of stakeholders involved?



To answer the research questions, the article follows an exploratory design and employs an agglomerative hierarchical cluster analysis in order to group cases into categories with shared characteristics and thus to reduce the complexity of the studied phenomenon (Azarian 2011). Maximizing intra-cluster similarity and minimizing inter-cluster similarity, this method allows for grouping the countries with similar characteristics across a set of variables, leading to homogeneous empirical types (Fenger 2007). Such an empirical assessment is a helpful tool in identifying different patterns in the civil security governance in Europe, as the current knowledge does not allow for determining *ex-ante* typical representatives of different types, nor a given number of clusters, which renders unsuitable a non-hierarchical approach.

Hierarchical cluster analysis is suitable for a smaller number of cases; allows several variables to enter the analysis; and operates with all types of variables, including the nominal/binary ones (Mareš et al. 2015). There are also limitations which need to be taken into account. Ensuring the comparability of the cases and working with particular variables reduces the richness of the information while the limited number of cases does not allow for greater generalization beyond the analyzed sample. Finally, the clustering method needs to be considered carefully, as different methods yield potentially different results, and thus also caution in interpretation is needed (*ibid.*).

The choice of variables entering the analysis reflects six dimensions of civil security governance as identified in section 2.1 of this paper, reflecting different types of stakeholders besides the state at the national level. These are 1) the engagement of regional or local governments in policy formulation and/or executive responsibility; 2) the engagement of the CSOs and 3) formal engagement of individual citizens; 4) the engagement of for-profit organizations; 5) international ties; and 6) the engagement of the military. The overview of the dimensions and variables is provided in Table 1. The choice of the grouping method and measure is outlined below.

The paper utilizes data from the collaborative project ANVIL (“Analysis of Civil Security Systems in Europe”) within which data on civil protection and disaster management systems in 22 European countries were collected (20 EU Member States, Serbia and Switzerland). This ensures both comparability of the data collected under a unified methodology and comprehensive coverage of the field, including countries from all waves of post-2000 EU accessions. Within the project, coded datasheets were prepared and accompanied by detailed peer-reviewed country studies upon which the coded data were checked for accuracy.

Accepting a certain reduction in the richness of the information for the purpose of this paper, the original data categories were recoded where necessary into dichotomous variables to allow the hierarchical cluster analysis. For cardinal variables, the middle value (median) was computed and the dataset was divided accordingly. For the coding and its explanation where necessary, see Table 1. Table 2 then shows the scores for individual countries in the sample.

**Table 1**  
Variables in the analysis

Dimension	Coding
Engagement of regional or local governments:	
1a) Decentralization in executive responsibility for civil security	Yes=1 (executive responsibility for civil security rests first and foremost at the regional or local levels); No=0 (executive responsibility rests first and foremost at the national level of government)
1b) Decentralization in policy formulation for civil security	Yes=1 (policy formulation first and foremost at the regional level); No=0 (policy formulation first and foremost at the national level)
Involvement of CSOs:	
2a) Do societal/non-profit actors play an official/legally mandated role in the REGULAR provision of civil security?	Yes=1 (almost all areas); No =0 (no or some specialized areas only)
2b) Do societal/non-profit actors play an official/legally mandated role in EXCEPTIONAL crises?	Yes=1; No =0
Citizens' engagement:	
3a) Do citizens have a formal/legal obligation or responsibility in civil security?	Yes=1 (regular responsibilities); No=0 (not specified or temporary)
3b) Is civil emergency training (not/except basic FIRST AID) part of the school curriculum?	Yes=1; No=0
Private sector involvement:	
4a) Do for-profit/private actors play an official/legally mandated role in the REGULAR provision of civil security?	Yes=1 (at least in some parts of civil security); No=0
4b) Do for-profit/private actors play an official/legally mandated role in EXCEPTIONAL crises?	Yes=1; No=0
International ties:	
5a) Higher than median number of signed bilateral agreements on civil security matters with other countries than neighbours.	Yes=1; No=0
5b) Higher than median number of signed regional/multilateral agreements on response-oriented disaster management.	Yes=1; No=0
Involvement of the military:	
6a) Is the crisis management approach primarily based on civilian operations (rather than military)?	Yes=1; No=0
6b) Is the military used for support for crisis management operation?	Yes=1 (regularly); No=0 (no or in exceptional situations only)

Source: author, based on ANVIL coded data-sheets.

**Table 2**  
Country scores

Country	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b
AT	1	1	1	1	0	0	1	0	0	0	1	0
CH	1	1	0	1	1	0	1	1	0	0	1	0
CZ	1	0	0	1	0	1	0	0	0	0	1	0
DE	1	1	1	1	0	0	1	1	0	0	1	0
EE	0	1	-	-	0	1	-	-	-	-	1	0
FI	1	0	0	1	1	0	1	1	1	1	1	0
FR	0	0	0	1	0	1	1	1	1	0	1	0
HR	1	0	1	1	0	0	1	1	1	1	1	0
HU	1	0	0	1	1	1	1	1	1	0	1	0
IE	1	0	0	1	0	0	0	0	1	0	1	0
IT	1	1	1	1	1	1	1	1	1	0	1	1
LT	-	-	-	-	0	1	-	-	1	0	1	0
LV	0	0	-	-	-	1	-	-	-	-	1	0
MT	0	0	1	1	0	0	0	1	0	0	1	0
NL	1	0	0	1	0	0	1	1	1	1	1	0
NO	0	0	1	1	1	0	0	0	0	1	1	1
PL	1	0	0	1	0	1	0	0	0	0	1	0
RO	1	0	1	1	1	1	1	1	1	1	1	0
RS	1	0	0	1	0	0	1	1	0	1	1	0
SE	1	0	1	1	0	0	0	0	0	1	1	1
SK	1	0	0	1	0	1	1	1	1	1	1	1
UK	1	0	0	1	0	0	0	0	0	0	1	0

Source: author based on the ANVIL coded datasheets and country reports.

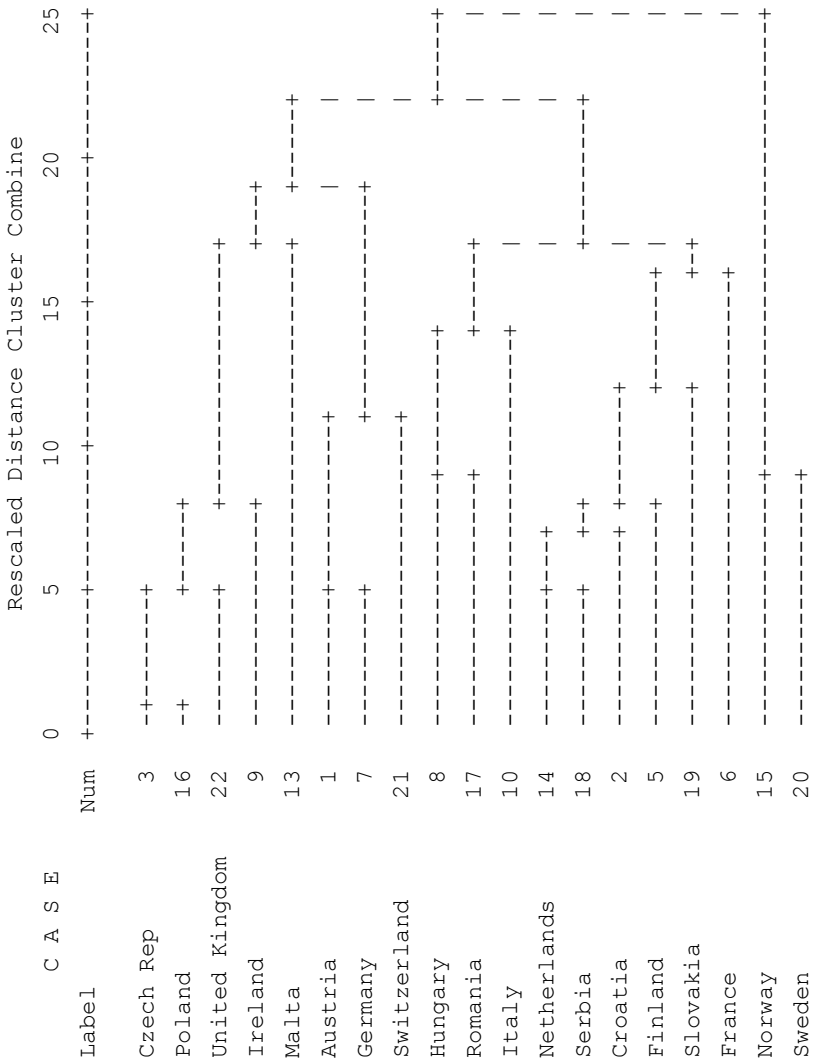
Considering the nature of the data (binary variables), the common Between Groups measure was used (see Finch 2005) and coupled with the Simple Linkage method<sup>2</sup> (see Jardine and Sibson 1971). No variables were highly correlated (i.e. with correlation coefficients > 0.90) and thus sufficiently unique to be included in the analysis.

<sup>2</sup> Alternatively, also the Centroid method was considered, yielding very similar results, but it was not further utilized due to its propensity to create more similar clusters at early stages and more dissimilar ones at later stages (see Jardine and Sibson 1971).

## 4. Cluster analysis and its results

The sample was reduced to 19 countries as the SPSS does not include cases with one or more variables missing. A dendrogram representing the outcomes is shown in Figure 1. The vertical proximity of the linked countries suggests their similarity in their civil security systems in terms of different actors' involvement. Table 3 then summarizes in its second column the cluster membership of the country cases.

**Figure 1**  
Country clusters based on stakeholder involvement in civil security governance



**Table 3**  
Cluster Membership and Cultural Scores

Case	Cluster*	WVS traditional vs. secular**	WVS survival vs. self-expression**	GH_DPI ***	GH_MAS ***
Austria	1	0.25	1.43	11	79
Germany	1	1.4	0.6	35	66
Switzerland	1	0.74	1.9	34	70
Croatia	2	0.08	0.31	73	40
Finland	2	0.82	1.12	33	26
France	2	0.63	1.13	68	43
Netherlands	2	0.71	1.39	38	14
Serbia	2	0.35	-0.62	86	43
Slovakia	2	0.67	-0.43	104	110
Czech Rep	3	1.23	0.38	57	57
Ireland	3	-0.91	1.18	28	68
Malta	3	-1.53	-0.03	56	47
Poland	3	-0.78	-0.14	68	64
United Kingdom	3	0.06	1.68	35	66
Hungary	4	0.4	-1.22	46	88
Italy	4	0.13	0.6	50	70
Romania	4	-0.39	-1.55	90	42
Norway	5	1.39	2.17	31	8
Sweden	5	1.86	2.35	31	5

\*Source: author based on own cluster analysis; \*\*Source: Inglehart and Welzel 2010; \*\*\*Source: Hofstede et al. (2010)

The first culturally and geographically homogeneous cluster (comprised of Austria, Germany and Switzerland) is characterized by the federal nature of governance, which also translates into the countries' civil security governance systems through decentralization in policy formulation (unlike the rest of the countries in the sample with the exception of Italy). While these countries can be internally characterized through the official involvement of both civic and private organizations in civil security, their international engagement in terms of both bilateral and multilateral agreements on disaster response is rather moderate.

The second cluster comprises both CEE and other European countries (Croatia, Finland, France, the Netherlands, Serbia and Slovakia). The main characteristics

consist in somewhat larger private sector involvement both during regular operations and during exceptional crisis situations in all the countries in the cluster together with relatively high international orientation in disaster management issues both bilaterally and multilaterally. The civic involvement is less pronounced here. Citizens have no formal obligations or responsibilities in disaster governance (except for Finland), and CSOs do not play a large role in regular disaster management and security provision (except for Croatia).

The third cluster is also geographically heterogeneous (Czech Republic, Poland, Ireland, United Kingdom and Malta as an outlier) and comes out as the most state-centric one. The official role of anything other than state actors is relatively small compared to other countries; CSOs are engaged during emergencies. A distinctive feature of this cluster is the low engagement of for-profit organizations in civil security, both in regular (in all cases) and in exceptional situations (except Malta). Civil security tasks are not outsourced<sup>3</sup>, nor does the international dimension play a large role in these countries.

While also geographically rather heterogeneous, cluster four (Hungary, Italy and Romania) can be regarded as opposite to the previous one in many aspects. There are formal obligations of the citizens stipulated, and the official role of the for-profit sector is rather important both in regular civil security provision and during exceptional crisis situations. Internationally, this cluster can be described in terms of a relatively high number of bilateral agreements in place covering civil security issues beyond their immediate neighbours.

The most outlying yet geographically homogeneous cluster five (Norway, Sweden) is characterized by common use of the military for support in disaster management operations<sup>4</sup>, which – coupled with policy formulation placed at the national level – might also suggest a relatively large state-centrism in the countries' civil security governance. For-profit organizations do not have any large official role here, while the official role of the CSOs is relatively important both in regular and in exceptional situations. The bilateral civil security cooperation is somewhat lower here (compared with clusters two and four), yet the countries largely engage in multilateral cooperation.

#### 4.1 Internal cluster validity

To evaluate the results of the clustering algorithm, cluster validity deserves to be briefly discussed (see Theodoridis and Koutroubas 1999; Halkidi et al. 2000). The

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3 Poland stands somewhat out with the ambulance services being privatized. Overall, however, the reliance of the state on the for-profit sector is very small in Poland (Matczak and Abgarowicz 2013).

4 In the sample of the countries observed in this paper, this generally seems to be a relatively less common feature, with only Norway, Sweden and also Slovakia and Italy reporting regular use of the military in disaster management operations.

results are further evaluated based on internal criteria, checking for the clustering potential of the selected dimensions and their variables with respect to the identified clusters.

Based on the data qualities (nominal for cluster membership and binary for the clustering variables), a chi-square test was conducted with the following results: Seven variables covering five dimensions were able to differentiate among the clusters on a statistically significant level. These were: Decentralization in policy formulation (Pearson Chi-Square, P-value: 0.005); Formal/legal obligation or responsibility of citizens in civil security (Pearson Chi-Square, P-value: 0.045); For-profit/private actors' engagement in both regular security provision and during exceptional crises (Pearson Chi-Square, P-value: 0.001/0.013, respectively); Higher number of both bilateral and multilateral agreements (Pearson Chi-Square, P-value: 0.014/0.012, respectively); Regular use of the military for support in crisis management operations (Pearson Chi-Square, P-value: 0.041).<sup>5</sup>

At the same time, the CSOs' engagement during exceptional situations and the civilian basis of crisis management were features present in all the cases and can thus be described as more universal features common to the European countries. Out of all the above-considered variables, only the Decentralization in executive responsibility; Societal/non-profit actors' official engagement in regular disaster management and security provision; and Emergency training being part of the school curricula did not discriminate sufficiently among the clusters.

Given these results, all dimensions considered in section 3 of this paper, except for the involvement of CSOs, seem to be able to discriminate among the clusters and thus bear some interpretative value. The involvement of CSOs is relatively large in all countries under study (both in regular operations and especially during exceptional crisis situations) and thus differs only in its scope.

## 4.2 External validity

Research suggests that cultural variables might impact upon national security and risk related issues, such as safety performance (Park 2011; Tsai and Chi 2012; Dücker et al. 2015; Kasdan 2016). Based on the cultural variables as provided by the research of Inglehart and Hofstede, the results of the cluster analysis are further examined to see whether national culture can be associated with different civil security governance setups. The World Value Survey (WVS) wave 6 (2010–2014) was taken here as a basis, providing country scores for the traditional vs. secular and survival vs. self-expression dimensions.

In the WVS, the traditional/secular dimension is related to the deference to authority (Inglehart 2000). Societies with traditional values emphasize deference

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<sup>5</sup> The magnitude of the P-values performed for each variable is an indication of how well the respective variable discriminates between clusters.

to authority, whereas those with secular-rational values place less emphasis on authority. Survival values then put emphasis on security. Societies with high survival values emphasize economic and physical security, while societies with high self-expression values put more emphasis on participation (ibid., 83–84).

The country scores for these dimensions are provided in Table 3. The one-way analysis of variance (ANOVA)<sup>6</sup> was statistically significant for both the WVS Traditional vs. Secular (P-value 0.021<sup>7</sup>) and the WVS Survival vs. Self-expression variables (P-value 0.016<sup>8</sup>). This suggests that the clusters differ on these dimensions. By a post-hoc multiple comparison<sup>9</sup>, where a Bonferroni test<sup>10</sup> was utilized, clusters 1 and 5 differed significantly on the traditional vs. secular dimension and clusters 3 and 5 on the survival vs. self-expression dimension.

Also worth considering are cultural dimensions from the Hofstede (2010) research. Especially Power Distance (DPI) and Masculinity (MAS) have been associated with security and safety issues in disaster management (den Ouden and Russell 1997; Park 2011). Masculinity represents a preference in society for achievement and competitiveness. The opposite (femininity) stands for a preference for cooperation (Hofstede 2011, 12–13). Power Distance is then about power distribution. People in societies exhibiting a small degree of Power Distance expect more to be consulted and have a preference for pluralism (ibid., 9–10).

There are differences among the clusters in DPI (with clusters 3 and 4 scoring relatively high, especially in contrast with clusters 2 and 5), yet not on a statistically significant level. The one-way analysis of variance (ANOVA)<sup>11</sup> was statistically significant for MAS (P-value 0.045<sup>12</sup>). By a post-hoc multiple comparison, where a nonparametric Games-Howell test was utilized, clusters 1 and 2 differed significantly from cluster 5 with the first two clusters reaching relatively high scores on MAS and cluster 5 scoring low. The commonality of the first two clusters (in contrast to cluster 5) lies especially in the involvement of the for-profit sector in disaster management.

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6 Test of Homogeneity of Variances (Levene statistic), conducted as a pre-condition for further analysis for both WVS indicators was not statistically significant, suggesting relative homogeneity of variances of the country clusters with respect to the WVS data.

7 When tested by a robust Brown-Forsyth test, the P-value was 0.023.

8 When tested by a robust Brown-Forsyth test, the P-value was 0.028.

9 Equal variances assumed – by Levene statistics.

10 Recommended with a relatively low number of comparisons (Field 2009).

11 Test of Homogeneity of Variances (Levene statistic) for DPI and MAS indicators was not statistically significant.

12 When tested by a robust Brown-Forsyth test, the P-value was 0.027.



### 4.3 Discussion

The findings show that in all the cases, civil security is not provided solely by the state and its institutions, but wider modes of governance are in place. Despite substantial heterogeneity, certain features apply in all the countries, such as a crisis management approach primarily based on civilian operations and an official role assigned to CSOs during exceptional crises. Although citizens in the CEE countries tend to participate less in voluntary organizations (Uslaner 2004; Petrova and Tarrow 2007), the CSOs are involved in civil security provision in all of them. Compared with other public services (see Nemeč et al. 2019), it can be argued that a systematic collaboration with CSOs (typically the Red Cross or voluntary fire brigades) is in place across Europe, including the CEE countries. This is in line with Aldrich's (2019) observation that in democratic societies, voluntary organizations are valued as active participants in disaster response.

Although the involvement of different types of actors varies across the countries, interesting patterns emerge if we consider the balance between civic actors (i.e. the involvement of lower levels of administration, CSOs or the citizens; see variables 1a to 3b in Table 1) as opposed to other types of actors (i.e. for-profit organizations, other states or the military; variables 4a to 5b and 6b in Table 1). In fact, the identified clusters can be defined along two lines: 1) the ratio between the civic and other types of stakeholders; and 2) the number of different types of actors involved, denoting the width of civil security governance.

Following this logic, cluster 3 (Czech Republic, Poland, United Kingdom, Ireland, and Malta) stands out as the most concentrated with the lowest number of different types of actors involved and thus the largest role played by the state and its institutions. In all these countries, the civic domain prevails. Contrastingly, the broadest spectrum of stakeholders is characteristic of cluster 4 (Hungary, Italy, and Romania), with both civic and non-civic domains covered relatively evenly. The obligations and basic training of citizens can be found in all these countries, as well as the reliance on the for-profit sector.

While the CEE countries are located at both ends of this continuum, two culturally and geographically homogeneous clusters form part of the "middle ground" in terms of the number of different stakeholders involved. Cluster 5 (Norway and Sweden) is similar to cluster 4 in that there is no strong overall inclination towards the civic or other stakeholders. Unlike in cluster 4, the countries do not rely on for-profit organizations, but rather CSOs are involved combined with multilateral agreements and the use of the military. Cluster 1 (Austria, Germany, Switzerland) is characterized by a greater emphasis on civic resources (and an overall strong inclination towards the civic dimension), although the for-profit sector is involved in all three countries. The relatively large role played by the civic sector in this cluster corresponds with the overall tendency of these countries to deliberate policy and

delegate authority to interest associations both in decision-making and in policy implementation (Atkinson and Coleman 1992; Jochem and Vatter 2006).

The engagement of private companies in civil security is less common than the reliance on CSOs (see e.g. Coppola 2006). This seems to hold also more broadly for the civic dimension. The only cluster with a prevailing non-civic domain is cluster 2 (Croatia, Finland, France, Netherlands, Serbia, and Slovakia). This is the largest and most diverse cluster, yet in all its countries, the for-profit sector is involved in civil security, and a high number of bilateral and/or multilateral agreements on disaster response are in place; while the role of the CSOs and citizens is somewhat less pronounced.

Although the CEE countries often underwent a massive deregulation, outsourcing and privatization in their public policies at some point of their democratic transition (Kouzmin et al. 2011), the for-profit sector does not seem to be equally important in their civil security. Many of the CEE and all the South-Eastern European countries in the sample count on for-profit actors, yet only Croatia, Serbia and Slovakia fall into a cluster where the non-civic dimension prevails. On the other hand, Romania and Hungary, while also involving private actors, developed a broader civil security system encompassing a larger array of actors and also putting emphasis on the responsibilities of individual citizens.

Some of the differences can be associated with geographical proximity and thus similar geographic conditions and historical factors. Within the clusters, geographical proximity is more pronounced with the non-CEE countries, as reflected by clusters 1 and 5. Some geographical and cultural factors seem to play a role in CEE (similar patterns in the Czech Republic and Poland; or Hungary and Romania), yet overall this role is rather limited (e.g. similar patterns in Serbia and the Netherlands). This indicates that even neighbouring countries can develop different civil security structures due to separate political and cultural developments, as Joyce and McCaffrey (2015) showed on Northern Ireland and the Republic of Ireland. This seems to hold especially for the CEE region and suggests an influence of other factors, such as selective experience transfers and learning, which is worth exploration in further research.

Cultural variables shed some additional light on understanding the differences, as they appear to have some (albeit limited) impact upon the civil security governance setup. Using the WVS data, both the traditional/secular and the survival/self-expression dimensions differentiate between some of the clusters. The difference along the former dimension could be explained by the geographical and cultural proximity of countries in clusters 1 and 5. The difference between clusters 3 and 5 along the latter dimension could be coupled with the larger participation of CSOs in regular civil security provision and broader multilateral engagement of the cluster 5 countries.

Caution is needed, however, in interpretation, as the countries with heterogeneous scores on the survival/self-expression dimension of WVS also form clusters together (such as in cluster 2). Thus while security systems in some countries may include more different types of stakeholders due to the values placed on participation; others might reach the same solution primarily due to insufficient resources (see Tierney 2012) and driven by the survival values instead. This has been witnessed, e.g., in Italy, where volunteering was a reaction to state insufficiency after the l'Aquila earthquake (Di Camillo et al. 2014).

According to Hofstede's country scores, clusters 1 and 2 differ significantly from cluster 5, with the first two reaching relatively high scores on the Masculinity scale and cluster 5 scoring low. This difference could be coupled with the countries' readiness to rely on the for-profit sector in the civil security provision. Although other factors might be intervening here, a hypothesis could be formulated that a higher reliance on the for-profit sector in the form of privatization or outsourcing is seen as desirable in more masculine cultures emphasizing competitiveness and performance. Testing this hypothesis is suggested for further research.

There are also differences among the clusters in Power Distance (with clusters 3 and 4 scoring relatively high, especially in contrast with clusters 2 and 5), yet not on a statistically significant level. This corresponds with other research (see Hermansson 2016) and suggests that in the current European context, the power distribution does not strongly impact upon the composition of the civil security systems.

## 5. Conclusions

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Based on a comprehensive dataset covering 22 countries and all European regions, the article presents systematic evidence on the official involvement of different types of stakeholders in the national civil security systems. Although the state plays a crucial role in civil security provision in all European countries, in all cases civil security governance also comprises other actors than just the state and its institutions. The data show that the CSOs are counted on in all countries under study, especially in exceptional crisis situations. Also the official systematic involvement of CSOs in regular civil security provision appeared frequently and did not discriminate among the clusters. Contrastingly, the official role ascribed to private for-profit actors was important for differentiating among different clusters. A link with Hofstede's MAS dimension was suggested.

The goal of this paper was to explore whether the European countries with similar characteristics fall into geographically and culturally similar categories and whether the same patterns can be observed across the CEE region. Despite sharing cultural similarities and geographical proximity, the CEE countries formed mixed clusters with other non-CEE European countries. Three out of five clusters involved both CEE and non-CEE countries. The WVS values did not seem to explain this

heterogeneity. The two remaining clusters which did not involve any of the CEE countries were similar to observations in other policy domains (see e.g. Esping-Andersen 1990) and marked by geographical and cultural homogeneity.

The analysis provided a systematic overview as a common ground for future work and showed important similarities as well as discriminating dimensions worth further examination. Further research is suggested to concentrate on experience transfers and learning to shed light on the evolution of the official involvement of different types of actors in the provision of civil security as a public good.

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# Measuring Outcomes of Digital Transformation in Public Administration: Literature Review and Possible Steps Forward<sup>1</sup>

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## Abstract

Digital transformation is the modern mainstream of social and economic development promising significant digital dividends to citizens and businesses worldwide. The theory highlights the importance of digitalization for optimizing the public value of government services for citizens; however, despite the high enthusiasm about the prospects of digital transformation in public administration, there is little literature on measuring actual benefits this process might provide to all stakeholders concerned.

While some recent research suggests high correlation between governance indicators and e-government development, the causality between the two is not confirmed statistically for most public administration indicators. International indices used to measure government digitalization (such as the UN E-Government Development Index) often concentrate only on e-services and are based on measuring the availability rather than the actual use or quality of such modes of service delivery; they concentrate more on measuring G2C and, to some extent, G2B interactions and often omit the effects of digitalization for the G2G and G2E dimensions. The EU Digital economy and society index (DESI) is one of the most advanced cases for measuring the progress of digitalization in the EU, but even in this case the costs of digitalization and potential risks of digital government are not fully accounted for.

The paper provides an extensive review of theoretical and practical approaches to measuring government digitalization, identifies key limitations and proposes some steps for enhancing the existing practices. The paper argues that government digital transformation should not be performed for its own sake but should be a

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means for raising effectiveness and efficiency of public administration. Therefore, both benefits and risks of digital transformation of performing all core government functions for various stakeholders (citizens, businesses, government itself, and public officials) should be accounted for.

**Keywords:**

Businesses; citizens; civil servants; e-government; digital transformation; indicator; measurement; outcomes; public administration; stakeholders.

## **Introduction: Digital transformation in public administration**

Digital transformation is the modern mainstream of social and economic development, promising significant digital dividends to citizens and businesses worldwide (World Bank 2016). In the area of public administration, the expectations about the digital technologies are also remarkably high. Some researchers claim digitalization to be a driver for the new governance concepts of digital era governance (Margetts and Dunleavy 2013) or ICT-enabled transformational government (Heidelberg 2009). Whether digital transformation forms a new governance paradigm or advances the current public administration reform approaches, there is a broad consensus that “technology does matter in the current public management reforms” (Vintar 2010).

The notion of digital transformation gained significant attention in literature (Vuksić et al. 2018). While the approaches to defining digital transformation vary (Reis et al. 2018), most authors suggest that digital transformation involves using ICT technology for creating fundamentally new capabilities in business, public government, and people’s life (Martin 2008) and radically improving performance or business reach (Westerman et al. 2011).

The theory highlights the importance of digitalization for optimizing the public value of government services for citizens (Bannister et al. 2014) as well as for raising the efficiency of government functions by implementing lean government models (Janssen and Estevez 2013). Digital technologies boost citizen participation (Luna-Reyes 2017) and support client engagement in public value co-production and co-creation (Cordella and Paletti 2018).

The recent research on digital transformation in public conducted based on expert interviews in several European countries suggests that key outcomes of digital transformation in government are related to institutional and organizational changes. It is therefore necessary to differentiate (i) digitization, characterizing the transition from analog to digital processes; (ii) digitalization, which focuses on potential changes in the processes beyond mere digitizing of existing processes and forms; and (iii) digital transformation, involving cultural, organizational, and relational outcomes (Mergel et al. 2019). Digital transformation therefore has significant impact not only on the accessibility and quality of public services, but also on

the way other public administration functions (such as policy development, regulation and enforcement, etc.) are performed (Dobrolyubova et al. 2019a).

A strong emphasis at the current stage is put on government-as-a-platform solutions (O'Reilly 2011; Styrin et al. 2019) and, consequently, on data-driven governance (World Bank 2018). It is noteworthy that neither platform solutions implemented at the stage of "open government" nor data-centric models based on open data are seen as ultimate results of public administration digitalization. They are just digital transformation stages which are expected to result in complete digitalization and, eventually, "smart government" (Gartner 2017). In academic literature there are also other approaches to staging digital transformation in public administration (see, for instance, Janowski 2015), suggesting that digital transformation is not a one-time event or a project with a clear beginning and end-date but rather a continuous process involving changes both in internal processes and procedures and in the ways public administration communicates with its major beneficiaries. The outcomes of this process are expected to be significant, but no uniform approaches to measuring these outcomes have been implemented so far.

While the digital transformation is an evolving process, the measures used to evaluate such process should also evolve, as the influence of government digitalization on government performance differs, depending on the stage of digital transformation. Such differences are especially important for output-level measures. For instance, at the initial stages of e-government, the indicators, such as the ratio of e-services provided online, are considered relevant. At the more mature stages of digital transformation the effects are different: smart government leads to the replacement of official portals by automatic interactions and, therefore, results in the reduction of types of public services (Dobrolyubova et al. 2019a).

This paper intends to contribute to the current agenda on measuring digital transformation in government and includes (i) a review of current literature on measuring benefits of digital transformation in public administration; (ii) an analysis of existing approaches to measuring the outcomes of government digital transformation; and (iii) an analysis of possibilities for enhancing the existing approaches to measuring government digital transformation.

## **1. Paper objective**

The objective of the paper is to analyze the existing theoretical and practical approaches to measuring outcomes of government digitalization, identify key limitations, and outline possible further directions for designing a comprehensive approach to measuring government digital transformation.

The paper intends to contribute to the existing literature on measuring outcomes of government digital transformation through a systematization of positive and negative effects that digital technology brings about.

## 2. Measuring outcomes of digital transformation in public administration

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### 2.1 Evaluation methods in public administration

There is impressive literature on general evaluation theory (Christie and Alkin 2008), which inter alia presents a rich menu of methods for evaluating public administration efficiency (Mustafin and Vavrek 2018). However, practical application of evaluations in public administration is limited due to obvious reasons, such as lack of information, regular accountability requirements, and growing pressures for just-in-time monitoring of governance effectiveness and efficiency given the increasing prevalence of performance budgeting, at least in OECD countries (OECD 2019).

The most common approaches used for measuring public sector performance include (i) logic model (or logical framework model); (ii) balanced scorecard; (iii) common assessment framework, and (iv) Moore's strategic value triangle.

The logic model links three main components: inputs (or resources), outputs (or immediate results), and outcomes (ultimate results relevant for external stakeholders). Each component of the framework contributes to the achievement of the next component (inputs allow for the achievement of outputs; outputs contribute to the achievement of outcomes) with risks and assumptions used at each transition stage (i.e. from inputs to outputs and from outputs to outcomes). In some cases, one more level (impact) is used to define the influence of public administration performance on the macro level (i.e. economic, societal, environmental impacts). This approach originated in the US (Williams 2014) and has been extensively used in literature and by practitioners worldwide both at the level of individual programs (projects) and at the level of organizations and policy areas.

The approach based on the balanced scorecard entails measuring a set of perspectives of organizational development, including resources, client orientation, internal processes, innovations (Kaplan and Norton 1992). This approach is applied at the organizational level and has a broad practical application both in the private and public sectors, with favorable results in most cases (Hasan and Chyi 2017), but is not applicable at the policy area or project level.

The common assessment framework (CAF) developed by the European Institute of Public Administration in Maastricht is another instrument for organization-level self-evaluation, specifically designed for public sector institutions. The model includes two large components comprising 9 groups of criteria: enablers (leadership, strategy and planning, people, partnership and resources, and processes) and results (citizen, people, social responsibility, and key performance results).<sup>3</sup>

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<sup>3</sup> [https://www.eipa.eu/wp-content/uploads/2017/05/CAF\\_Manual\\_2013.pdf](https://www.eipa.eu/wp-content/uploads/2017/05/CAF_Manual_2013.pdf).

Notably, the CAF model differentiates results by several beneficiary groups including citizen (clients), people (i.e. staff), and society at large.

This model builds upon the two previous models and develops them further. Thus, inputs from the logic model (which most often include financial and human resources) are translated and broadened into a broader group of enablers; outputs are considered results for various groups, outcomes – key performance results. The CAF model also relates to the balanced scorecard approach by factoring in resources, client orientation, and internal processes and assuming innovation and learning process based on an evaluation of the results achieved. The model is applied mostly in autonomous public sector organizations, such as education institutions and hospitals and local self-government bodies (Vakalopoulou et al. 2013) but is not directly suitable for evaluating progress in broad public policy areas.

Finally, the strategic value triangle proposed by Moore is based on measuring performance based on the public value, legitimacy, and support, as well as the operational capacity to produce the public value (Moore 2013) and emphasizes the importance of beneficiaries' engagement in evaluation. The framework has been recently further advanced to accommodate the growing role of various stakeholders in co-creation and co-production (Bryson et al. 2017), which is especially relevant in the context of a broad adoption of e-participation approaches (O'Brien et al. 2018).

A review of the above approaches suggests that various approaches to evaluating performance are designed for various purposes and in many cases should be considered complementary to each other and not direct alternatives. While the balanced scorecard and the CAF model perform well at the organizational level, program or policy area levels call for different approaches to performance measurement and evaluation.

Notably, despite the broad menu of evaluation methods, the comparison of actual results with performance targets is still a widespread practice (Alach 2017; Suleimenova et al. 2018) with quantitative methods (i.e. cost-benefit analysis, social return on investment) used for evaluating selected programs (Cordes 2017). Randomized control trial methods of evidence-based policy development are also applied more and more often in the context of program evaluation (Banerjee et al. 2017).

## **2.2 Theoretic approaches to measuring digital transformation outcomes**

Despite the high enthusiasm about the prospects of digital transformation in public administration, there is still no prevailing theoretical approach to measuring the actual benefits this process might provide to all stakeholders concerned. Based on the analysis of the existing literature, three core areas of research interest can be identified.

The first area of research relates to identifying and analyzing possible effects of government digitalization. Given a comparatively novel notion of digital transformation, most literature still focuses on e-government outputs rather than on outcomes of subsequent stages of government digitalization (Bogdanoska Jovanovska 2016; Dečman 2018; Erzhenin 2018). For instance, a recent literature review on public value of e-government suggests that the key dimensions of public value of e-government include improved public services, improved administration (including administrative efficiency, open government, and ethical behavior and professionalism), and improved social value (including improved social value and well-being and improved trust and confidence in government; Twizeyimana and Andersson 2019). Overall, these dimensions fit with an earlier proposed multidimensional model for evaluating e-government proposed by Luna-Reyes and his colleagues, which included the quality of public services, efficiency and productivity, effective programs and policies, transparency and accountability, citizen participation, and adequate regulatory framework in the list of e-government results, which should be differentiated from determinants of e-government (such as quality of information and technological infrastructure) and e-government characteristics, including electronic services, management, democracy and public policies (Luna-Reyes et al. 2012).

The recent review of performance frameworks used for evaluating e-government projects demonstrates that the most common dimensions include ease of use, usefulness, user satisfaction, infrastructure, website maturity, security, user trust, transparency, empowerment, operational efficiency, service quality and information quality (Singh et al. 2020). Thus, the existing performance frameworks comprise various aspects of public administration digitalization, and only some of them deal with outcomes or impacts (i.e. empowerment, transparency, service quality, etc.), while other aspects reflect resources or determinants (i.e. infrastructure, information quality) and characteristics of e-government, i.e. outputs (for instance, usability).

In many performance frameworks the key beneficiaries of e-government are citizens. Therefore, some frameworks are formulated as citizen-centric approaches varying in terms of scope and dimensions accounted for. For instance, the approach developed by D. Špaček and his colleagues is based on benchmarking e-government maturity for a limited list of the most in-demand public services in Central European countries (Špaček et al. 2020). Some studies focus on e-government effects relevant to specific groups of citizens, for instance, persons with disability (Wolniak et al. 2019) and adapt the parameters measured to the needs of such groups.

Another approach proposed in Osman et al. (2014) defined four main components of government digitalization effects on citizens (cost; benefit; risk and opportunity) analogous to the SWOT analysis used for policy formulation. The key proposed data source for measuring these effects is online citizen survey. The recent



OECD research on the impact of government digitalization on citizen well-being suggests that the key aspects of such impact are associated with government being responsive, protective, and trustworthy (Welby 2019).

Notably, some of the existing approaches within this research area focus on the urban context and measuring impacts of smart cities (Shrivastava and Singh 2019; Vila et al. 2018). These approaches emphasize the benefits of municipal service digitalization (i.e. communal services, transport, etc.). It is noteworthy that both the definition of a “smart city” and the role of technological and social determinants in smart cities’ development are subject to academic debate (Hosu and Hosu 2019; Ibănescu et al. 2020).

Overall, the review of this research area suggests that while there is growing interest in evaluating e-government projects and government digitalization overall, several issues seem to be yet unresolved. Firstly, given the evolving process of digital transformation, it is not likely that the outcomes of this process may be measured by the indicators proposed for e-government, which is the first but not the final stage of government digitalization. Secondly, the existing approaches do not consider the distribution of government digitalization outcomes among various stakeholder groups, while the relevance of various value dimensions is different, for instance, for citizens, businesses, and government employees. Thirdly, current approaches tend to focus on the benefits of digitalization but often do not pay enough attention to the costs of government digital transformation and efficiency aspects of the public value achieved (Sidorenko et al. 2019). Fourthly, in most approaches insufficient attention is paid to the issues of government digitalization risks. Even though the existence of such risks is acknowledged in literature (Romanenko 2019), the measurement of government digitalization risks is in practice often limited to the measurement of ICT security (Liu et al. 2013) and does not account for society-related risks.

The second research area is related to a qualitative and quantitative analysis of the data available from international ratings and rankings (Chung 2019; Dias 2019; Orlova et al. 2019; Giannone and Santaniello 2018; Russo 2019), regardless of the fact that this available data often is related to previous stages of implementing digital technologies in public administration (i.e. digitization) and may not fully reflect the outcomes from digital transformation. Indeed, the UN E-government Development Index is significantly driven by dimensions related to ICT infrastructure rather than factors measuring the outcomes of government digitalization (Alkhatri et al. 2017). As confirmed by some recent quantitative research, about 98 percent of the DESI rating, for instance, is determined by the past trends (Stavytsky et al. 2019).

International indices used to measure government digitalization (such as the UN E-Government Development Index) often concentrate only on e-services and are based on measuring the availability rather than the actual use or quality of such modes of service delivery; they concentrate more on measuring G2C and, to some

extent, G2B interactions and often omit the effects of digitalization for the G2G and G2E dimensions. These indicators often fail to account for emerging technologies (Wahid et al. 2019) and trends in service delivery (Máchová and Lněnička 2015). Though EU DESI indicators are among the most advanced cases for measuring the progress of digitalization in the EU, even in this case the costs of digitalization and potential risks of digital government are not fully accounted for.

Another limitation of the existing international indicators is that they fail to measure the economic and social impact of government digital transformation. While it is assumed that digital technology reduces the costs of businesses and citizens and, indeed, transaction costs of governments related to public service delivery, few countries attempt to measure these gains at least partially (Dobrolyubova et al. 2019a), while international statistics omits the issue completely.

The third area of research deals with the correlation analysis of the role of digital transformation in promoting socio-economic development and improving the quality of governance at large. While some recent research suggests high correlation between governance indicators and e-government development (Durkiewicz and Janowski 2018; Máchová et al. 2018; Tintin et al. 2018), the causality between the two is not confirmed statistically for most public administration indicators, such as WGI governance effectiveness, control of corruption or efficiency of public spending. However, it is statistically confirmed that there is direct causality between e-government development and ease of doing business (Dobrolyubova et al. 2019b).

There are also recent quantitative studies demonstrating a correlation between e-government development on the one hand and entrepreneurship (Abu-Shanab and Osmani 2019) and digital economy development (Zhao et al. 2015) on the other. There is also empirical research confirming a positive correlation between e-government development and international competitiveness (Tintin et al. 2019) and a decrease in shadow economy (Veiga and Rohman 2017). An interesting approach to analyzing and explaining international variation in e-government development in the EU based on variables characterizing infrastructure, R&D investment, access to e-services as well as corruption perceptions was proposed in Androniceanu et al. (2020).

Some experience of individual countries allows to quantify the positive impact government digital transformation may have on business development such as administrative costs reduction (Kästik 2019), but unfortunately there is no cross-country data measuring this important effect.

Overall, the above review suggests that while there is a general understanding supported by some empirical evidence that government digital transformation is positively correlated with economic indicators, such as competitiveness, business activity, and employment, the existing indicators do not allow to measure the impact of such transformation for all potential beneficiaries.

Lack of such national and cross-country data poses several risks. First, there is an obvious financial risk of using public funds for supporting digital transformation which do not yield adequate results. Even international leaders in terms of government digital transformation face failures in some of their initiatives (Omar et al. 2017). Second, there is a risk related to choosing false priorities in government digital transformation and misinterpreting the results achieved. For instance, there is empirical evidence that some potential effects of government digitalization (i.e. quality of e-services delivered) are more important for citizens than other effects, such as improved e-participation and data openness (Ma and Zheng 2017). However, the extent of digitalization of such functions varies both at the national and the cross-national level, hence, a direct comparison may yield misleading results. Third, maintaining the current focus on output-level indicators (i.e. the extent of public services available online or the intensity of digital interactions) does not allow for a timely identification of risks of government digital transformation per se, which may be quite significant even in the most digitally advanced countries (Motzfeldt and Næsborg-Andersen 2018).

### **2.3 Selected international experience in measuring outcomes of digital transformation in public administration**

Digital transformation has become a central trend of public sector reforms with more and more countries adopting government digital transformation strategies, which often include performance targets and call for regular monitoring and evaluation. EU DESI, introduced in 2015, presents one of the most advanced approaches to measuring digital society, including the e-government dimension. The latter includes the data on e-government users; the implementation of pre-filled forms; online service completion (measured for major lifetime events); e-government services for businesses (including transnational issues), and open data. The indicators are measured annually for all EU countries and, for comparison purposes, for some countries outside the EU.<sup>4</sup>

While the introduction of DESI proposed a common basis for rating the progress in digital government development, some authors argue that it also diverted the focus of national digital transformation from the issues not covered by these indicators, such as network neutrality and open-source software (Giannone and Santaniello 2018). Notably, digital government indicators included in DESI do not include other important effects of government digitalization, such as e-participation, the use of advanced digital technologies, such as the Internet of things and artificial intelligence in public administration, and the like.

Also, it should be noted that while DESI includes the measurements of e-services uptake it does not measure public satisfaction with government services digitalization. In countries adopting a digital-by-default principle where users do not

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4 [https://ec.europa.eu/commission/presscorner/detail/en/MEMO\\_19\\_2933](https://ec.europa.eu/commission/presscorner/detail/en/MEMO_19_2933).

choose the channel of interactions with the public administration, the correlation between e-service uptake and service delivery satisfaction may not be straightforward.

It is noteworthy that DESI does not measure the economic (efficiency) impact of digital government, neither for the external stakeholders nor to the budget. There are some country-level practices for measuring budget savings from government digitalizing, for instance based on changes in government ICT management in Portugal<sup>5</sup> and Slovenia.<sup>6</sup>

An alternative international measure has been recently proposed by OECD (OECD 2020). The OECD Digital Government Index (DGI) designed to monitor and support the implementation of the 2014 OECD Recommendation of the Council on Digital Government Strategies comprises 6 dimensions (digital by design, government as a platform, data-driven public sector, open by default, user-driven, and proactiveness) and provides up-to-date data on implementing digital government strategies in OECD member states and some partner countries. Unlike DESI, OECD DGI is focused on the processes implemented in the public administrations to support government digitalization rather than on outcomes of these processes for external stakeholders. For instance, OECD DGI considers whether certain practices, such as measuring service satisfaction or involving citizens in public service design, are in place or not. However, the actual levels of service satisfaction or user involvement have no impact on the index level. Therefore, this measurement effort is useful in terms of mapping various digitalization practices but may be hardly applied for measuring the outcomes and impact of this process.

Another interesting example of measuring government digitalization comes from Singapore's Digital Government Blueprint strategy adopted in 2018. The strategy includes key performance indicators and targets covering three main dimensions: (i) stakeholder satisfaction (which includes citizen and business satisfaction with digital services); (ii) end-to-end digital options (share of services offering e-payment options; services with pre-filled data; services offering digital options for signatures); and (iii) end-to-end transactions (including percentage of transactions completed digitally from end to end and percentage of payments completed electronically).<sup>7</sup>

In the UK and Australia digital performance dashboards were introduced which include the data on citizen satisfaction with public service delivery, transaction costs, service completion and digitalization ratings. Australian experience

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5 <http://www.oecd.org/gov/portugal-ICT-rationalization.pdf>.

6 <http://www.oecd.org/governance/digital-government/toolkit/goodpractices/slovenia-p7-3-6-it-reorganization-in-public-administration.pdf>.

7 [https://www.smartnation.sg/docs/default-source/default-document-library/dgb\\_booklet\\_june2018.pdf](https://www.smartnation.sg/docs/default-source/default-document-library/dgb_booklet_june2018.pdf).

also demonstrates significant time and financial savings from public administration digitalization.<sup>8</sup>

In Russia, the federal project on digital public administration includes performance indicators measuring the uptake and transformation of public services (share of digital interactions of citizens and businesses with public authorities; the share of digitally transformed priority services; the frequency of refusals for the provision of such services); the proportion of legally binding e-document turnover in the public sector; the level of data harmonization; and the e-document turnover in the framework of the Eurasian Economic Community.<sup>9</sup> However, the methodologies for measuring these indicators have not been approved and enacted<sup>10</sup>, and given the changes in strategic objectives as outlined by the Presidential Decree No. 474 dated 21 July 2020, the set of indicators for measuring digital transformation is being revised with special attention paid to the digital maturity of public administration and the availability of public service delivery in electronic form.

Overall, the above review suggests that with some variation in approaches, the existing practice of measuring public administration digital transformation is focused on evaluating changes in public service delivery (both in terms of e-services uptake and in some cases in terms of citizen satisfaction). The improved efficiency of public savings and time and cost savings for other stakeholders are evaluated for some initiatives, but in many cases, these are one-off evaluations rather than a continuous monitoring process. Digital transformation of other government functions, such as policy development or control and enforcement, are often omitted from evaluations frameworks. No performance indicators for measuring outcomes of government digital transformation for government employees are considered. Finally, neither of the examples reviewed includes indicators aimed at evaluating risks of government digitalization.

The above shortcomings in the practice of measuring outcomes of digital transformation in public administration are, to a significant extent, related to the unresolved issues in theoretical approaches to government digital transformation measurement indicated in section 2.2 of this paper.

### **3. Possibilities for enhancing the existing approaches to measuring government digital transformation**

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Developing the existing approaches to measuring government digital transformation calls for resolving the issues identified in the literature review.

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8 <https://www.dta.gov.au/about-us/reporting-and-plans/annual-reports/annual-report-2017-18/annual-report-2017-18-2-annual-performance-statement>.

9 <https://digital.gov.ru/uploaded/files/pasport-federalnogo-proekta-tsifrovoe-gosudarstvennoe-upravlenie.pdf>.

10 <https://www.gks.ru/metod/fed-proekt/FP1105.htm>.

Firstly, given the evolving process of digital transformation, measuring its progress should account not only for the fact of implementing digital technologies in public service delivery or regulatory enforcement, but also for the extent of digital maturity. For instance, some online services may entail digital interaction with citizens with manual processing of citizen requests at the end of the public administration, while others may be based on AI-empowered algorithms and, once implemented, require minimal interference on the public administration side. The current approaches to measuring such services are identical, both are delivered online, but the nature of service delivery is quite different. The further deployment of machine-to-machine interaction and the Internet of things, entailing automatic data collection and pro-active service delivery, would require new approaches to measuring public service quality: instead of the current indicators measuring client satisfaction and service result waiting time, other measures, such as system sustainability, data security and service access neutrality, would gain more importance. Addressing these changes calls for designing new performance indicators that would reflect both the complexity of digital solutions (i.e. the use of advanced technologies, such as artificial intelligence, big data processing, blockchain, Internet of things) and the risks related to government digital transformation.

Some elements of government digitalization maturity are partially addressed by the OECD Digital Government Index (OECD 2020). However, this framework covers only some but not all stages of digital maturity. For instance, it covers platform solutions relevant for open government and data-driven digitalization relevant for data-centered government but does not fully account for further digital transformation stages, such as fully digital and smart government (Gartner 2017).

Secondly, government digital transformation impacts various stakeholder groups (i.e. citizens, businesses, government itself, and public servants), while the existing performance measurement approaches are mostly citizen-centric (see for example Osman et al. 2014; Al-Yafi et al. 2016). Even when the business perspective is factored in, the focus is mostly on reducing administrative costs as a critical effect of government digitalization for businesses (Veiga et al. 2016; Kästik 2019). However, the outcomes of public administration digital transformation for businesses go beyond cost optimization and entail, inter alia, new business opportunities, better quality of public services, higher transparency and predictability of government regulation.

Measuring the effects of digitalization on government itself is also often limited to reducing transaction costs. While there are quite a few examples where government digital transformation helped to reduce operational costs (Barcevičius et al. 2019), there is also some evidence that implementing digital technologies may become a cost driver in the public sector (Andersen et al. 2012). However, the impact of government digitalization on the way the public administration functions is much broader than just cost optimization. Unleashing the potential of digital tech-

nologies presents new opportunities for enhanced evidence-based policy making and data-driven decisions. As some authors claim, digitalization becomes a tool for attaining strategic policy objectives (Marcovecchio et al. 2019) and enhancing government transparency and accountability (Lindquist and Huse 2017). Such effects of government digitalization should also be factored in when designing performance evaluation frameworks, which would help to account for the effects of government digitalization, not only on public service delivery but also on other types of government functions, including but not limited to dispute resolution (Jeretina 2018), e-voting (Braun Binder et al. 2019), and policy development (Morozov 2018).

Empirical studies suggest that often digital transformation is affected by inertia of government institutions (Hur et al. 2019) and a lack of readiness on the part of the public officials (Nghihalwa and Shava 2018; Kuoppakangas et al. 2019). Therefore, a framework for measuring effects of government digitalization should account for both benefits and risks which public officials face because of digital transformation in public administration. Positive impacts of digital transformation on public servants entail improvements in their skills and competences, better productivity of public officials due to digital transformation and reduced time losses for routine operations, better job satisfaction, and improved effectiveness of human resources management processes.

Thirdly, the literature on measuring the impact of government digitalization tends to focus on positive effects, while factoring in the risks associated with digital transformation is equally if not more important.

Such risks, highlighted by the experience of rapid digitalization caused by the 2020 COVID-19 pandemic, range from ICT systems sustainability to security issues vital in the context when non-digital options for interactions with government and the public sector at large were unavailable or strictly limited. The rapid switch from conventional to digital-only interaction in public service delivery highlighted the long-known but still unresolved problem of the digital divide (Dečman 2017) and additional costs needed for digital interaction, for instance in online learning (Dhawan 2020).

Another major risk group is related to ethical issues and privacy concerns. As highlighted in Rowe (2020) the governments around the globe faced a privacy paradox. To achieve the short-term objective and protect the public from risks, many countries introduced digital solutions for contact tracing and enforcing quarantine measures. However, these measures spurred significant academic debate (Gasser et al. 2020) and created a basis for long-term concerns and may have affected digital trust.

The issue of personal data protection in promoting new digital technologies in public administration is equally important for the advanced countries context (see for instance Akkaya et al. 2019; Navas and Beltran 2019) and for transition economies (Záklasník and Putnová 2019; Zhang and Chen 2019). However, the existing

approaches to measuring this risk are limited to selected country examples (Yuzhakov et al. 2020), while cross-country data is limited to the indicator on the share of individuals refraining from digital interactions with the public administration, which is not an option in many countries which have implemented a digital-by-default approach in public service delivery.

It is noteworthy that the risks of government digital transformation are not limited to misuse of personal data and privacy concerns. Some early experiments in using artificial intelligence for public service delivery raise concerns related to high risks of discrimination and lack of transparency in such digital decision making (Kuziemski and Misuraca 2020). Therefore, using citizen perception surveys for measuring satisfaction with access to and quality of public services by social groups (with special attention to potentially vulnerable groups, such as youth, unemployed, persons with disabilities, and others) seems highly relevant for a timely detection of possible exclusion or discrimination based on implementing new digital technologies. This data can be complemented by “traditional” digital divide indicators characterizing variation in access to and skills in digital technologies which are already widely applied in practice.

While most of the above risks are faced by citizens, other beneficiary groups also confront risks related to government digital transformation. These risks range from additional costs related to digital interaction to digital crime and excessive dependence on outsourcing digital solutions (Motzfeldt and Næsborg-Andersen 2018) and civil service employment stability concerns because of digitalization of government functions. Rapid digitalization calls for acquiring new technical and e-management skills by the public officials, which would help to overcome the challenges related to virtual communication and structures (Van Wart et al. 2016), once again highlighted by the COVID-19 pandemic experience (Toleikienė et al. 2020). The risk related to digital trust to government on behalf of businesses is also worth accounting for (Pinem et al. 2018).

To systematize the existing approaches to measuring government digital transformation impacts and illustrate the possible ways of overcoming the limitation discussed above, it seems useful to classify the positive effects and risks of digital transformation in public administration by types of functions and beneficiary groups (Table 1). Such classification could be helpful for developing performance indicators both for public administration as a whole and for individual public authorities engaged in performing certain types of government functions (i.e. public policy development and regulation, public service delivery, law enforcement).



**Table 1**  
Effects of digital transformation in public administration for each beneficiary group and type of function

Types of functions	Beneficiary Group			
	Citizens	Businesses	Government	Public officials
Public policy development and regulation	<ul style="list-style-type: none"> <li>improved transparency and accountability</li> <li>improved public participation in governance and policy development</li> </ul>	<ul style="list-style-type: none"> <li>improved predictability and transparency of public policies and regulation</li> </ul>	<ul style="list-style-type: none"> <li>improved decision-making quality based on actual and trustworthy data</li> </ul>	<ul style="list-style-type: none"> <li>improved skills and competences of public officials, readiness to digital transformation</li> <li>improved effectiveness and productivity of public officials due to digital transformation, better job satisfaction</li> <li>improved effectiveness of human resources management processes, readiness to digital transformation</li> </ul>
Public service delivery	<ul style="list-style-type: none"> <li>improved access to public services</li> <li>improved quality of public service delivery</li> </ul>	<ul style="list-style-type: none"> <li>new business opportunities (i.e. government platforms, open data, etc.)</li> <li>improved quality of public services for businesses</li> </ul>	<ul style="list-style-type: none"> <li>improved coordination of public authorities</li> <li>improved efficiency of public expenditure based on increased competition and enhanced transparency of procurement procedures</li> </ul>	
Law enforcement	<ul style="list-style-type: none"> <li>better protection of lawful rights and interests of citizens (by introducing risk-based enforcement, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>better protection of lawful rights and interests of businesses</li> </ul>		
Transaction costs (all functions)	<ul style="list-style-type: none"> <li>reduced time and financial costs related to interaction with public authorities</li> </ul>	<ul style="list-style-type: none"> <li>reduced administrative costs related to application for public services, inspection, and enforcement activities</li> </ul>	<ul style="list-style-type: none"> <li>reduced administrative costs related to execution of public functions and public service delivery</li> </ul>	<ul style="list-style-type: none"> <li>reduced time losses for routine operations</li> </ul>
Digital transformation risks	<ul style="list-style-type: none"> <li>violation of human rights, including privacy</li> <li>discrimination of vulnerable groups</li> <li>digital-based fraud</li> <li>additional costs related to digital interaction with the government</li> </ul>	<ul style="list-style-type: none"> <li>digital crime (cyberattacks, information leakage)</li> <li>additional costs related to digital interaction with the government</li> </ul>	<ul style="list-style-type: none"> <li>insufficient security and sustainability of government information systems (data loss/leakages/unavailability of public services)</li> <li>loss (inefficient use) of public funds due to low-quality digital solutions</li> <li>excessive dependence on outsourcing</li> <li>increased expenditures on information systems operation and maintenance</li> </ul>	<ul style="list-style-type: none"> <li>risks of job loss due to automation of processes and procedures</li> <li>time and financial costs related to acquiring and developing digital skills</li> </ul>

Source: author

The proposed classification of government digital transformation effects may be used as a checklist for developing individual performance frameworks at the organizational level of public administration and may be also used for defining benefits and risks for individual digitalization initiatives in the public sector. For instance, such an approach could help resolve some of the issues which were encountered in business cases development practices (Howes and Kidney Bishop 2018).

It is noteworthy that measuring all the effects and risks listed in Table 1 would require additional data. In most cases, such data could be obtained from administrative sources, which is a natural solution given the transition to data-driven public administration. However, in some cases (especially for measuring digital transformation risks) additional regular monitoring efforts might be required. Although these efforts would call for additional resources, given the magnitude of funds which are being spent and are planned to be used for government digital transformation, such additional investment appears to be rational.

In the longer run, developing a cross-country data collection framework could be considered, especially for measuring the dimensions related to government digitalization risks and costs, such as transaction costs and digital trust to public administration.

#### **4. Conclusions and recommendations**

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The review of international literature suggests that despite significant attention paid to measuring digital transformation in public administration, many issues related to such measurement are still to be resolved. Thus, the current approaches, building mostly on the e-government stage of digital government transformation fail to differentiate the complexity of digital technologies employed, are not comprehensive in terms of types of government functions which are digitalized. The existing approaches do not reflect the impact of government digitalization on all stakeholders and tend to focus on positive effects of digital transformation rather than risks of the process.

Such imbalances lead to the fact that government digital transformation is treated as a goal in itself rather than a means for raising effectiveness and efficiency of public administration. However, neglecting possible negative impacts of government digitalization may lead to the situation when some short-term efficiency improvements come at the cost of longer-term effectiveness gains. For instance, short-term digital solutions related to contact tracing and implementing containment regulations during the 2020 COVID-19 outbreaks may lead to longer-term deterioration in protecting privacy and, therefore, undermine digital trust to government. Inadequate attention to protecting personal data from fraud risks may result in reluctance to engage in digital communication and use e-identity: this effect is already noted in Russia where, after several cases of fraud with digital identity in

property registration, citizens officially ban any electronic transactions with their property and prefer in-person application for relevant public services. Reluctance to adopt digital public service delivery was noted in some other countries (cf. Madsen et al. 2019).

Therefore, successful digital transformation calls for developing and implementing a balanced measurement framework reflecting the influence of digitalization on the effectiveness and efficiency of public administration. Such a framework should comprise all types of core government functions and processes and therefore capture the effects of digital transformation not only in the public service delivery area but also in other types of public administration functions. It should outline effects (outcomes) for all beneficiary groups and allow for balancing the interests and benefits from digitalization for all parties involved, on the one hand, and costs and risks of digitalization, on the other.

In this paper we proposed an initial classification of effects and risks of digital transformation of public administration by function and stakeholder group. This classification could become a basis for developing a new performance framework for government digital transformation and could also be used as a checklist for identifying impacts of digital transformation at the organizational level and at the level of individual ICT initiatives.

The analysis performed in this paper offers several possible areas for future research. The first area entails developing and piloting a government digital transformation framework based on the identified positive effects and risks. Another promising area of the research may entail further disaggregation of the proposed framework for specific beneficiary sub-groups. For instance, some additional specific positive outcomes (and, indeed, risks) may be relevant to specific industry sectors or social groups. Thirdly, developing adequate measurement approaches for monitoring the extent of digital maturity in the public administration may have both theoretical significance and broad practical application.

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## Digitalization of Public Procurement in the Russian Federation: Case Study

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### Abstract

Using the case study method, the study examines the prospects and initiatives of the state that can create preconditions for the formation of new areas of legal regulation in the field of digital public procurement as well as issues of improving the mechanisms of information systems, taking into account the specifics of states with a multi-structured economy. The objective of the study is to assess the applicability of the tools for digital transformation of the Russian Federation in the field of public procurement in the context of international practice. Confirming all the advantages of the idea of digital transformation of public procurement systems, the Russian experience is intended to demonstrate what problems at the level of legislative regulation the state policy associated with the implementation of such systems can face. In this case, in contrast to foreign practices, the Russian system of electronic public procurement in the aggregate creates a single information space that, in fact, has no direct analogues and is a special example of interaction between electronic platforms in this area. In addition, the example of introducing distributed ledger technology into such systems is significant from the point of view of the functioning of electronic public procurement platforms. The results of this study and the tools used to assess legal regulation in the field of public procurement can be used by state authorities of the Russian Federation, taking into account the needs of entrepreneurs, to better assess the feasibility and consequences of participation in public procurement procedures. This study's results can also be of relevance to researchers of comparative legislation in the field of legal regulation of public procurement.

### Keywords:

Public procurement; digital technologies; digital transformation; Unified Procurement Information System (UPIS); distributed ledger technology.

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## **1. Introduction**

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In modern Russia, public procurement has become very important. It is designed to meet public needs for goods, works, services by means of realizing public interests in the form of national projects and state programs, ensuring the savings of budgetary funds and state extra-budgetary funds. It is obliged to serve as a tool to stimulate the production of innovative, high-tech products, support small businesses and socially oriented non-profit organizations.

The main source of financing for purchases is budget funds, the spending of which requires special monitoring and performance evaluation. According to the official website UPIS (in accordance with Art. 3 of the Federal Law of the Russian Federation No. 44-FZ – a unified system in the field of procurement, this is a set of information, information technologies and technical means that ensure the formation, processing and storage of such information and its provision through the official website [www.zakupki.gov.ru](http://www.zakupki.gov.ru)), the volume of purchases (the total amount of placed purchases) in 2019 amounted to 9.81 trillion rubles, in 2018 – 8.38 trillion rubles, and in 2017 – 7.51 trillion rubles. However, the growth of government spending on the procurement of goods, works and services to meet public needs is not always accompanied by an adequate increase in their efficiency and effectiveness.

Today, e-procurement systems play a dominant role in the process of effective implementation of public procurement, since they provide unhindered access to procurement information to all stakeholders. E-procurement systems automate and standardize all procedures of the procurement cycle, reducing the time to complete tasks and reducing the degree of the influence of the human factor. E-procurement facilitates market access and thus contributes to increased efficiency, increased competition and reduced administrative burden and operating costs. The Russian Unified Procurement Information System is positioned as a unified information space for the entire public procurement sector in Russia. It is one of the largest world-class state systems in terms of the volume of stored and processed data, the complexity of the program code, the number of implemented business processes, controls and analytical functions. For Russia, its creation caused an increase in the sales market and business geography, saving time and money, legal protection of the parties, access to government orders, process transparency, convenient statistics and analysis of sales dynamics. Based on its procedural and functional tools, UPIS corresponds to the best foreign examples of electronic public procurement systems, in particular the European Electronic Public Procurement System.

Scientific research on the digitalization of the economy and public administration in Russia began to be carried out relatively recently, representatives of various sciences are mainly studying the issues of determining the essence of individual digital technologies, a uniform understanding of which has not yet developed. An

important area of research is the study of legal issues of digitalization in the public sector (Guseva et al. 2020; Kikavets and Tsaregradskaya 2020; Nemeč et al. 2021; Placek et al. 2016; Špaček et al. 2020; Sysoeva 2016; Uyarra et al. 2014), as well as in the field of public procurement (Gavrilova et al. 2020; Langr 2018; Nyikos et al. 2018; Prier et al. 2018; Rašić et al. 2019; Styrin and Rodionova 2020; Tátrai and Vörösmarty 2020). However, the ongoing legal studies of the digitalization of public procurement are not holistic, but relate to individual problems, which does not allow developing general measures to modernize public procurement legislation. In the legal literature, there is no fundamental study of the creation of a digital infrastructure in this area.

International research on the implementation of public procurement in the era of digital transformation is devoted to such issues as the use of blockchain technologies in the field of public procurement (Farca and Dragos 2020; Pramod et al. 2019; Sánchez 2019), considering public procurement to be an instrument of public policy (Bobowski and Gola 2017; Grandia and Meehan 2017; Grega et al. 2019; Sanchez-Graells 2015) and the consideration of public procurement in the context of EU competition rules (Bobowski and Gola 2017; Gavurova et al. 2019, 2020a, 2020b; Sanchez-Graells 2015).

The objective of the research is to assess the applicability and effectiveness of modern tools for the implementation of electronic public procurement in the context of modern international practices and digital innovations. Considering the issue from the standpoint of existing international practices through the use of a case study method, the experience of Russia may be of considerable interest, since in Russia the system of electronic public procurement is not represented by any single platform for public procurement, but by an integral “ecosystem” (Styrin and Rodionova 2020). The current information system is closely connected with other regional information systems and electronic platforms, which together creates a single information space, which in fact has no direct analogues. The model of electronic public procurement adopted in Russia can be viewed as a positive experience by other states or supranational entities. At the same time, this study examines the entire cycle of legislative formation of such a model and the obstacles associated with its implementation.

## 2. Materials and methods

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The study is based on an analysis of the legislation of the Russian Federation in the field of public procurement, in particular:

- Federal Law No. 44-FZ of April 5, 2013 “On the contract system in the procurement of goods, works, services to meet state and municipal needs”;
- Decree of the Government of the Russian Federation as of November 5, 2019, No. 1401 “On standard forms of applications for participation in (closed) elec-

tronic procedures, requirements for the content, composition, procedure for the development of standard procurement documentation and amendments to additional requirements for operators of (specialized) electronic platforms and the operation of (specialized) electronic platforms”;

The provisions of the Treaty on the Eurasian Economic Union (2014), as well as the relevant EU acts in the field of public procurement, were also considered:

- Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC;
- EC Regulation № 2019/1780 establishing standard forms for the publication of notices in the field of public procurement and repealing Implementing Regulation (EU) 2015/1986 (eForms).

Achievement of the research objectives was carried out by solving such tasks as:

- defining the concept of public procurement;
- consideration of theoretical and practical approaches in scientific research;
- generalization of existing practices in the conditions of Russia and foreign experience.

Using the case study method, the work traces the evolution of public procurement legislation in the Russian Federation and the foreign experience. Besides, legislative initiatives and law enforcement practices concerning legal relations in this area, in conjunction with foreign legislation (including EU) and practices were considered as well.

### **3. Case study**

Public procurement is, without exaggeration, one of the key types of economic activity carried out, within their competence, by public authorities. In different jurisdictions, such activities involve the purchase of various kinds of goods and services by governments or other public sector organizations on a contractual basis (Kiiver and Kodym 2014) and allowing public sector legal entities to directly perform their functions and provide services (Uyarra et al. 2014). As a rule, the sphere of public procurement extends to the spheres of education, social security, etc. In the countries of the European Union, it covers up to 14% of GDP (European Commission 2015; Witjes and Lozano 2016).

In comparison with foreign legislation, Russian legislation on public procurement has recently been formed and reflects the changed role of the state in the transition to a market economy based on the laws of market economy, the main of which is competition. As emphasized in the literature, in market conditions, relations between the state and individuals should not be subject to a special regime,



since this leads to a violation of the conditions of competition and the destruction of the market itself (Khabrieva 2010).

Originating from the mid-2000s the Russian Federation was one of the first states where auctions in electronic form began to be held. Besides, from 1 January 2019, not only auctions, but also other competitive purchases – an open tender, a tender with limited participation, a two-stage tender, a request for quotations and a request for proposals – have been conducted in electronic form (Government of the Russian Federation 2017b). This is in line with the European experience in public procurement reform. Around the same period, the procedure for conducting electronic auctions was also used in the EU, but it was not considered an official procedure, as in Russia, but a procurement tool (European Parliament 2014). Along with such issues as the introduction of e-government and electronic administrative services, e-public procurement appears to be part of the measures of administrative reforms and the digital transformation of the activities of government agencies, set by the principles of the electronic (digital) economy to improve the quality of public administration (Špaček et al. 2020).

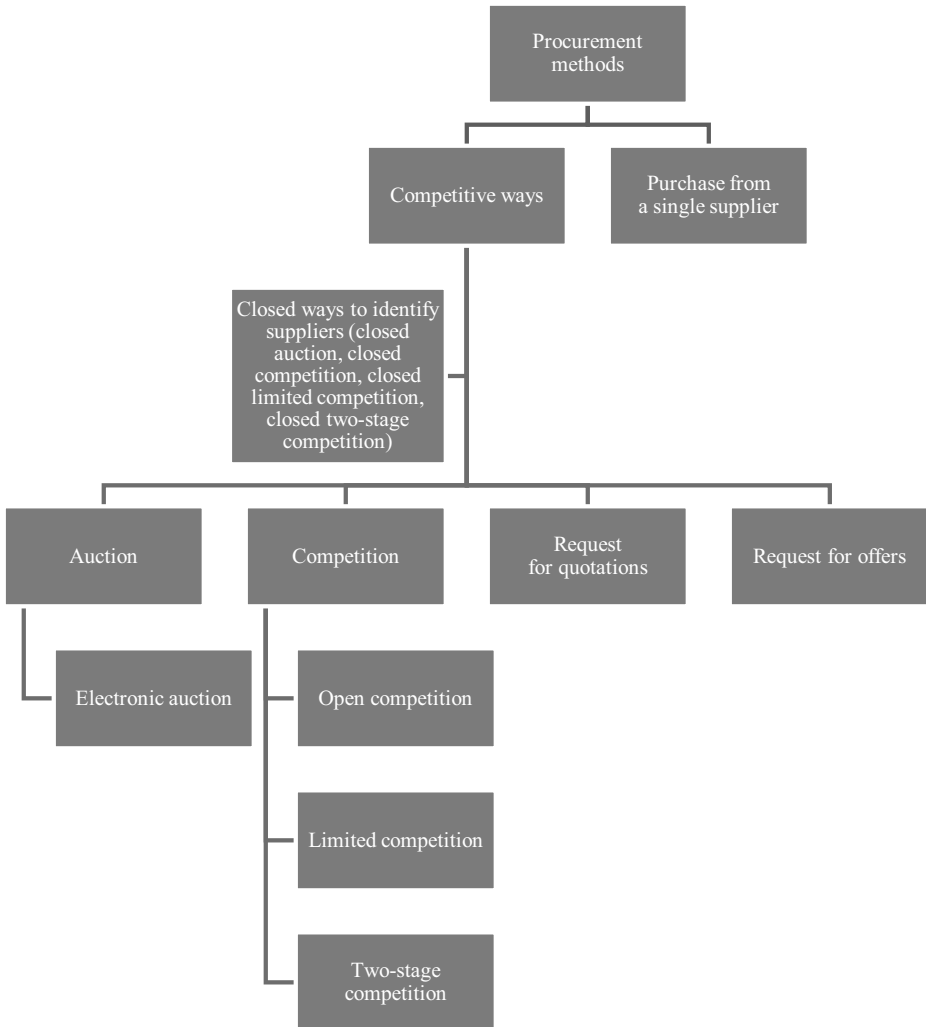
On 1 January 2014, Law No. 44-FZ entered into force, which regulates the functioning of the Unified Information System in the field of procurement (UPIS). The previously effective Federal Law as of 21 July 2005, No. 94-FZ “On Placing Orders for the Supply of Goods, Performing Works, Rendering Services for State and Municipal Needs” (State Duma 2005) was abolished, as it has been criticized by all subjects of legal relations in the field of procurement (Tsindeliani et al. 2019).

Law No. 44-FZ was built on a new concept of procurement regulation – the concept of systematic regulation of relations arising at all stages of the procurement process, starting with procurement planning, carrying out the procedure for determining a supplier, contractor, executor, concluding a contract and its execution by the parties, including a wide range of control. When developing Law No. 44-FZ, the rules of the US Federal Procurement System, UNCITRAL, were largely used (Methods of public procurement in the Russian Federation in accordance with Federal Law No. 44-FZ “On the contract system in the procurement of goods, works, services to meet state and municipal needs”; Figure 1).

A condition conducive to the introduction of digital technologies is a procurement typification tool. According to part 11 of article 34 of Law No. 44-FZ, a set of standard contracts and standard conditions of contracts is created, the use of which reduces the labor intensity of customers for drafting contracts and increases the degree of transparency of procurement. Since 2020, standard forms of applications for participation in competitive procurement procedures (tenders, auctions, request for quotations and request for proposals conducted in electronic form) and standard procurement documentation formed by customers (Resolution of the Government of the Russian Federation No. 1401) have been applied (Government of the Russian Federation 2019).

**Figure 1**

Methods of public procurement in the Russian Federation in accordance with Federal Law No. 44-FZ “On the contract system in the procurement of goods, works, services to meet state and municipal needs”



Source: B2B Center (n.d.)

An achievement in the field of Russian procurement is the creation of a unified information system that provides information support for all purchases at all stages – from planning to execution, including their monitoring, control and audit (part 1 of article 4 of Law No. 44-FZ). The requirements for UPIS and the rules for its operation are established by the Government of the Russian Federation. UPIS is a key element in the procurement information infrastructure, which also integrates regional and municipal information systems, the Unified Trade Aggregator (UTA), nine electronic trading platforms, and the Independent Registrar – the monitoring system of UPIS' and electronic trading platforms' efficiency (Styrin and Rodionova 2020).

UPIS was put into operation on 1 January 2016. The tools for creating a digital contract system are cataloging and identification of purchases. A systematized list of purchased goods, works and services (catalog) is generated in electronic form based on the All-Russian Classifier of Products by Type of Economic Activity. This list is placed in UPIS and contains unified names of procurement objects, and each item of the catalog is assigned a unique digital code. The use of the catalog is intended to simplify the work of customers in describing the object of purchase, to facilitate the objective preparation of technical specifications for the purchase and to ensure the possibility of subsequent control by hardware and technical means. The procedure for the formation and maintenance of the catalog in UPIS and the rules for its use are established by RF Government. To date, the catalog includes more than 50,000 items of the most frequently purchased goods, works and services.

UPIS ensures the formation, processing, storage and provision of information to participants in the contract system throughout the procurement process, monitors the compliance of identification codes and controls the volume of financial support for purchases contained in various documents sent using UPIS. It also provides for the use of an enhanced qualified electronic signature for signing electronic documents provided for by Law No. 44-FZ. Thus, UPIS functionality is not limited to the one purpose specified in Article 4 of Law No. 44-FZ – information support of the contract system in the field of procurement; UPIS is a multifunctional state information system. In other words, UPIS is the core of the contract system, covering all stages of procurement, from the publication of a procurement announcement to audit, monitoring and control of public procurement.

It is difficult to overestimate the importance of UPIS, primarily as a center for placing information on procurement. UPIS processes 250 million transactions per day. For 10 months of 2019, the amount of contracts signed and placed in UPIS amounted to 5.6 trillion rubles (Krivoshapko 2019). Information coming into UPIS from disparate sources cannot be processed manually in a reasonable amount of time. This feature, as well as such features as volume, rate of formation and variety of data, are considered big data by scientists (Khokhlov 2019).

Electronification (transfer of competitive procedures for choosing a winner to an electronic format) has significantly increased the importance of electronic trading platforms as an element of the information infrastructure of the contractual system in the field of procurement. An electronic trading platform is defined in legislation as a website, complying with the requirements established by law, where competitive methods of determining suppliers (contractors, performers) in electronic form are carried out (clause 17 of article 3 of Law No. 44-FZ). Based on the latter, it can be concluded that an electronic trading platform should be considered an electronic information system designed to conduct competitive identification of suppliers (contractors, performers) in order to conclude contracts. After examining electronic trading platforms where subjects interact to conclude various civil transactions, researchers (Zharova et al. 2014) made a similar conclusion.

The resulting electronification of procurement, however, could not reduce the level of corruption offenses, including those related to pricing and other most acute problems in public procurement (Kikavets 2009). Although some authors equate electronification with digitalization, they should not be equated (Lipen 2019). When conducting procurement procedures in electronic form, the information technologies used cannot fully ensure unhindered access to information and proper protection of participants in the contractual system in the field of procurement from unfair actions of entities that use, among other things, various computer technologies, for example:

- software robots in electronic trading for the accumulation of information for the purpose of collusion;
- special accounts created in order to automatically send messages through regular or group chats (Telegram 2019) used for “negotiations” of participants intending to conclude an anti-competitive agreement;
- other modern technologies that ensure victory for a competitor by blocking other procurement participants, etc.

Considering the experience of Russia in matters of electronic public procurement, it is necessary to pay attention to the international context. In 2019, in accordance with the European Commission Regulation 2019/1780, the “Electronic Form” category was introduced into the EU legislation. The category is an open EU legislative standard for publishing public procurement data (European Commission 2020a). These standardized forms have been developed for use by governmental customers to publish notices in the Tenders Electronic Daily (TED), an online portal reporting on public procurement in the EU (European Commission 2020b). Based on the TED-platform the European Commission has created standard forms in accordance with various EU legal frameworks for the publication of public procurement data. The EU Publications Office is responsible for the official publication of EU public procurement notices in the specialized edition – Supplement to the

Official Journal of the European Union – via TED. For publication on TED, EU government customers can submit their procurement data (notices) via specialized applications – the eNotices app or via eSender (SIMAP 2019).

## 4. Discussion

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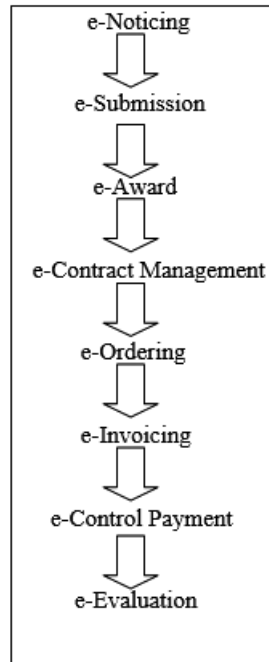
The experience of the EU countries indicates that the de-facto need to move to the digital plane was one of the main factors in revising EU regulations in the field of public procurement, which in turn led to the adoption of the so-called Package of acts in the field of public procurement in 2014, as well as the regulation of electronic accounts and the introduction of rules for the use of electronic forms. Providing better data analytics is one of the main indicators at which the EU legislative regulation is aimed in matters of electronic forms, designed to significantly increase accessibility and to provide “higher quality” data on procurement for the purpose of transparency (Prier et al. 2018; Uyarra et al. 2020).

The digitization of the EU public procurement market has become an important driver of sustainable, socially inclusive growth based on innovation, thanks to the expected efficiency and transparency of public spending, while streamlining and better targeting such procedures and contracts. By contributing to the implementation of EU horizontal policies, e-procurement can be helpful in addressing a wide range of social, environmental and innovation issues by encouraging the private sector to bid and collaborate in consortia and joint ventures as tenderers. Consequently, more and more small and medium enterprises can be attracted to participate in the EU public procurement market, while increasing competition for mutually beneficial goals, and creating new jobs (Bobowski and Gola 2017; Figure 2).

At the same time, the European Commission identifies a number of issues that create obstacles to acceptance and, therefore, transnational participation in public procurement procedures, in particular: inertia and fear of contracting authorities and suppliers; lack of standards in e-procurement processes; costly technical requirements, especially for the authentication of bidders. As can be noted, the European Commission does not point to any bureaucratic difficulties or excessive regulation of legal relations as obstacles to the implementation of transnational policy in the field of public procurement, which is not at all typical of the Russian system (Ferreira and Amaral 2016). Studies of the Croatian e-procurement experience give reasons to assume that suppliers may feel the danger of some types of auctions. Many established vendors have trouble adapting to online arrangements due to the personal nature of the relationship and the negotiating tactics they have developed with customers over the years. Thus, their relationship is also distanced. Awareness and fear of technology can also play a role in decision-making. By forcing bidders to gradually lower their bids, some types of auctions can reduce supplier margins and even jeopardize business sustainability. In addition, electronic auctions can harm

the relationship between buyer and supplier, and it is important to specify the quality requirements for a successful electronic auction (Rašić et al. 2019).

**Figure 2**  
Public e-procurement Process in EU



Source: European Parliament (2018)

The problems described are quite typical of the Russian system of electronic public procurement. At the same time, despite the fact that UPIS is often considered as the main tool for reducing corruption and costs, as well as increasing transparency and, therefore, the efficiency of the use of public funds, it has failed, to date, to reduce the level of corruption offenses, including those related to pricing, which is one of the most pressing problems of public procurement. In this context, it should be noted that even striving for more transparency may not always reduce corruption, and in fact, some types of transparency may instead facilitate collusion (Prier et al. 2018).

However, in general, it should be noted that in relation to the European public procurement system, considering it a standard (taking into account its supranational status and functionality), at the procedural and functional level, UPIS is not inferior to this system. This applies to all stages of the implementation of the procedure, from publication to evaluation. At the same time, UPIS differs in a structural sense,

taking into account the regional specifics of Russia and the multi-structured economy, including regional and municipal information systems. The implementation of UPIS undoubtedly was an effective measure to facilitate entrepreneurs' access to tender information and minimize corruption in procurement. For example, in 2016, the largest budget savings were obtained when determining suppliers (performers, contractors) through an electronic auction – 60%, which, in particular, confirms the effectiveness of the use of this method by customers (Matveeva 2018). At the same time, according to the analysis of the Federal Antimonopoly Service of the Russian Federation, the main violations in the field of electronic public procurement include violations related to the placement of information in UPIS, the procedure for choosing a method for determining a supplier (contractor, performer), the procedure for selecting procurement participants; in the field of establishing requirements in procurement documentation, entailing a limitation of the number of bidders, the procedure for concluding a contract or improperly changing its terms, as well as concluding a contract in violation of the announced procurement conditions (Federal Antimonopoly Service 2020).

However, relatively recently, in order to prevent the described phenomena, the Russian system of electronic public procurement used an innovative mechanism that distinguishes the Russian EIS from similar mechanisms of electronic public procurement – the technology of a distributed register. From 1 January 2020, monitoring of the availability (operability) of UPIS, electronic trading platforms, including the storage of information about said availability, is carried out by a specially created SIS, referred to as the “Independent Registrar”. This system is based on the use of digital technology – a distributed ledger. Along with the procedure for the formation, storage and use of the information contained therein.

Distributed ledger technology, supported by a distributed network of computers, which provides storage of records protected from unauthorized access and changes, has been developed in foreign countries (Karp 2015). However, the doctrine has not developed a unified understanding of this technology, which is mainly regarded as a blockchain technology (Mikheeva and Reshetnikova 2020). At the same time, in the course of a number of studies, facts were noted that conceptually exclude the use of blockchain technology in the public procurement system, including in terms of simultaneous use with SIS “Independent Registrar” (Bulgakov 2016; Davtyan-Davydova 2020; Kikavets 2017).

Turning back to the Russian experience, it should be noted that the adoption of the unification formula “one economy – one public procurement law – one electronic platform” (like Finnish Hansel Oy or British YPO (UNSPSC; Deloitte 2020)) would look promising for Russia at first glance. However, it must be understood that this unification is good only from the point of view of ease of control, but at the same time it does not correspond to the complexity of economic relations and the specifics of procurement of legal entities, especially those working in non-resource

sectors. Such a simplified model, which does not allow taking into account the industry specifics of the customer, is not suitable either for states with a multi-structured economy, or simply for large countries in which many enterprises are owned by the state. Considering the current Kazakh public procurement system as an example for Russia, one could say that it is possible that the scale of Kazakhstan in practice is the limiting size at which the volume of GDP, the area of the territory and the population still allow all regulated procurement under one law on one electronic trading platform. However, even Kazakhstan, as it develops further, will find it increasingly difficult to ensure the proper level of electronic services of the trading platform in the absence of a competitive environment between operators of electronic platforms – after all, modern technologies and economic relations are developing so rapidly that it can be difficult to catch up with them by team methods alone (Issabayeva et al. 2019; Melnichuk and Samarin 2017).

It can be argued that the Kazakh model of public procurement regulation generally encourages customers to use modern procurement tools. The objectives of such regulation proclaimed interrelated factors of effective use of customer funds, development of competition and transparency of procurement. However, most of the methods used in Kazakhstan to achieve such goals are original and hardly suitable for borrowing by Russia. After all, Kazakhstan is behaving normally in the context of the post-Soviet space by testing procurement tools in the public sector in order to demonstrate their advantages to the business community. Imitation of Kazakh unification would be a step backward for Russian procurement legislation, since the current differentiation of procurement legislation requirements for different categories of domestic customers is much more appropriate, given the scale and complexity of the Russian economy (Single Portal of Electronic Signature 2016).

In Belarus, the lack of electronic document management functionality on official ETPs (electronic trading platforms) negatively affects the effectiveness of their use as the main instrument for public procurement. In general, it can be noted that the functional capabilities of the official Belarusian electronic trading platforms lag behind the set of functional requirements for this kind of software and hardware systems at the present stage. The lack of such necessary functions as electronic document management, application programming interface, integration with the treasury payment system and dispute resolution systems on the official ETP does not allow to fully unleash the potential of public procurement using electronic means, and also reduces efficiency, transparency and competition in conducting public procurement (Kovalkin and Sushko 2017).

Consideration of the above-described practices in the field of electronic public procurement in conjunction with the practice of Russia is important, first of all, in the context of integration procedures. When developing organizational, economic and legal measures for the use of digital technologies in the field of public procurement in Russia, it is necessary to correlate the measures taken with the correspond-



ing measures taken within the framework of integration associations, a member of which is Russia, above all, the Eurasian Economic Union (EAEU), (Eurasian Economic Union 2014), in which the integration processes are the most intense in comparison with other regional integration associations.

In the EAEU, by the Decision of the Supreme Eurasian Economic Council dated 11 October 2017, No. 12 “On the Main Directions for the Implementation of the Digital Agenda of the Eurasian Economic Union until 2025”, the goals, principles, objectives, and areas of cooperation of the EAEU Member States on the implementation of the digital agenda are defined (Eurasian Economic Union 2017). When creating a common digital market of the EAEU, the experience of the European Union (EU) is of great interest, in which in 2015, at a meeting of the EC, the Strategy for a Single Digital Market for Europe has been approved (European Commission 2015), which is being successfully implemented.

The measures being developed in the EAEU for the use of modern information and telecommunication technologies are aimed primarily at creating an integrated information system of the EAEU, the concept of creating a national segment of which was approved by the order of the Government of the Russian Federation dated 30 March 2017, No. 504-r (Government of the Russian Federation 2017a). The implementation of the concept of cross-border information interaction, approved by the Decision of the Eurasian Intergovernmental Council of August 9, 2019, No. 7, designed for the interaction of B2B and B2G entities, will allow the subjects of different EAEU member states to:

- transfer information in electronic form;
- ensure the identification and authentication of entities;
- fix the time of information transfer;
- verify the powers of subjects transmitting electronic documents signed with an electronic signature (Eurasian Economic Union 2017). Said permissions will contribute to the creation of a reliable mechanism for electronic cross-border interaction of business entities and government bodies.

Measures for the application of electronic information technologies in the field of public procurement in the EAEU, aimed at creating a common market for public procurement, are the measures provided for by the Roadmap to remove barriers and restrictions, including the development of a mechanism for mutual recognition of electronic signatures and bank guarantees issued by banks of one EAEU member state as security for an application for participation in procurement and ensuring the execution of a state contract when public procurements are carried out by customers of another EAEU member state. This is according to the Order of the Eurasian Intergovernmental Council No. 17, 2017. The creation of a single information portal for the EAEU, similar to the European TED (Tenders Electronic Daily) database, in which the search for proposals is categorized by states, types of

goods and services and other indicators will serve as a powerful incentive to create a common EAEU public procurement market.

## 5. Conclusions

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Summing up the results of this study, it should be noted that when assessing the digital transformation of the public procurement sector, of course, one can assume that digital technologies in the sphere above are immature, they get excessive attention, and their probable development and usefulness are difficult to grasp beyond the relatively abstract level of their potential. However, to date, their introduction is caused by considerations of objective necessity based on the lack of competitive alternatives. Digitalization in the public sector faces a number of specific challenges – not least in terms of data availability and data skills. While it will undoubtedly have an impact on governance and public service delivery, it is likely to be gradual rather than revolutionary.

When determining the directions and means of increasing the efficiency of public procurement, it is necessary to take into account that digitalization should be considered a way to increase the efficiency of public procurement, the main directions of the development of legislation on which are the simplification of procurement rules, their centralization and unification. Foreign experience in the development of legislation is also in line with these trends.

The ongoing process of digitalization of the economy and public administration in Russia makes it necessary to solve the problem of consolidating new concepts in legislation (in particular, such as elements of distributed ledger technology). In the field of procurement, it seems that the evolutionary path of reforming procurement legislation is adequate to the ongoing digitalization.

The main policy recommendations connected to improving the functioning of the Russian system of electronic public procurement relate primarily to such issues as the need to invest in the professional level of procurement specialists, improving the rules and regulations for combating corruption in procurement. The improvement of procurement transparency mechanisms should be a priority for policy-makers in this area. In addition, a significant step to improve the Russian electronic public procurement system would be the introduction into the e-procurement toolbox of the qualitative and quantitative indicators of corruption and collusion risk, improvement of methods for assessing corruption risk in procurement, based on open data, as well as improvement of the legal and methodological support of the procurement process.

Considering the results of the study from the point of view of their applicability to international experience, it should be noted that the idea of creating a UPIS, which implies the possibility of centralization, deserves attention and suggests that this experience may well be implemented both by developing and developed states.

At the same time, it should be noted that the simplified model, which does not allow taking into account the industry specifics of the customer, is not suitable either for states with a mixed economy, or simply for large countries in which many enterprises belong to the state, and the existing system of electronic public procurement and differentiation of procurement legislation requirements for different categories of domestic customers is much more appropriate given the scale and complexity of the Russian economy.

The public procurement system is the subject of regulation of public and private law, thus creating a system of complex regulation. In the conditions of digitalization of economic relations, this regulation receives new content.

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## The Performance Management Design in Public Hospitals: A Case Study

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### Abstract

In response to the growing pressure on public budgets, many countries introduced various private-sector-inspired management practices to improve the performance of publicly funded health systems. Regardless, the non-negligible share of health-care spending is still considered wasteful, and the search for efficiency gains in healthcare is still relevant. The relevance even increases in the context of events related to the outbreak of the coronavirus disease in 2020, presenting new challenges for performance management in hospitals. Considering the gaps between the environmental settings of various countries, a finding of one universal theory of effective hospital management is unlikely. The contextual examination of hospital management on the national level and knowledge-sharing is then a more suitable approach to aid the practitioners in search of the most appropriate mix of management practices.

This study employed a mixed methodological approach to examine individual aspects of performance management from the hospital management's perspective to identify the areas of potential efficiency gains. The core research phase consisted of on-site visits in three public hospitals taking place since September 2019 with the respondents from various management levels and both clinicians and non-clinicians. During an approximately hour-long session the respondents were asked to fill out the questionnaire examining the aspects of the performance management system employed in their institution (e.g., the scope of measurement, reliability of data, communication of results, engagement of management) and interviewed to examine the rationale of provided responses. The on-site research stage resulted in 87 complete data sets further analyzed using statistical analysis with results interpreted using commentaries and rationales obtained from interviews.

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The findings were similar among all examined institutions and mostly consistent with similarly natured studies. While the performance measurement appeared to reflect the clinical performance better than the organizational one, it is also perceived as inadequate to the complexity of service. The management seemed to consider performance management for operational purposes rather than being incentive-oriented or exploratory, in line with the perceived lack of connection between the performance measurement and the organizational strategy. Combined with poor communication of performance management principles, this discrepancy appears to contribute to the potential tension between the hospital and clinical management in setting priorities between the economic performance and the quality of care. Overall, these findings should provide insight into aspects influencing performance management employed in public hospitals in the Czech Republic and present the evidence for the discussion of potential efficiency gains in practice.

**Keywords:**

Performance management; performance measurement; public hospital; Czech Republic; healthcare management.

## **1. Introduction**

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The latest demographic and economic development in European countries established a trend of increasing healthcare expenditures, adding to the existing pressure on the public budgets of countries where public funds represent the predominant source of healthcare provision coverage. Simultaneously, up to one-fifth of health spending might be considered wasteful and related to potentially unnecessary tests, procedural inefficiencies, and wasted pharmaceuticals and could be reallocated for better use (OECD/EU 2018). While the frameworks and applied policies of individual national healthcare systems may differ, according to Joumard et al. (2010), no broad type of system appears to be systematically better in delivering cost-effective healthcare. Thus the adoption of best policy practices from similar settings in combination with the most appropriate mix of practices might be the way to increase efficiency. However, any search for best practice should be preceded by an understanding of the mechanics behind performance management practices and aspects that influence these practices on an institutional level.

The relevance of the search for efficiency gains in healthcare provisioning became higher regarding the events of 2020 when the hospitals experienced an increased need for capacity management as the inflow of patients rapidly grew with the outbreak of the coronavirus disease. According to the results of an annual survey inquiring quality of healthcare in the Czech Republic among the hospital directors, over ninety percent of respondents considered the Czech health system to be of good quality (HICR 2020). At the same time, over three-quarters of respondents acknowledged the need for improvement in the efficiency of man-

agement in their institution (HICR 2020). Within such an environment the topic of healthcare performance management is highly relevant, just as is the identification of possibilities that might yield gains in efficiency to maintain a good quality of service in the long-term.

Although the literature provides useful knowledge regarding the theoretical approach to performance management in general, there are still plenty of opportunities for the research of performance management in the various contextual settings. The examination of performance management in the context of public hospitals presents one such research gap, where the common issues related to performance management practice in public institutions combine with the complexity of the healthcare environment. Such an environment is challenging for any research effort, which might explain to date scarcity of any related literature, but also present a potential for additional knowledge gains.

To fill this gap, this paper aims to present the evidence on the current state of performance management practice on an institutional level while discussing the contextual aspects influencing the performance management practice to identify the potential efficiency gains and contribute to the knowledge available to practitioners and policymakers. Following this introductory chapter, Chapter 2 reviews the literature relevant to examining performance management in healthcare to determine the specific areas for research focus. Chapter 3 goes through the research design and presents the utilized methodological approach. Data results are presented in Chapter 4 as well as the discussion of findings and implications. The final chapter concludes the study results and outlines the main points for the practitioners and further research.

## **2. Performance measurement and management in public hospitals**

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### **2.1 Performance in public hospitals**

Just as the public institutions differ from private organizations in complexity and ambiguity of their goals (Hvidman and Andersen 2014; Rainey and Bozeman 2000), the concept of performance in the public hospital goes beyond financial results, stakeholder demands, and market position. Based on expert knowledge from the field, the World Health Organization Regional Office for Europe defined hospital performance in six different dimensions for assessing the hospital performance: clinical effectiveness, efficiency, staff orientation, responsive governance, safety, patient-centeredness (Veillard et al. 2005). A different classification of performance dimensions is offered by Mettler and Rohner (2009), who summarize the potential areas of healthcare performance as healthcare financial strength, healthcare operations, healthcare people development, patient service and satisfaction, and healthcare marketing. Either way, the concept of performance appears to be multidimen-

sional, dealing not only with aspects of economy and efficiency but also with the qualitative patient-oriented and procedural aspects of healthcare delivery.

Although the performance assessment in healthcare has its own history reaching to the eighteenth century (McIntyre et al. 2001), many authors regard the New Public Management (NPM) as the primary driving force behind the implementation of performance measurement systems (PMS) and private sector techniques to improve the efficiency of public healthcare (van Elten et al. 2019; Bortolucci Espejo et al. 2017; Schwartz and Deber 2016; Speklé and Verbeeten 2014; Nyland and Petersen 2004). Although the specific form of NPM reforms varied across the countries, the issues accompanying the introduction of PMS in this environment appear to be similarly natured.

## **2.2 Issues accompanying performance evaluation in healthcare**

In their study of PMS concepts in the hospital sector in Norway, Nyland and Petersen (2004) pointed out the crudeness of measurement being the leading cause of the reduced information value of PMS as the measurement insufficiently reflected the complex nature of provided service and thus provided little guidance for the performance management. Other authors also mention the inadequacy of the measurement to the complexity of service (Speklé and Verbeeten 2014; Mannion and Braithwaite 2012). Speklé and Verbeeten (2014) pointed out the narrow focus on accountability and incentive provision of NPM-inspired PMS, which disregards the other possible uses of PMS (e.g. organizational learning, strategic management) for the public sector in general. Both these pitfalls of PMS implementation are in line with the observation of Mannion and Braithwaite (2012), who categorized observed adversities of PMS introduction in English National Health Service (NHS) into four categories: poor measurement, misplaced incentives and sanctions, breach of trust, and the politicization of performance systems. Although these adversities may have arisen for various reasons, PMS use appears to be the common mediator of PMS success (van Elten et al. 2019; Speklé and Verbeeten 2014).

Van Elten et al. (2019), in their study of PMS employed in Dutch hospitals, observed and categorized three different uses of PMS with different impacts on hospital output. Regarding the quality of care, the results of this study presented the operational use (e.g. for budget control, process monitoring) being positively related to operational performance and negatively to patient-oriented care and exploratory use (e.g. to learn and improve) having a positive influence on work culture and patient-oriented care (van Elten et al. 2019). Further results of this study suggest that incentive-oriented use (e.g. to align employee motivation and institutional goals) has no relevance to hospital outcomes (van Elten et al. 2019). The result of this study has been in line with the findings of Speklé and Verbeeten (2014) in the case of exploratory PMS use. However, the case was different for incentive-oriented PMS

use in public institutions, where Speklé and Verbeeten (2014) observed a negative relation to performance stemming from opportunistic behavior.

Regarding the operational use, Schwartz and Deber (2016), in their work examining the PMS employed in health systems of various English-speaking countries, pointed out the existing performance measurement-management divide arising from the little use of measurement results for the improvement in performance management and the PMS instead serving as a surveillance tool providing information for the public. Similar results were observed by Zidarov et al. (2016), who closely examined the process of PMS implementation in the Canadian rehabilitation hospital and identified the factors influencing this state. As they conclude, insufficient planning about the potential use of PMS and lack of senior management engagement, combined with insufficient resources dedicated to the PMS implementation process, resulted in the creation of sub-optimal PMS incompatible with the information needs of hospital management (Zidarov et al. 2016). This resulted in degradation of intended use of the PMS from a decision-making supporting tool to a tool serving for monitoring and accountability purposes (Zidarov et al. 2016).

Similarly, Mettler and Rohner (2009), in their exploratory survey of performance management applied in Swiss hospitals, raise the question about the quality of examined performance management practices, as the core processes of PMS design (e.g. data collection and evaluation) were not adequately solved, and the linkage between performance management on the operational level and the strategic level was not established. They also highlighted the influence of the healthcare regulatory framework and market dynamics on the adoption of performance management (Mettler and Rohner 2009), as these factors may affect quality, safety, and efficiency via management changes (McConnell et al. 2014). According to further studies (Bardhan and Thouin 2013; Angst et al. 2011), the sound informational infrastructure and its adequate support by information technologies (IT) also present enabling factors of effective performance management.

Another important factor supporting the successful adoption of policies affecting performance appears to be the professional background of the management involved in performance management implementation (Naranjo-Gil 2016) or, more specifically, its clinical professional background (de Harlez and Malagueño 2016; Zidarov et al. 2016; Fiondella et al. 2016; Lehtonen 2007). In their examination of Spanish public hospitals, Naranjo-Gil (2016) identified the broad design of management control systems and the diversity of the top management team as being factors facilitating the adoption of sustainable policies achieving both short-term and long-term performance. The involvement of clinicians in performance management facilitates the alignment between the use of PMS and strategic priorities, which in turn affects hospital performance (de Harlez and Malagueño 2016), as the cost-consciousness increases among the clinical managers (Lehtonen 2007).

Regarding the regional settings of the Czech Republic, the pace of public administration reforms appears to be slow with the only recent introduction of performance management elements in public administration (Špaček 2018). While the results of this performance-related effort still appear to be inconclusive, as suggest the conclusions of Plaček et al. (2020) in their study examining the impact of the implementation of performance management tools into Czech public institutions, the use of advanced management practices could be observed even in hospital management (Krupička 2020). For example, Popesko et al. (2015) illustrate the application of Activity-Based Costing in the Czech regional hospital and the beneficial effect of this practice on the decision-making activity of hospital management. Regardless, the studies comparing the efficiency of public and private hospitals in the Czech Republic provide contradictory results (Mastromarco et al. 2019; Łyszczarz 2016; Papadaki and Staňková 2016) and thus the definitive example of practices leading to an efficient hospital is yet to be identified. Lastly, the EU requirements for the allocation of funds appear to be an important driver of the introduction of healthcare reforms leading to the introduction of elements of performance management (Dubas-Jakóbczyk et al. 2020; Špaček 2018); nonetheless, this process is accompanied by challenges (e.g. political instability, uncertainty about reform effects) which are common among the countries in Central and Eastern Europe (Dubas-Jakóbczyk et al. 2020).

### **2.3 Identified aspects of performance management**

The identified issues accompanying the introduction of PMS and the factors influencing performance management are thematically similar for public hospitals regardless of the different healthcare settings and the variety of countries in the mentioned studies. The themes of alignment of PMS users' needs and PMS design with its intended use, of proper understanding of the activity-output transformation mechanism, of close cooperation with clinicians in the adoption of performance management practices, or of the ability to decompose organizational strategy on the operational level, provide hints aiding to steer the direction of performance management in public hospitals step by step towards the hypothetical best practice. Understanding these areas appears to be the enabling factor of organizational learning in performance management, which could lead to improved performance, and thus these aspects (Table 1) are a subject of analysis in this case study.

## **3. Methodology and research design**

Following the established practice in survey research design (Van der Stede et al. 2005; Kelley 2003), this part focuses on the definition of the research question, explanation of the research method, design of the employed research tool, sample selection, description of methods used for data collection and data analysis.

**Table 1**  
Examined aspects of performance management

ID	Individual aspects of performance management	Related sources
A	Scope of measurement and its ability to reflect clinical and hospital performance	Speklé and Verbeeten 2014; Mannion and Braithwaite 2012; Nyland and Pettersen 2004
B	Reliability of performance information and its value for decision-making	Nyland and Pettersen 2004
C	Relation of performance measures to operational performance and strategy	Mettler and Rohner 2009
D	Quality of data collection and evaluation process	McConnell et al. 2014; Mettler and Rohner 2009
E	Support of PMS processes by IT	Bardhan and Thouin 2013; Angst et al. 2011; Mettler and Rohner 2009
F	Use of performance information and orientation of PMS (operational, exploratory, incentive-oriented)	van Elten et al. 2019; Schwartz and Deber 2016; Speklé and Verbeeten 2014
G	Communication of performance information to the personnel	Jääskeläinen and Roitto 2015; Wettstein and Kueng 2002
H	Influence of regulatory framework and market dynamics on performance management	McConnell et al. 2014; Mettler and Rohner 2009
I	Engagement of clinical managers in performance management	de Harlez and Malagueño 2016; Zidarov et al. 2016

Source: Authorial compilation.

### 3.1 Definitions and research question

Since the research objective of this study is to examine the aspects of performance management in Czech public hospitals, it is necessary to first clarify the scope of understanding the performance and the performance management, given the possible ambiguity in the understanding of these concepts. In line with its multidimensional nature (Mettler and Rohner 2009; Veillard et al. 2005), *performance* is understood as how the organizational activity affects the hospital output measured by financial and non-financial indicators. Therefore, an improvement in these measures (e.g. financial position, case-mix output, patient feedback) would represent an improvement in performance. The *performance measurement system* represents the activity of measurement and evaluation that results in the comprehensible presentation of performance information. The *performance management* in this context includes the management of performance on both operational and strategic levels, leading towards the fulfillment of organizational strategy regarding the hospital output and the supporting aspects of these activities (e.g. information technologies supporting PMS). However, as this topic is rather vast, the specific focus of this paper lies with

the identification of areas of potential efficiency gains in hospital performance management by examining individual aspects of performance management from the perspective of public hospital management.

### **3.2 Research method and the choice of research tools**

This study uses a combined methodological approach as it aims not only to provide measurable evidence to answer the defined research question but also to enhance its informational value by obtaining the contextual rationale behind the answers. The complexity of the examined relationship induces the application of qualitative methods besides quantitative ones to adequately address this multi-faceted problem in the healthcare environment (Doyle et al. 2009; Johnstone 2004). Although this approach might have some limitations (Bryman 2007; Morgan 2007), a sufficiently elaborated research design should aid in their mitigation. The research itself thus consisted of the preparatory stage, the on-site research stage, and the post-data collection analytical stage. The preparatory stage dealt with the methodological design of employed research tools, the literature review mapping the findings and design of similar studies, and the preliminary testing of selected research tools with potential respondents. The on-site research stage concluded the face-to-face interview for each respondent with data collected using the pre-interview questionnaire and post-questionnaire interview notes. The post-data collection analytical stage concluded the statistical analysis of survey results and their interpretation to solve the defined research task of capturing the relationship between the performance management aspects and hospital performance management.

### **3.3 Survey design and examined variables**

Since the purpose of the survey was rather descriptive, as it focused on capturing the current state and thus providing the basis for further learning, the cross-sectional design was adopted in a rather conventional way for the research in management accounting (Van der Stede et al. 2005). The written questionnaire had a structured design containing the examined variables, their written description, and the 7-point Likert-type scale with the respondents supposed to indicate to what extent they agree with the presented statements. Although the use of written assessment criteria has been considered an alternative as it would find its justification in the research practice dealing with the assessment of performance management (Jääskeläinen and Roitto 2015), the choice for the use of the Likert scale was motivated by three aspects. The subjective nature of the examined phenomena in the questionnaire, the use of a post-questionnaire interview mitigating the limitations of the use of the Likert scale (Jääskeläinen and Roitto 2015), and the common research practice for the examined environment (e.g. van Elten et al. 2019; Bortolucci Espejo et al. 2017; de Harlez and Malagueño 2016; Naranjo-Gil 2016; McConnell et al. 2014; Speklé and Verbeeten 2014). The response categories are listed as strongly agree (=7), agree



(=6), rather agree (=5), ambivalent (=4), rather disagree (=3), disagree (=2), and strongly disagree (=1).

The questionnaire consisted of two parts. The introductory part presented the definitions of the *performance*, the *performance measurement system*, and the *performance management*, similar to those presented above. The examples of financial and non-financial measures followed, with the choice of the presented measures affected by the public ownership and non-profit orientation of the examined subjects. Therefore the financial indicators stood for financial stability and economic soundness, while the non-financial indicators illustrated other dimensions of hospital performance, such as patient satisfaction, quality of care, employee satisfaction, or organizational ability to learn. The second part of the questionnaire consisted of individual statements presented in Table 2 and the use of the Likert scale. The questionnaire presented the individual statements in a numbered list from 1 to 25, with the first letter of the assigned ID representing each statement's relation to examined aspects of performance management from Table 1. The development of exact phrasing took place during the preliminary research stage, with their discussion on the academic level and their testing with the focus group of potential respondents.

The post-questionnaire interview was selected for its suitability to examine the respondent's point of view and ability to gain an adequate understanding of the subject (Kallio et al. 2016). The structure of the interview corresponded with the structure of the questionnaire as it primarily comprised review and discussion of provided responses. While the main aim of this review was to obtain a justification for presented responses, it was optional to the extent of allowing respondents to skip the justification of responses for any statement or to provide broader accompanying commentary instead. Provided commentary for each reviewed response was recorded and confirmed with the interviewed respondent to mitigate the potential wording bias.

**Table 2**  
Individual statements used in the questionnaire

<b>ID</b>	<b>Statement</b>
A1	The financial performance measures reflect hospital performance.
A2	The non-financial performance measures reflect hospital performance.
A3	The financial performance measures reflect clinical performance.
A4	The non-financial performance measures reflect clinical performance.
B1	The performance measurement system provides reliable information about performance.
B2	The scope of the performance measurement system supports decision-making.
C1	The relation of financial performance measures to operational performance is comprehensibly defined.
C2	The relation of non-financial performance measures to operational performance is comprehensibly defined.
C3	The relation of financial performance measures to organizational strategy is comprehensibly defined.
C4	The relation of non-financial performance measures to organizational strategy is comprehensibly defined.
D1	The performance data collection process is automated (no manual data collection is required).
D2	The performance data evaluation process is automated (e.g. automated standardized reports, on-demand visualization).
E1	The performance measurement system is adequately supported by information technologies in the data collection process.
E2	The performance measurement system is adequately supported by information technologies in the data evaluation process.
F1	The performance information is used for budget control and operational planning (operational use).
F2	The performance information is used for the performance assessment of employees.
F3	The performance information is used for the performance assessment of managers.
F4	The performance information is used for rewarding employees (incentive-oriented use).
F5	The performance information is used for rewarding managers (incentive-oriented use).
F6	The performance information is discussed with organizational members to identify their cause (exploratory use).
G1	The performance information is communicated to the personnel.
H1	The performance management is influenced by the regulatory framework (e.g. Reimbursement Decree).
H2	The performance management is influenced by market dynamics (e.g. competition).
I1	The clinical managers are involved in performance management.
I2	The non-clinical managers are involved in performance management.

Source: Authorial compilation

**Table 3**  
 Characteristics of examined institutions (2018)

ID	No of departments	Total assets (bn, CZK)	Total expenses (bn, CZK)	No of employees	No of beds	Founding body	No of respondents
X	26	2.4	4.4	2508	1113	Teaching hospital	32
Y	28	4.6	9.0	4811	1537	Teaching hospital	28
Z	30	2.4	3.0	2254	1063	City hospital	27

Source: Authorial compilation, financial statements of examined institutions, personal inquiry.

### 3.4 Sample selection and data collection approach

Sample selection followed the logic set by previous research focusing on the population of public hospitals in the Czech Republic as a whole (Krupička 2020). Since this group of healthcare providers accounts for nearly half of national healthcare expenditures, public hospitals essentially determine the health system's performance. The selection of examined institutions from this group was based on accessibility and willingness to participate in the research. While the first criterion's selection was arbitrary, its choice aimed to ensure the most time-efficient data collection process during the on-site research stage. Institutions were contacted one after the other, with eleven entities addressed before successfully establishing the cooperation with three subjects. The following table presents the main descriptive characteristics of these institutions, with all of them founded by the Ministry of Health of the Czech Republic. All three subjects were quite similar in range and organization of provided service, with operational capacity (personnel, number of beds) causing the differences between the examined institutions. Furthermore, subject Y recently went through significant investments in tangible assets resulting in its asset value being significantly above the asset value of subjects X or Z, mainly due to the use of historical cost as a measurement basis in recognition of assets.

The personal on-site visit was selected as the approach for data collection since it allows achieving a higher response rate, albeit at the cost of time (Kelley 2003) and enables the use of post-questionnaire interview, which allows approaching the potentially sensitive issue carefully (Kallio et al. 2016). Before the on-site visits, the researcher contacted the hospital administration and discussed the research intention to obtain the management's support for the realization of the survey. The selection of the respondent mix followed these initial discussions with the respondents chosen to represent a cross-sectional mix from both the top and middle lines of management and both the clinical (e.g. nurse managers) and non-clinical (e.g. economic director) professional backgrounds. The individual on-site visits followed, consisting of approximately hour-long sessions with both the questionnaire and the interview. The questionnaire was presented to the individual respondent in paper form, but the responses were noted down to MS Excel on the researcher's laptop. During the whole time the respondent was assisted by the researcher for clarification of any statement if necessary. The questionnaire was presented in Czech, and the follow-up interview was also conducted in Czech to ensure the respondent's full understanding.

The original research timeline assumed the on-site research stage to take place from September 2019 to May 2020 and the completion of 40 sessions per examined institution. However, the on-site research stage had to be terminated early in March 2020 due to the closure of healthcare institutions to the public, except for patients and staff, caused by the coronavirus outbreak. Since the closure lasted for a significant period, the on-site research stage consolidated existing results without

resuming the on-site research stage. The consolidation of results led to approximately thirty completed interview sessions per examined institution, with the share of respondents with a clinical professional background ranging from 64 % to 70 % between the subjects.

### 3.5 Data analysis

Data from the questionnaire were analyzed using tools of descriptive statistics and correlation analysis. For each of the statements the mean and standard deviation was calculated to determine the respondents' sentiment regarding individual statements' content. Each mean value was tested for significance using a two-tailed t-test to test the significance of results against the base hypothesis of respondents being ambivalent (mean = 4) on a confidence level of 99 %. Descriptive statistics were also estimated and tested separately for each of the examined institutions to examine the similarity of results between the different institutions. A correlation analysis was performed to examine the possibility of a significant connection between the assessments of individual statements. Correlation coefficients above 0.5 and below -0.5 were further analyzed, assuming their correlation not being random. Each of the coefficients was also tested for significance using a two-tailed t-test performed against the base hypothesis of no significant correlation between the responses for the examined pair of statements on the confidence level of 99 %.

Following the quantitative analysis, the individual results were analyzed in a prism of responses obtained during the post-questionnaire interview. The nature of individual commentaries ranged from brief feedbacks to provided responses (e.g. "I agree with the statement") to broad expressions of sentiment towards the area of inquiry. Despite their diversity, the provided commentaries captured the general sentiment regarding the individual aspects of performance management and thus aided with the interpretation of quantitative results. Therefore, the results are presented in the following text in the form of tables summarizing the key quantitative results for each statement, followed by the discussion of findings separately for each of the examined aspects with a comprehensible overview of key findings presented at the end. An asterisk was used in the following tables to mark the means and correlations reaching statistical significance at the examined level of alpha.

## 4. Data results and findings

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### 4.1 Analysis of results

Any kind of performance-related decision-making activity requires relevant information provided by a sufficiently robust measurement system. The capability of the measurement system to reflect the actual performance thus might be considered an enabling factor for effective performance management. Regarding this area, similar tendencies were observed across all subjects, with respondents being rather inclined

**Table 4**  
Results: A – Scope of measurement and its ability to reflect clinical and hospital performance

Statement ID	N	Mean				St. Dev	p-value	Significantly correlating variables (r)
		A//	X	Y	Z			
Subjects	A//					A//	A//	A//
A1	87	4.483*	4.719*	4.214	4.481	1.119	0.0001	B2 (0.51*), C3 (0.51*)
A2	87	4.874*	5.219*	4.464	4.889*	1.087	0.0000	none
A3	87	4.805*	4.844*	4.964*	4.593*	1.044	0.0000	none
A4	87	5.241*	5.313*	5.000*	5.407*	0.862	0.0000	none

Source: Research results.

**Table 5**  
Results: B – Reliability of performance information and its value for decision-making

Statement ID	N	Mean				St. Dev	p-value	Significantly correlating variables (r)
		A//	X	Y	Z			
Subjects	A//					A//	A//	A//
B1	87	5.195*	5.313*	4.964*	5.296*	0.950	0.0000	B2 (0.59*), E2 (0.54*)
B2	87	4.529*	4.750*	4.464	4.333	1.218	0.0001	A1 (0.51*), B1 (0.59*)

Source: Research results.

towards the measurement providing relevant data about performance. Financial indicators were considered slightly less capable of reflecting the performance than non-financial indicators, with both types providing more relevant information on departmental rather than organizational performance. The measurement was often regarded by the respondents as too “synthetic” or “crude” to reflect the complexity of overlapping activities, which was similar to the results of Nyland and Pettersen (2004) regarding the crudeness of measurement as disruptive for the implementation of effective performance management in healthcare institutions. The reserved attitude towards the performance measurement system was shared across the individual interviews, with comments suggesting the lower quality of measurement being context-driven. Similar results were discussed by Mannion and Braithwaite (2012) in the case of NHS, where the poor measurement considered was an adverse consequence of performance evaluation itself.

In addition to the relevance, the reliability of performance information provided by the measurement system is another determining factor in its usefulness for decision-making activity. According to the results, the respondents of all examined subjects found the measurement system providing rather reliable performance information. On the other hand, the respondents perceived the performance information as slightly above neutral in its usefulness to support decision-making. The respondents mentioned causes such as the narrow scope of measurement, aggregated measures, or insufficient details, suggesting an issue of poor measurement as was discussed in the previous section.

Whereas the performance measurement system fulfills its role by providing reliable and relevant performance information for performance management, the required content of performance information differs in the case of operational and strategic management, which also applies to the scope and focus of performance measurement. Regarding the operational performance, the respondents perceived the connection of measurement to the performance to be relatively comprehensible as they understood the measures in the context of cost management or productivity. However, the situation was different for the connection between the measurements and the organizational strategy. While the results were inconclusive regarding the financial measures, the respondents perceived the connection of non-financial measures to the strategy as less tangible. The commentaries pointed out the departmental contribution to the fulfillment of organizational strategy being unclear and the connection between the organizational activities and the strategy being generally difficult to grasp. These findings are not that remote from those made by Mettler and Rohner (2009) in their analysis of Swiss hospitals, where the performance management appeared rather operationally oriented with a somewhat weak link to strategy.

The gathering of data and their evaluation represent two processes of the performance measurement system whose quality has an impact on the reliability and

**Table 6**  
Results: C – Relation of performance measures to operational performance and strategy

Statement ID	N	Mean			St. Dev	p-value	Significantly correlating variables (r)
		X	Y	Z			
Subjects	All	All		Z	All	All	
C1	87	5.034*	4.844*	5.222*	0.0000	None	
C2	87	4.655*	4.938*	4.593*	0.0000	None	
C3	87	3.977	4.438	3.519	0.8650	A1 (0.51*)	
C4	87	3.425*	3.469	3.926	0.0002	None	

Source: Research results.

**Table 7**  
Results: D – Quality of data collection and evaluation process

Statement ID	N	Mean			St. Dev	p-value	Significantly correlating variables (r)
		X	Y	Z			
Subjects	All	All		Z	All	All	
D1	87	4.126	4.107	4.407	0.2856	E1 (0.67*), E2 (0.54*)	
D2	87	4.644*	4.321	4.444	0.0000	None	

Source: Research results.



relevance of performance information. The automatization was selected as a proxy for the qualitative aspect of both processes assuming less room for human error in automated processes. Together with the provided commentary, the near ambivalence of results for data gathering processes suggests the data being gathered at least partially manually. Different results for individual hospitals in the data evaluation processes suggest various approaches between the examined hospitals. While some commentary mentioned the automated evaluation supported by business intelligence, other respondents commented on the analytical effort on the economic department. Overall, these findings suggest the space for further improvement in data handling and thus in the quality of performance measurement system, as was the case in other studies (Mettler and Rohner 2009; Nyland and Pettersen 2004).

The quality of measurement is also affected by the magnitude of IT support as IT facilitates both data collection and evaluation processes. Similar to the results for the quality of processes, the results for the level of IT support suggest variability between the institutions. While the respondents were generally inclined to rather agree with the adequate support of PMS by IT, only a few respondents mentioned any specific tool, such as management information systems (MIS) or business intelligence (BI). These results might suggest either the limited use of these tools or the limited understanding of their nature. Nonetheless, the results of correlation analysis suggest that IT support of PMS is one of the key determinants of PMS quality, which is in line with findings in studies made by Bardhan and Thouin (2013) and Angst et al. (2011) analyzing the impact of IT on performance management in U.S. hospitals.

Following the classification of performance information use developed by Speklé and Verbeeten (2014), this area of inquiry examined the use of performance information in subsequent performance management as it determines its purpose. In all three examined subjects, the respondents agreed with the PMS being used for operational purposes, which is consistent with the previous study's result (Krupička 2020), identifying budgeting as the most frequently used management practice in public hospitals in the Czech Republic. Regarding the use of performance information for the assessment of personnel performance, the respondents inclined towards a slight disagreement with incentive-oriented use on the employee level, which the respondents justified by citing insufficient details in the provided information and the existence of fixed time-based remuneration. A possible explanation for the lower importance of performance in the personnel assessment might lie with the general shortage of medical personnel perceived by the Czech hospital directors (HICR 2020). Further results for the use of performance information in the assessment of managers or exploratory use of performance information were inconclusive, with the respondents pointing out the function of PMS being rather informational and the difficulties in identification of responsibility for performance results. The findings of the general use of PMS for operational purposes are aligned with the results from Dutch hospitals (van Elten et al. 2019) and suggest a similar state to that in

**Table 8**  
Results: E – Support of performance measurement system processes by IT

Statement ID	N	Mean			St. Dev	p-value	Significantly correlating variables (r)
		A//	X	Y			
Subjects	A//	A//			A//		A//
E1	87	4.747*	4.281	4.821*	1.070	0.0000	D1 (0.67*), E2 (0.61*)
E2	87	4.920*	4.781*	4.786*	0.918	0.0000	B1 (0.54*), D1 (0.54*), E1 (0.61*), F6 (0.70*), I2 (0.55*)

Source: Research results.

**Table 9**  
Results: F – Use of performance information and orientation of PMS (operational, exploratory, incentiveoriented)

Statement ID	N	Mean				St. Dev	p-value	Significantly correlating variables (r)
		A//	X	Y	Z			
Subjects	A//	A//			A//		A//	
F1	87	5.931*	6.094*	5.786*	0.728	0.0000	None	
F2	87	3.310*	3.875	2.964*	1.288	0.0000	F3 (0.60*), F4 (0.67*)	
F3	87	4.184	4.563	4.143	1.167	0.1451	F2 (0.60*), F5 (0.54*)	
F4	87	3.586*	4.063	3.071*	1.196	0.0018	F2 (0.67*), F5 (0.70*)	
F5	87	3.874	4.063	3.679	1.043	0.2615	F3 (0.54*), F4 (0.70*)	
F6	87	3.931	3.969	3.679	1.265	0.6124	E2 (0.70*), I2 (0.54*)	

Source: Research results.

English speaking countries, where the performance indicators were predominantly used for informational purposes (Schwartz and Deber 2016).

The extent of communication of performance information provides information on the involvement of personnel in performance management. In all three hospitals, the findings support the established communication of performance information to the management, with commentary mentioning the standardized reports and the management meetings discussing organizational results. However, the respondents also acknowledged the communication of performance information only at the top and middle levels of management, with general personnel rarely being informed. This finding might partially explain the existence of adverse consequences of poor measurement since the communication of performance information is one of the key factors facilitating the performance measurement implementation, as was pointed out by Jääskeläinen and Roitto (2015).

Changing regulation and increased market dynamics are often considered key drivers for the adoption of modern performance management practices (McConnell et al. 2014; Mettler and Rohner 2009). The ambivalence of respondents regarding these factors may suggest the neutral influence of these factors on performance management or potentially the lack of external stimulus caused by the absence of competition and the low frequency of related regulatory changes. The rigidity of regulation might be caused by a lack of political consensus, which also obstructs the realization of required financial reform, as was suggested by Alexa et al. (2015) in their analysis of the Czech health system. In addition to these results, the respondents commented on performance being affected by quality standards and input prices of material.

The continuous engagement of managers in performance management facilitates the effective use of performance information to achieve management goals. The respondents rather agreed with the engagement of both clinical and administrative managers in performance management. The results also suggested that while both clinical and non-clinical managers regard themselves as being involved in performance management, each group focuses on different aspects, thus balancing priorities between economic performance and quality of care. This state could be considered positive in line with the suggestions of de Harlez and Malagueño (2016) that the participation of both groups of managers in performance management should facilitate the fulfillment of various goals. As Zidarov et al. (2016) suggest, the involvement of managers facilitates the implementation of PMS, while the lack of planning and the sub-optimal quality of PMS dampens its use. Therefore in line with this suggestion and the context of previous findings, while the managers are generally involved in performance management, the lower quality of measurement and lack of connection to strategy appears to lower performance management effectiveness.

**Table 10**  
Results: G – Communication of performance information to the personnel

Statement ID	N	Mean			St. Dev	p-value	Significantly correlating variables (r)
		X	Y	Z			
Subjects	All	All		Z	All	All	
G1	87	5.253*	5.375*	5.185*	0.766	None	

Source: Research results.

**Table 11**  
Results: H – Influence of regulatory framework and market dynamics on performance management

Statement ID	N	Mean			St. Dev	p-value	Significantly correlating variables (r)
		X	Y	Z			
Subjects	All	All		Z	All	All	
H1	87	4.023	4.179	3.741	1.201	None	
H2	87	3.690	3.786	3.778	1.350	None	

Source: Research results.

**Table 12**  
Results: I – Engagement of clinical managers in performance management

Statement ID	N	Mean			St. Dev	p-value	Significantly correlating variables (r)
		X	Y	Z			
Subjects	All	All		Z	All	All	
I1	87	5.080*	5.344*	4.929*	0.892	None	
I2	87	5.046*	5.125*	5.370*	0.975	E2 (0.55*), F6 (0.54*)	

Source: Research results.

## **4.2 Overall findings, their discussion, and implications**

Given the similarity of responses across the examined subjects, the results lead to the following findings and implications. While the performance measurement appears to provide relevant data and to reflect the clinical performance better than the organizational performance, the inadequacy of measurement to the complexity of service limits the informational value of performance information for the management. The issue of measurement crudeness is not uncommon in healthcare (Speklé and Verbeeten 2014; Mannion and Braithwaite 2012; Nyland and Pettersen 2004) and thus presents an opportunity for organizational learning, as the improvement of measurement would provide the management with enhanced performance information. The potential cause of poor measurement might lie with the insufficient communication of performance management principles to the general personnel.

This cause, combined with the unclear nature of the relationship between the organizational strategy and performance management, contributes to the potential tensions between the hospital and clinical management in setting priorities regarding the economic performance and the quality of care. As a result, the PMS appears to be used rather operationally and not to its full potential, as was the case in performance measurement systems examined by Schwartz and Deber (2016) and Zidarov et al. (2016). The improvement in the communication of performance management principles thus presents another challenge for hospital management that might yield gains in management effectiveness, to the solution of which the exploratory use of PMS might contribute, as the literature suggests (van Elten et al. 2019; Speklé and Verbeeten 2014). The performance information does not appear to play a significant role in the context of employee assessment due to the currently perceived shortage of medical personnel (HICR 2020), but any similar conclusions should consider that improvement in performance information could potentially lead to the optimization of hospital activities, which in turn may relieve the pressure on existing medical personnel.

The current state of support of PMS by informational technology presents another opportunity for improvement. As the informational technology essentially enables effective performance management (Bardhan and Thouin 2013; Angst et al. 2011), the application of more sophisticated technological tools followed by proper education in their use should improve the information value obtained from the PMS. While the factors of market dynamics and the healthcare regulatory framework may affect the adoption of performance management (Mettler and Rohner 2009), the results provide little evidence of any influence on the current state of performance management. This finding might suggest a lack of an external stimulus for further development of performance management practice, with the cause of this possibly being the rigidity of the legislative process, as was the case in other countries (Dubas-Jakóbczyk et al. 2020).

The respondents generally acknowledged the need for improvement in performance management, but it also seemed that there was a general sentiment of pessimism regarding any potential change towards improvement. Further discussions with the respondents suggested the cause being the introduction of many half-measures in the past, which might have responded to the requirement of management at the time but were not part of any comprehensive concept of performance management. This sentiment, and a rather voluntary basis of any performance management practice in turn, potentially creates an environment discouraging from the introduction of any complex concept encompassing all areas of performance management, which could offer the solution to the issue of management effectiveness. Given the current state of market dynamics, incorporating the performance management principles into the regulatory framework might be one solution to spark off the required advancement in performance management practice in public hospitals in the Czech Republic.

## **5. Conclusions**

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Although Czech healthcare is considered to be of good quality, the events of 2020 have pointed out the need for management to be able to flexibly respond to the dynamics of the health situation in the population. In this context, the efficiency of public hospital management is more relevant than ever, with effective performance management playing a crucial part in management's effort to achieve efficiency. Nevertheless, effective performance management requires reliable and precise performance information relevant to the decision-making activity of management. This study used a mixed methodological approach to examine various aspects of performance management in three public hospitals to provide evidence on the current state of performance management practice on an institutional level and to identify specific areas of potential efficiency gains.

The results suggest that the performance measurement systems employed in the examined subjects reflect the clinical performance better than the organizational performance, while also being too synthetic in their measurement and rather not adequate to the complexity of service. The performance information obtained from these systems is used for operational management rather than to improve the understanding of the measured processes or for the evaluation of employee performance. The limited use of performance information combined with insufficient communication of performance management principles makes the understanding of performance management goals and their relation to organizational strategy for the general personnel difficult. While these adverse consequences contribute to the potential tensions between the hospital and clinical management in setting priorities between the economic performance and the quality of care, they are also not uncommon for the examined environment, according to similar studies. The commonness of identified adversities presents an opportunity for organizational learn-

ing and improvements in current performance management practice if adequately addressed by managers. These adversities also present an opportunity for further research. It could examine the effectiveness of various management responses to this issue in different institutions and enrich the available knowledge base.

The key findings regarding the performance management practice were similar across the examined institutions and generally in line with the findings of other studies examining the individual issues in health systems of different countries, despite the limitations of this study. Although the limitations of the survey approach were potentially mitigated by methodological triangulation and detailed documentation of methodology, the limitations given by the sample selection approach must be considered when drawing any conclusions. Therefore the results of the survey should be carefully considered to be evidence on the current state of key areas of performance management in public hospitals in the Czech Republic and serve as a basis for the discussion of areas of potential efficiency gains in the examined healthcare system. On the other hand, a detailed description of the used methodology allows the relatively simple replication of this study in the future, thus creating a basis for further cross-sectional comparative studies or monitoring of the development of applied performance practice in time.

Findings are applicable mainly by practitioners in performance management in public hospitals as they point out the crucial aspects of system design, enhancing the institutional capabilities to influence the actual performance. Core aspects lie with establishing clear and comprehensive strategic goals able to be decomposed to specific operational objectives and the design of a measurement system capable of reflecting the accomplishment of these targets on all levels of management. Furthermore, the implementation of the measurement system should be the result of cooperation between the clinical management and hospital administration to cover the economic and medical complexity of healthcare service adequately. Insufficiently addressing these aspects might result in the crude design of the measurement system failing to reflect the essential aspects of performance, thus not serving its purpose and creating space for potential tensions between the various levels of management. This state creates an organizational environment potentially obstructing the use of more sophisticated performance management practices and the management tending to adhere to the basic practice of budget control.

In conclusion, the actual situation in healthcare increased the need for improvement in the management of hospital capacities as well as the demand for quality performance information, which potentially represents a much needed stimulus for further development of performance management practice in public hospitals. Whereas the performance management might have been considered adequate in the past, it provides suboptimal performance information in the current period characterized by volatility in the health situation in the population and by long-term economic pressure.

The acknowledgment of the need for improvement in the efficiency of management by hospital directors also points to the existing demand for further development of currently employed performance management practice. The proper understanding of the connection between the design of performance management, decision-making activity, and hospital performance is essential for any such development. Nevertheless, the knowledge base regarding performance management is broad, and the hospital managers should hopefully be able to find inspiration to remedy the shortcomings of performance management identified in this study.

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# Innovative Concept of Providing Local Public Services Based on ICT

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## Abstract

The public sector faces the challenge of re-evaluating public service delivery mechanisms with a citizen orientation. The eGovernment concept should not only focus on delivering a large number of services to increase efficiency and effectiveness when deciding on a top-down approach, based on government needs, but decisions should be made on the basis of citizens' needs, a bottom-up approach. The object of the paper is to identify problems of public service innovations demand and supply, which determinate the adoption of local public service innovations based on the use of IT technology in the condition of Slovak Republic. The results of the investigation confirmed that there is citizen demand for innovation of local public services, but the process of developing and implementing innovative concepts of public services fails on the grounds of the low innovation potential of the service providers.

## Keywords:

Electronization; innovation; consumer innovativeness; innovation potential; public services.

## 1. Introduction

Information and communication technologies (ICT) in the innovation process can significantly contribute to the realization of one of the key conditions for a successful implementation of innovations in the system of public services, namely the direct involvement of the citizen as a consumer of public services in the innovation process of such services (Von Hippel 2007; Korteland and Bekkers 2008). A stimulus for innovation is identification with the new idea of not only all those involved externally in the provision of public services, i.e. building social capital, but also from those within the body itself.

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The importance of ICT in innovation in public services in the world is growing. However, Slovak practice with project implementation of the electronization of public services lags far behind (Gasova and Stofkova 2017; Romanová and Červená 2017); the reason often stated as the reluctance of the citizens themselves as consumers of public services to adopt the innovation of services based on their electronization.

Projects of electronization of public services often fail, and the return on the invested funds in the form of real utilization of e-government services by citizens is low (Špaček 2015). Also, a failure to adopt innovation of public services, or, respectively, its frequent understanding as “extra work” on the part of public employees themselves, is often behind the failure of such innovation (Considine et al. 2009, Piotrowicz 2015, Plaček et al. 2020). From this perspective, it is important to address the innovation potential of public organizations as providers of public services, which determines the supply of public services innovation (Králiková and Surma 2019).

The object of the paper is to identify problems of public service innovations demand and supply, which determine the adoption of local public service innovations based on the use of IT technology in the condition of Slovak Republic.

For this reason, the study is dedicated to finding answers to the questions whether “Citizens as consumers of local public services are interested in innovations of such services and there exists a demand for innovation of public services” and whether “The development and implementation of innovative concepts of public services fail because of the weak innovation potential of providers of local public services.”

The methodology of solving the research problem is innovative with regard to the choice of methods for researching the demand for innovation of public services and the offer of innovation of public services in the context of marketing theory, in which the concept of evaluating the citizen innovativeness as a consumer of public services and the concept of evaluating the innovative potential of local government as a provider of public services are used. These methods of researching the innovative concepts of public services have not been applied in the Slovak Republic so far.

## **2. Theoretical framework**

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On the demand side of public services, the pressure to increase their value, the benefits that consumers bring to the public are an interest in innovation. However, there is a lack of motivation and capacity to innovate on the supply side of public services. On the demand side, we use the concept of exploring innovation from the point of view of consumers’ willingness to accept innovation and, on the supply side, the concept of exploring the innovative potential of the organization. The above-mentioned concepts are described in this chapter.

## 2.1 Consumer innovativeness – demand for innovations

The success of innovation is directly dependent on its acceptance by consumers. This implies in the very process of innovation to understand the needs of consumers and of innovation to meet these needs. The adoption of innovations by consumers depends primarily on the characteristics of the innovation itself (Maden and Köker 2013) and the specific characteristics of consumers (Dobre et al. 2009).

The decisive characteristics of innovation in relation to its adoption may be considered as follows: relevant advantage, compatibility, complexity, may be personally appraised and visibility (Gregor and Mičieta 2010, Hroncová-Vicianová and Hronec 2017). A relevant advantage of the innovation provides added value for the consumer, which the consumer gains via replacement of another innovative product/new products (cost effectiveness, ease of operation, social prestige, satisfaction, etc.; Kotler and Armstrong 2017; Stawasz 2016). Compatibility is a measure of how innovation meets the requirements of potential consumers and their ability to utilize the innovation (Gregor and Mičieta 2010), which is combined with another feature of innovation, i.e. complexity. For the consumers, the possibility of appraisal means a non-binding testing declaring the positives and the benefits of the innovation, which significantly reduces their uncertainty and thereby also accelerates their decision to adopt the innovation (Kotler and Armstrong 2017). Visibility of an innovation alerts potential bidders to the benefits it brings to already existing consumers (Gregor and Mičieta 2010). In addition to the abovementioned properties of innovations, crucial factors for the adoption of innovations are the specific characteristics of potential consumers. Rogers (2003) divides consumers in relation to the adoption of innovation in five categories differentiated by consumer behaviour (Robinson 2009).

Specific characteristics of consumers are reflected in consumer innovativeness and their willingness to adopt innovation. The concept of consumer innovativeness, which is associated with the interests of consumers relating to new innovative products, is one of the key areas of inquiry into innovation in marketing science (Midgley and Dowling 1978; Steenkamp et al. 1999; Tellis et al. 2009; Šebo and Virdzek 2012; Maden and Köker 2013; Šebo and Šebová 2016; Balco et al. 2018). According to Steenkamp et al. (1999) this interest is driven by four factors: the need for initiatives/incentives, the need to know new information, the need for independence from the experience of others and the need to be unique.

It is important to note that these factors determine the so-called innate, or natural, innovativeness of a consumer (consumer innate innovativeness – CII), which can be seen as a characteristic of the disposition of a consumer. Midgley and Dowling (1978) considered natural consumer innovativeness to be one component in the resulting consumer innovativeness, which can be characterized as a pattern of behaviour of the consumer.

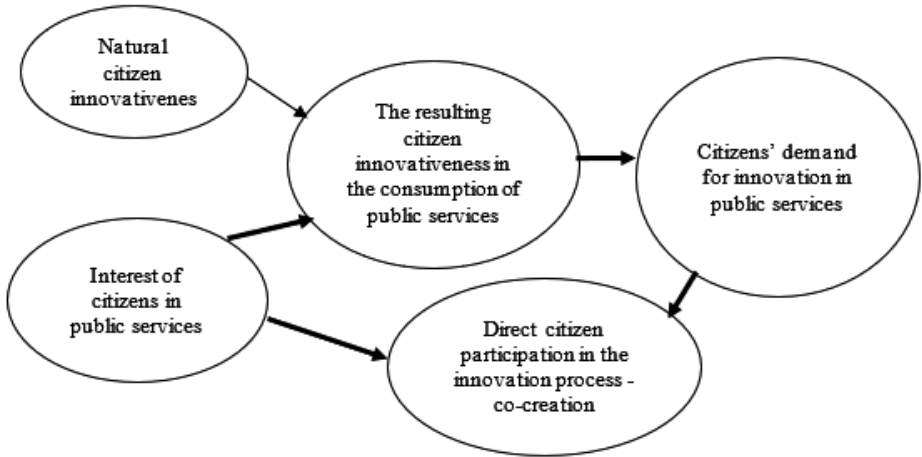
The authors Goldsmith and Hofacker (1991) define another type of consumer innovativeness, namely consumer innovativeness in the consumption of a certain category/product type, i.e. consumer interest in new innovative products of a certain type (domain specific innovativeness – DSI), which is the result of the inherent consumer innovativeness, and consumer interest in a particular type of product. Studies (Roehrich 2004) demonstrated an increased level of interest in a particular type of product as natural innovativeness.

Consumer innovativeness is related to many factors in regard to the attributes of innovation themselves which we characterized above, as well as characteristics of individuals (recipients), which we will address in five categories: search for novelty, risk taking, opinion leadership, habit, nostalgia and education (Hronec and Štrangfeldová 2013, Huňady et al. 2018; Pisár and Šipikal 2017).

Searching for new products is the desire to seek for something new and different. It is one of the key components of innovation and plays an important role in the early stages of consumer adoption of innovations, especially those based on technology (Tellis et al. 2009). Raju (1977) reported a tendency to take risks or consumer adventure as an essential component of innovativeness. Midgley and Dowling (1993) expressed a similar tendency of opinion leadership playing an important role in the correlation between innovativeness and consumers who are not subject to the pressure of their surroundings and take on the role of innovators (Roehrich 2004). Addiction can be seen as consumer resistance to change and is closely related to its inertia. It reflects the rigidity of consumer or general reluctance to try something new. Several studies indicate that addiction negatively affects consumer innovativeness (Dobre et al. 2009). Nostalgia is reflected in the preferred products of the past, as well as negatively affecting consumer innovativeness (Maden and Köker 2013).

In terms of introducing innovation in public services, the illustrated facts provide a logical answer, which is an important factor in the willingness of consumers/citizens to adopt innovative public services. The interest of citizens in innovative public services is a definite behavioural pattern of citizens (acquired innovation) materialized in the form of citizens' demand for innovative public services. This behaviour of citizens is directly determined by citizen innovativeness in the consumption of public services, which to a greater extent depends on their interest in public service than from their natural innovativeness. Therefore, from the point of view of the successful implementation of innovation, the moment the interest of citizens for public service innovation awakens, i.e. their direct participation in the innovation process, is very important. For a better understanding of the inferred dependence, refer to Figure 1.

**Figure 1**  
Citizens' demand for innovation in public services



Source: Author's own based on Midgley and Dowling 1978; Goldsmith and Hofacker 1991; Roehrich 2004.

If we want to predict the demand for innovation in certain local public services, the acquired citizen innovativeness in the consumption of public services provided by the selected municipalities should be examined.

Measuring consumer innovativeness is important from the perspective of the selection of the strategy for introducing innovation and the definition of the marketing mix. In order to measure consumer innovativeness, several scales were gradually created that were initially based on the concept of time, i.e. as an indicator of consumer innovativeness the time interval of the adoption of an innovation by consumers since its introduction was used (Tellis et al. 2009).

The scale of measurement of consumer innovativeness, like consumer innovativeness itself (innate and acquired), can be divided into two categories. The scale of measurement of innate, natural consumer innovativeness places an emphasis more on defining consumer propensity to search for innovations and their creativity than how to measure innovation itself (Roehrich 2004; Goldsmith and Foxall 2003). The scale of measurement obtained from consumer innovativeness focuses on finding consumer propensity to purchase a new product, i.e. adopt innovation (Raju 1980; Goldsmith and Hofacker 1991; Goldsmith and Foxall 2003; Roehrich 2004). The most commonly used scales of measurements for obtaining consumer innovativeness are the Goldsmith-Hofacker scales and the Roehrich scale of measuring consumer innovativeness.



Both scales of measurement of consumer innovativeness are associated with specific characteristics of the consumer, which can be summarized as follows: interest in new products/resistance to new products, creativity/inertia, a tendency to take risks/risk aversion, opinion leadership/mimicking others' opinions (Tellis et al. 2009). These characteristics are reflected in individual items of the assessment of innovativeness by a specific scale. The assessment items can evaluate innovativeness as such (interest in anything new), innovativeness in consumption (interest in new products), innovativeness of a specific area of consumption (interest in new products from a certain category).

In the research of consumer innovativeness in the consumption of public services we use a marketing concept in the research of consumer innovativeness employing the Roehrich scale and the Goldsmith Hofacker scale in measuring consumer innovativeness adapted for the evaluation of the consumer innovativeness/citizen in the consumption of public services (Table 1).

## 2.2 The innovative potential of organizations – supply of innovations

The current evaluation of the innovations on offer gives priority to the evaluation of the innovation potential of organizations. Research into the characteristics of organizations which have an impact on their innovation potential has been carried out in numerous studies (Burns and Stalker 1994; Damanpour 1991). There are a large number of studies of the other features of organizations influencing their ability to innovate. A summary of 83 studies published concerning this issue in the period 1980–2003 was attempted by the authors Vincent et al. (2004) using meta-analysis; they defined 15 factors of the innovation capacity of organizations: economic (competitiveness (+) turbulence (+), uniformity (-), urbanization (+), organizational (hierarchy (+), complexity (+), formalization (+) functional coordination (+), specialization (+), demographic (age (+), management education (+), professionalism (+), number of employees (+) and processes (dichotomous evaluation of innovation (-), an inter-sectoral evaluation of innovation (+)).

In the evaluation of the various combinations of the above-mentioned factors, several models evaluating the innovation potential of an organization have been devised: the diamond model (Tidd et al. 2005), the innovation channel model (Hansen and Birkinshaw 2007), the innovation funnel model (Barber 2011). The diamond model works with five areas of evaluation: strategy, processes, organization, networking and learning (Tidd et al. 2005). The evaluation of each area is represented by the individual axes of the diamond. The greater the area of the pentagon, the higher the organization's innovation capacity (Figure 2).

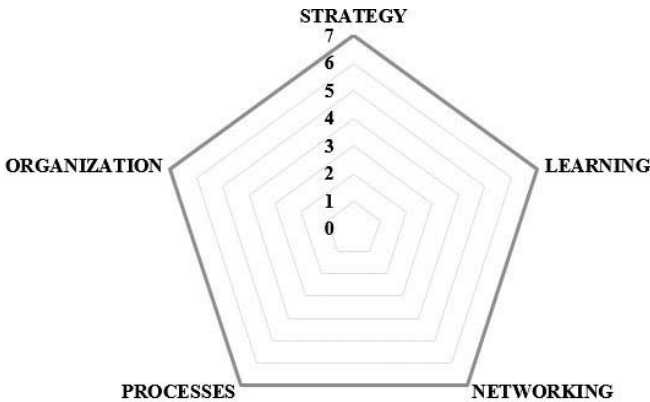
**Table 1**

Goldsmith-Hofacker scale measuring citizen innovativeness in the consumption of public services provided by local government

	<b>Citizen innovativeness in the consumption of public services</b>	
	<b>Positive</b>	<b>Negative</b>
Compared with my friends and acquaintances I am among the first to use the new services offered to the public in my village/town	X	
Compared with my friends and acquaintances I use the new services offered to the public in my village/town more	X	
In general, I am among the first to hear about a new public service offered by local government in my village/town	X	
If I learn there is a new service in addition to existing public services in my village/town, I am interested in using it	X	
If I learn there is a new service during a visit to a local government in my village/town, I am interested in using it	X	
I am interested in the use of a new public service offered by local government in my village/town; although I have no details about it in advance, I want to try it out	X	
I have a personal experience with the use of newly offered public services in my village/town	X	
I prefer the use of electronic services (e.g. banking, eshop) compared to traditional services (going to the bank, shopping in the shops)	X	
I am interested in the use of new public services offered by local government in my village/town if they have similar features to commercial electronic services	X	
I am interested in the use of new public services offered by local government in my village/town if these new public services save money	X	
I am not interested in the use of a new public service offered by local government in my village/town if I have no details about it in advance		X
I am not interested in the use of new public services offered by local government in my village/town if I do not know someone who uses them		X
I am not interested in the use of new public services offered by local government in my village/town if I do not necessarily need them		X

Source: Amended, based on Goldsmith and Hofacker 1991; Roehrich 2004.

**Figure 2**  
Evaluation of the innovation capacity of an organization – Diamond model



Source: Author's own based on Tidd et al. (2007).

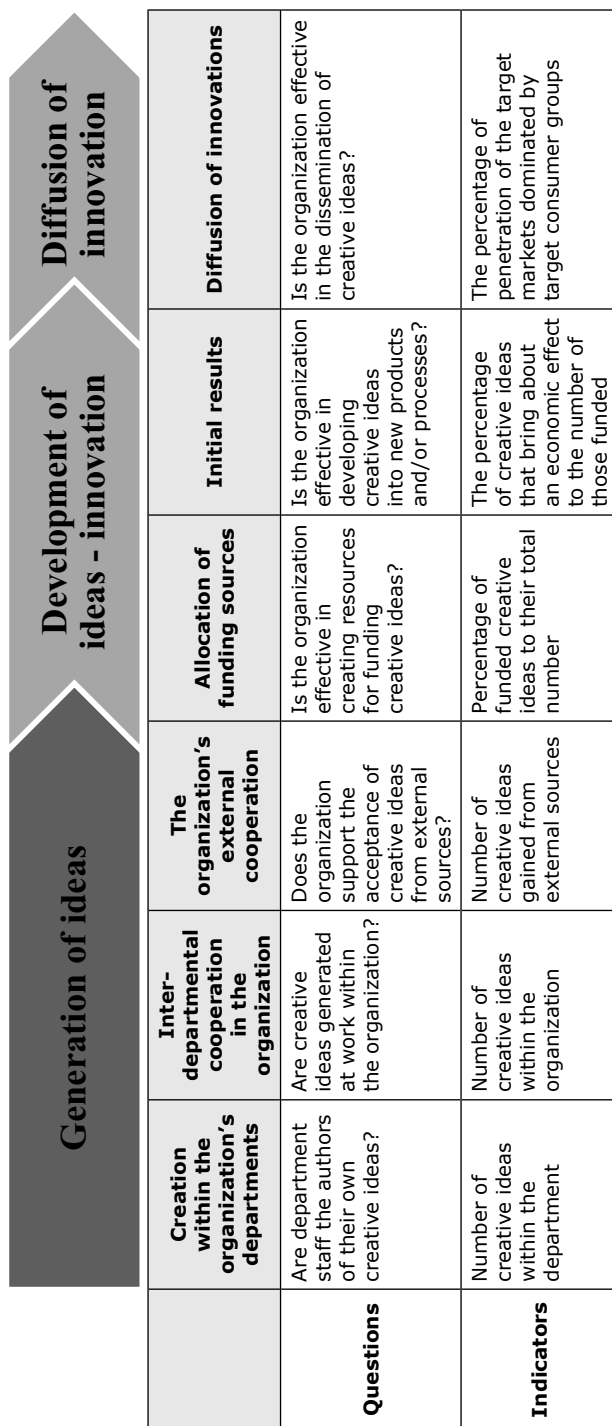
Hansen and Birkinshaw (2007) perceive the process of innovation as a value chain. The process involves three stages: the generation of ideas, the development of ideas in the form of innovation and, finally, the diffusion of innovation. Figure 3 shows the three phases of the innovation process along with the identification questions and indicators of the individual phases.

The questionnaire to evaluate the innovation potential of an organization through the value chain (Figure 2) normally contains statements to 2–3 questions from each part of the value chain with possible answers: Disagree = 1 point, Agree = 2 points. They are completed by employees from different departments of the organization. The lower the score the worse the outcome of the evaluation of the innovation potential of the organization. Subsequently, the average from the responses for each part is compiled and the area with the lowest number of points is the one to which the organization should give priority when building their innovation potential (Hansen and Birkinshaw 2007).

We examined the reluctance of providers of public services (supply side) to accept a new way of providing public services (innovation potential) in municipalities that use “Municipality Data Centre” (MDC).

The MDC project will increase the amount of provided electronic services, and it will improve their quality. It will decrease the administration burden for both office workers and citizens of the municipalities (MDC 2015). Law no. 305/2013 Coll. imposes an obligation, pursuant to § 17 paragraph 1, on municipalities from 1 November 2016 to execute public authority electronically. A written appeal for the

**Figure 3**  
The process of innovation as a value chain



Source: Adapted from Hansen and Birkinshaw (2007).

national project “Municipality Data Centre” (code: OPIS-2011/1,2/03-NP) was issued by the Ministry of Finance of the SR on 13 December 2011 as an intermediary authority for the Operation programme of Digitalization of the Society (hereinafter OPIS).

For these purposes, the Ministry of Finance of the Slovak Republic and The Association of Towns and Communities of Slovakia established the Slovak company The Digitalized Data Centre of Local and Regional Governments of Slovakia (hereinafter DEUS) in 2011, which will help to achieve the goal of the OPIS, which was intended to build up information society in order to develop a knowledge-based economy. The DEUS is the authorized recipient of the non-repayable grant (MDC 2015). MDC clearly fulfils its mission, but the interest of local governments exceeds its current capacities. The use of the system is growing significantly (the system processed 100,000 submissions in 2017 and almost 1.6 million submissions were processed already in 2018).

### **3. Material and methods**

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The object of the paper is to identify problems of public service innovations demand and supply, which determines the adoption of local public service innovations based on the use of IT technology in the condition of Slovak Republic. The subject of the research is the innovation concept of local public services based on ICT.

The aforementioned theoretical and methodological framework is based on selected theories relevant to the subject of the research: the theory of market failure – public goods – citizen demand for public services; the theory of state failure – public choice theory, the theory of bureaucracy – the risk of failure in the supply of innovations of public services; research into the discrepancy between demand and supply of public services through marketing concepts of research of innovation – consumer innovativeness/citizen willingness as a consumer to adopt innovative public services (demand side) and the innovative potential of organizations providing public services (supply side).

Our research is based on our research conducted in 2017 (Mikušová Meričková et al. 2017, Mikušová Meričková and Muthová 2018). The identified problems of local public ITC innovations were based on the results of primary research conducted in 32 towns involved in the appeal for the electronization of the local services “e-Mesto” launched in 2013 to obtain non-repayable grants (hereinafter NPG) in order to provide access to municipal electronic services. In this case our results are based on the results of primary research conducted in participating municipalities in MDC project.

### **3.1 Citizen willingness as a consumer to adopt innovative public services**

We formulated the hypothesis: Citizens as consumers of local public services are interested in innovations of such services and that there exists a demand for innovation of public services.

We assume that citizens are interested in innovations which increase their benefits from the consumption of public services. If we identify citizen innovativeness as consumers of public services, it is possible to consider an existing demand for innovation of public services.

The one part of the research focuses on the analysis of the demand of citizens surveyed in the sample municipalities concerning innovation of local public services, which are the subject of the MDC project.

The data collection method in the primary research is a structured questionnaire due to the applied concept of measuring consumer innovativeness. When formulating the questionnaire, we started from the evaluation concept of the Goldsmith-Hofacker scale of measuring innovativeness in an effort to identify consumer demand for innovation of local public services in general. The concept was extended by supplementary questions identifying the preferences of citizens in the specific consumption of electronic local public services and issues identifying barriers to the implementation of innovation of local public services based on IT technologies on the demand side, i.e. that of the citizens.

The basic sample, as a set of statistics in this case, consists of residents of 1,494 participating municipalities as all statistical units that meet the required characteristics. The basic sample is very extensive as it comprised 4,439,609 inhabitants; we therefore determined the selection sample which comprised 225 citizens from the monitored municipalities. We obtained the selection sample by means of quota sampling according to the following statistical attributes: gender and age group, whereby its structure corresponds to the basic sample.

### **3.2 The innovative potential of organizations providing public services**

We formulated this hypothesis: The development and implementation of innovative concepts of public services fail because of weak innovation potential providers of local public services. The innovative potential of local governments will be assessed in five areas, as identified by the diamond model (strategy, processes, organization, networking and learning), regarding their transformation of qualitative data to quantitative by using a Likert scale (total disagree = 1, total agree = 5). We compare our results with the results of our research conducted in 2017 (Mikušová Meričková et al. 2018). We are using a similar methodology in this case as in the previous case.

The subject of the research are specific innovation projects of local public services which use ICT. Specifically, the MDC project. The MDC is a national project

which is aimed at the digitalization of the Public administration and the development of E-services delivered on the local and regional levels (MDC 2015). The MDC project is designed for a municipality with a population of more than 500 and less than 20,000 citizens.

The data collection method in the primary research, with respect to the applied evaluation concept of the diamond model, is a structured questionnaire. We evaluate the innovation potential of 54 out of the 1,494 municipalities involved in the MDC project in 2018 (Babín, Baldovce, Beňuš, Bory, Braváčovo, Brezovica, Bukovina, Čajkov, Dedinky, Dubinné, Ďurďové, Figa, Filakovo, Folkušná, Harhaj, Harmanec, Henclová, Horná Štubňa, Hradisko, Hrochoť, Kokšovce, Kolinovce, Kozárovce, Krškany, Lenka, Lesnica, Liesek, Lukavica district of Bardejov, Malá Domaša, Moštenica, Oravský Podzámok, Podhorany, Podhradík, Polomka, Predajná, Rabčice, Raslavice, Ratka, Ráztoka, Richvald, Slovenská Krajňa, Spišské Hanušovce, Spišský Štiavnik, Svit, Štvrtok, Tajov, Teplý vrch, Terchová, Tŕnie, Údol, Uňatín, Vitanová, Záborské, Žalobín). The selected sample is considered to be representative. We acknowledge that, given the extremely limited size of our sample (N=54), the generalization of our findings need reflection.

In both cases (on the demand side and on the supply side), we translated the obtained data by means of numerical codes, and it was furthermore statistically processed using the:

- Chi-square test (tests the representativeness of the selected sample),
- Multiple-response analysis (identification of preferences of citizens in the consumption of specific electronic local public services and evaluation of the innovation potential of the executive branch of local government within the diamond model and innovation offered by local public services based on information-communication technology),
- Spearman correlation coefficient (verification of dependence of the characteristics on the consumers' gender, ages and level of education and interest in innovation of local public services using IT).

For the evaluation, we use IBM SPSS Statistics 19 statistical software; for testing we consider the significance level of 0.05.

## **4. Results and discussion**

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### **4.1 The evaluation of citizen willingness as a consumer to adopt innovative public services**

Research into the demand for innovation of local public services based on the use of ICT in the MDC project focuses on several areas:

1. Citizens' demand for innovation of local public services, measuring citizen innovativeness as a consumer in the consumption of local public services,
2. The demand for innovative, electronic local public services – manifested as the preferences of citizens in the consumption of specific electronic local public services,
3. The relationship between the characteristics of consumers/citizens and their demand for innovation of local public services using IT.

The selected sample of respondents/citizens is constructed so that its structure according to the basic characteristics of gender and age group corresponds to the basic sample of all the citizens monitored in the 1,494 municipalities (Table 2).

**Table 2**

The selected sample for measuring citizen innovativeness in the consumption of local public services (potential demand)

Classification symbol	Gender		Age group				
	Men	Women	18–24	25–34	35–44	45–54	55+
Basic sample %	48.22	51.78	10.39	19.03	19.87	16.22	34.55
Selected symbol %	48.89	51.11	11.11	20.89	18.22	16.44	33.33

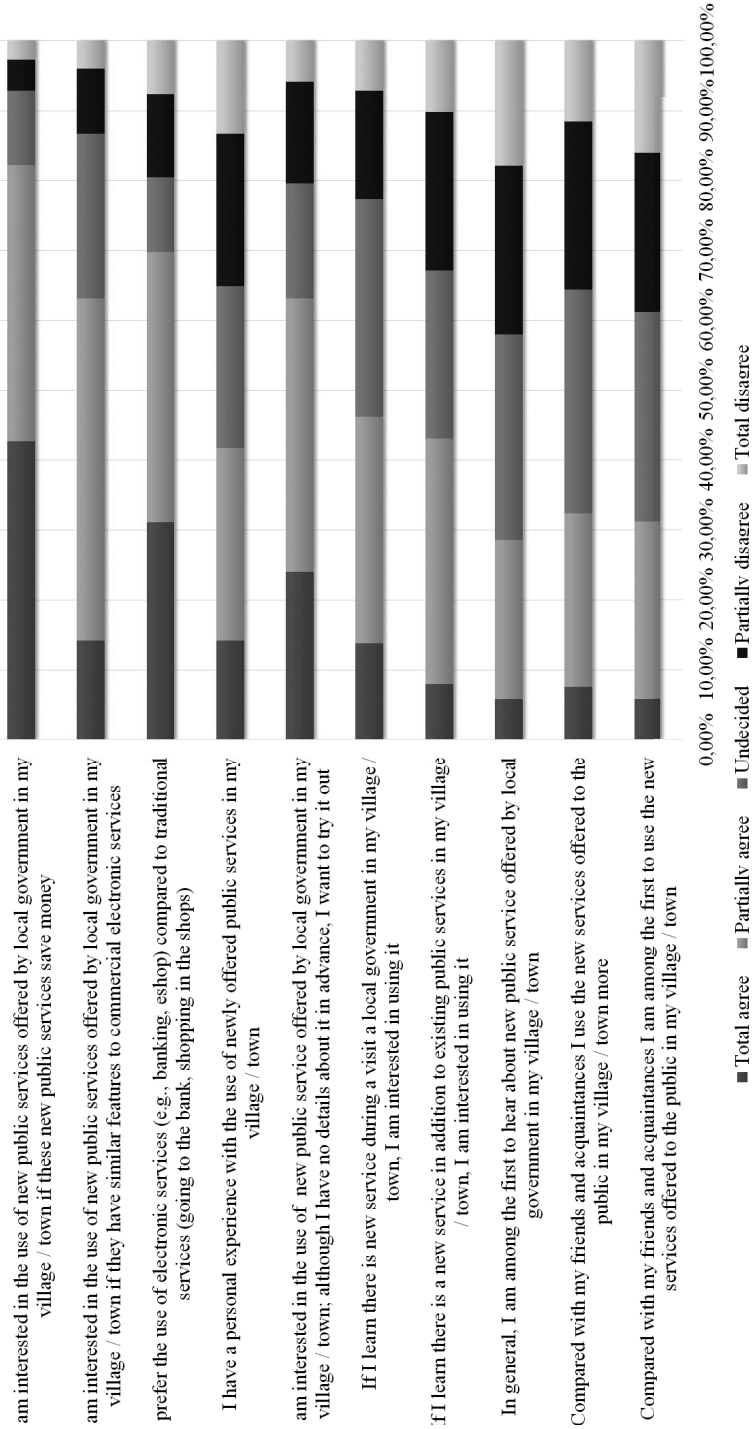
Source: Author's own, and on the basis of data from the Statistical Office of the Slovak Republic (2016).

We found that the selected sample is representative according to gender and age group (p-value 0.040; 0.956) by using the chi-square test. The results found in the questionnaire survey can be generalized for the entire population of all 1,494 municipalities.

Citizen innovativeness as potential consumers of electronic local public services was evaluated with the Goldsmith-Hofacker scale for measuring consumer innovativeness. The results are illustrated in Figure 4. We can compare these results with results of our research conducted in 2017 (Mikušová Meričková et al. 2017).

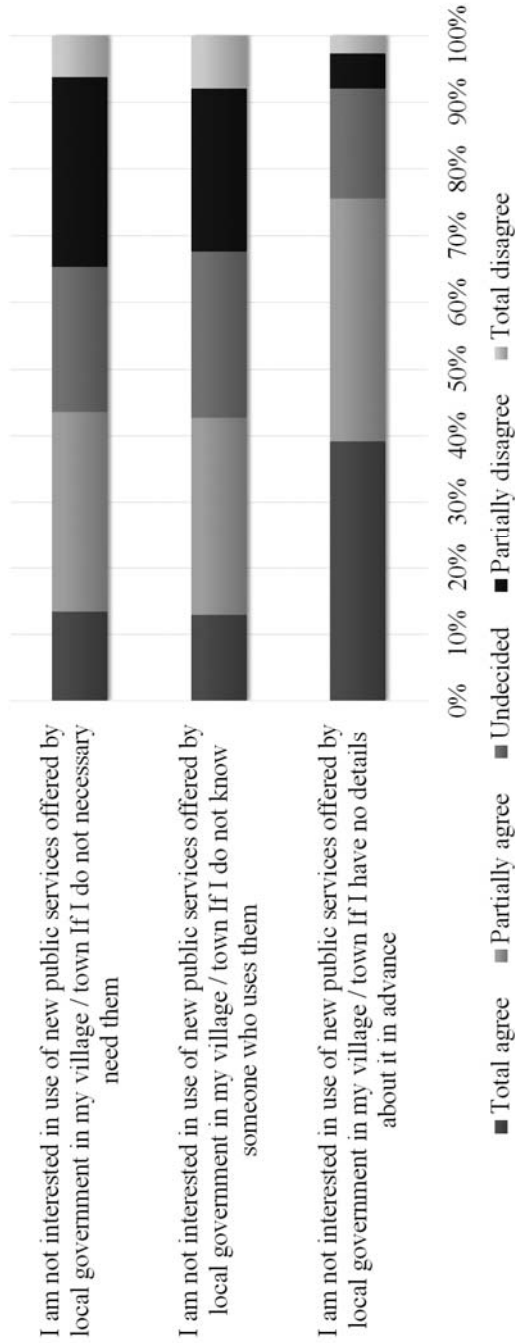


**Figure 4**  
Citizens' demand for innovation of local public services, citizen innovativeness in the consumption of local public services



Source: Author's own.

**Figure 5**  
Citizens as innovators in the process of diffusion of innovation of local public services



Source: Author's own.

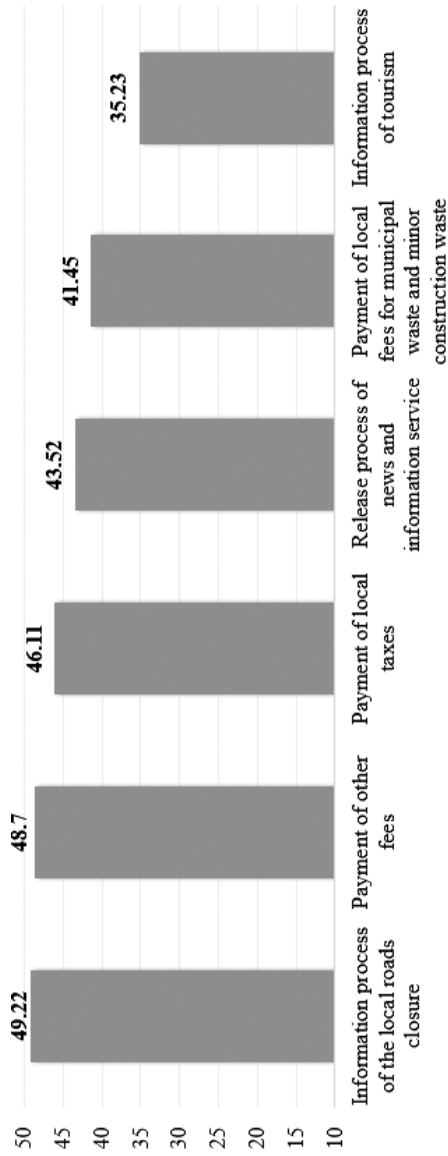
Ranging from 49.2 % to 64.2 % of the surveyed population of all municipalities involved in the MDC project (59.1 % to 68.2 % in 2017), with a 95 % reliability, residents expressed interest in the consumption of innovative local public services. Similarly, with 95 % reliability, it can be said that between 69.4 % and 81.7 % (between 56.4 % and 65.9 % in 2017) of the population of all those surveyed are actively interested in the innovation of local public services – Figure 5.

In terms of the distribution of the category of consumers in the process of diffusion of innovation, the bulk of the population in relation to the innovation of local public services behave rather more like innovators than followers. This is a positive finding if we consider the existence of demand for innovation of local public services; such demand for innovation of local public services in the municipalities studied exists, people are interested in innovations that would increase their benefits from the consumption of services provided by the local government.

In the next step of the analysis we evaluate the demand for innovative, electronic local public services – manifested as the preferences of citizens in the consumption of specific electronic local public services as defined in the MDC project. The subject of electronization should be a list of 137 services provided by the local government. We discover in which services on this list the highest potential demand is for their innovation by means of their electronization. Figure 6 shows the five, the electronization of which citizens have the highest interest in, leading us to the identification of the highest demand of citizens through the use of the multiple-response analysis method.

Of the six services the electronization of which citizens expressed the highest interest in only service payment of local taxes (3), release process of news and information service (4) and payment of local fees for municipal waste and minor construction waste (5) are among the mandatory services which municipalities are obliged to electronize in the MDC projects. The remaining services on the figure (Figure 6) are among the optional services, i.e. services from which the applicants are entitled to choose any number that they consequently undertake to electronize within the project (Ministry of Finance, Slovak Republic 2013). The municipalities therefore, prior to deciding on their electronization, should discover the preferences of their citizens. The reality is, however, according to our findings, that none of the municipalities involved in the MDC project conducted such surveys of the preferences of their citizens. According to European commission (2020), there is a growing interest in electronic public services. There is increasing interest in all age groups, but especially in the group from 25 to 34 years old (82 % of people in this group use electronic public services for interaction with public authorities in 2019, while it amounted to only 43 % in 2013). TNS conducted the survey for the Ministry of Finance in 2014. They found out that more than half the citizens of Slovak republic (55 %) did not have enough information about electronic public services.

**Figure 6**  
The demand for innovative, electronic local public services – preferred service



Source: Author's own.

Furthermore, in analyzing the demand of citizens for the innovation of local public services we find whether there is a relationship between the characteristics of consumers/citizens (gender, educational attainment, age category, income) and their demand for the innovation of local public services using IT. When testing dependence, we used Spearman's correlation coefficient.

In the case of gender, no dependence for demand for innovation was confirmed. Education, income and age group had a more significant impact on the demand for innovation of most local public services through their electronization. Interest in the electronization of local public services is higher for people with higher educational attainment, higher income and a lower age. Given that more than 2/3 of the urban population has completed secondary or higher education, it can be assumed that the demand in municipalities for innovation of local public services by means of electronization of public services will exist and has the potential to grow if electronized services meet the requirements of comprehensiveness and accessibility. Residents do not perceive electronic public services as a full equivalent of the original public service; they consider e-services as provided by local government to be incomprehensive (p-value 0.118). The realistic accessibility of the provided electronic public services is also limited by the lack of digital literacy and households with computers with an internet connection (p-value 0.005).

#### **4.2 The evaluation of the innovative potential of organizations providing public services**

The analysis of innovation offered by local public services leads to testing the scientific hypothesis of the low innovation potential of providers of local public services, which is one of the reasons for the failure of the creation process and the successful implementation of innovations of local public services. The key is the evaluation of the innovative potential of the executive branch of local governments in the following areas: strategy, processes, organization, networking and learning, as identified in the evaluation of the diamond model. Each individual area is provided with statements to which the employees of the assessed organizations express their affirmative or negative arguments. The qualitative features in the form of statements/responses are transformed into quantitative indicators as in the value chain concept: totally disagree = 1, totally agree = 5. We evaluate the innovation potential of 54 from 1,494 municipalities involved in the MDC project. The selected sample is considered to be representative.

**Table 3**

The selected sample for evaluating the innovation potential of organizations providing public services (potential supply)

Classification symbol	Number of residents in municipality						
	1-199	200-499	500-1,000	1,000-1,999	2000-4,999	5,000-9,999	More than 10,000
Basic sample %	15.60	30.25	26.77	18.14	7.43	1.47	0.33
Selected symbol %	14.81	29.63	24.07	16.67	11.11	1.85	1.85

Source: Author's own, and on the basis of data from the Statistical Office of the Slovak Republic (2016).

We found that the selected sample is representative according to the number of residents in the municipality (p-value 0.535). However, the results can be influenced by a response bias. For this reasons, the answers of the respondents were verified in relation to the information published on the websites of the municipalities.

Table 4 clearly illustrates the municipalities' answers to the questions if the employee agrees or totally agrees with the question.

The innovative capacity of the individual municipalities was evaluated by a modification of the diamond model and value chain. Within the framework of the evaluation according to the value chain concept, a municipality can receive a highest score of 125 points based on their responses if the answer to each question is positive (totally agree = 5 points) and a lowest score of 25 points for a negative answer to each question (totally disagree = 1 point). The results for the evaluation of the innovation capacity of municipalities according to their replies to the value chain concept are illustrated in Figure 7.

The average number of points achieved in the evaluation of the value chain concept was 91.35 points.

We evaluated the innovation potential of the municipalities by means of the diamond model in terms of strategy, processes, organization, networking and learning from the municipalities' responses to a number of issues in each field. The average gained points from the responses to each area we apply to each of the axes of the diamond model representing the evaluated fields. Figure 8 illustrates the results of the evaluation of innovation capacity from the perspective of the local governments in the diamond model.

**Table 4**  
 Evaluation of the innovation potential of the executive branch of local government – innovation offered by local public services

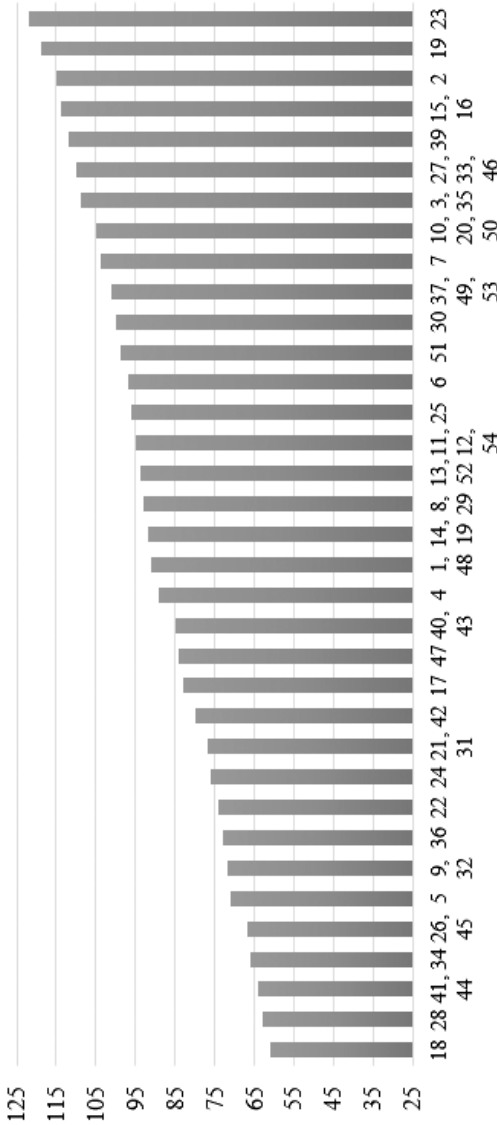
<b>Evaluated field</b>	<b>Question</b>	<b>Number of selections</b>	<b>% of surveyed municipalities which responded "YES" to this question</b>
Strategy	Local government employees in the organization knows the innovation strategy and its goals	33	62.26%
	The municipality has mechanisms for implementation of development strategy of a municipality	22	41.51%
	The municipality uses predictive methods and tools to help us evaluate future threats and opportunities	16	30.19%
	The municipality has a system in place to select new projects	29	54.72%
	Innovations are part of the development strategy of a municipality	21	39.62%
Processes	Innovative projects are usually completed in time and in accordance with the budget	29	54.72%
	The organizational structure of municipality does not limit innovation but supports them	35	66.04%
	The municipality monitors the needs of citizens	37	69.81%
	Management of the municipality is interested in innovation	39	73.58%
	The municipality innovates local public services	33	62.26%

	Local government employees have a clear idea of how innovation can help the municipality	23	43.40%
	Local government employees from various departments work well with each other	41	77.36%
Organization	When implementing new services for citizens or innovative ideas, the municipality engages all local government employees	40	75.47%
	Local government employees are involved in designing ideas to improve the provision of public services	33	62.26%
	Communication between departments is efficient and top-down, bottom-up, also between different departments of the municipality	32	60.38%
	The municipality organizations systematically compare processes and services with other municipalities	16	30.19%
	Local government employees work well at teams	44	83.02%
Networking	The municipality builds relationships with other municipalities	24	45.28%
	The municipality builds relationships with external organizations; individuals bringing new information; exchange experiences; building social capital – public-private-civic mix and co-creation in the innovation process	24	45.28%
	The municipality builds relationships with other local government organizations	36	67.92%
	Local government employees are regularly trained	41	77.36%
	Local government projects are being evaluated in order to improve results in the future	34	64.15%
Learning	The municipality learns from own mistakes	47	88.68%
	The municipality collaborates with universities and research centres to develop the knowledge in the local government organization	7	13.21%
	The municipality learns from own and transferred experience (e.g. from other local government, organizations)	39	73.58%

Source: Author's own.



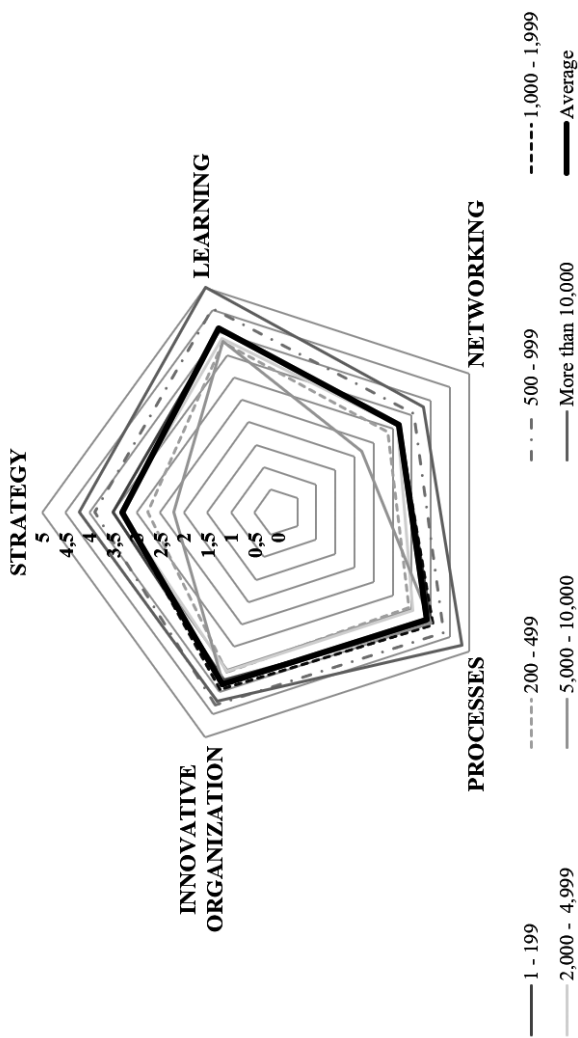
**Figure 7**  
 Evaluation of the innovation capacity from the perspective of the municipalities (value chain concept)



Source: Author's own.

Legend: 18 – Ratka, 28 – Harhaj, 41 – Spišský Štiavnik, 34 – Teplý vrch, 36 – Moštenica, 26 – Dubinné, 45 – Uňatín, 5 – Harmanec, 9 – Bukovina, 32 – Lukavica district of Bardejov, 22 – Predajná, 24 – Údolí, 24 – Beňuš, 31 – Lesnica, 21 – Tŕnie, 42 – Svit, 17 – Terchová, 47 – Raslavice, 40 – Spišské Hanušovce, 43 – Tajov, 4 – Folkušná, 1 – Babín, 48 – Podhradník, 14 – Hradisko, 19 – Ráztocka, 8 – Bory, 29 – Hrochoť, 13 – Henclová, 52 – Vitanová, 11 – Ďurďové, 12 – Figa, 54 – Liesek, 25 – Polomka, 6 – Horná Štubňa, 51 – Krátkany, 30 – Kozárovce, 53 – Brezovica, 49 – Kolinovce, 37 – Rabčice, 7 – Dedinky, 10 – Čajkov, 50 – Podhorany, 20 – Štvrtek, 3 – Bravácovo, 35 – Oravský Podzámok, 27 – Filakovo, 33 – Malá Domaša, 46 – Žalobín, 39 – Slovenská Krajňa, 15 – Koksšovce, 16 – Lenka, 2 – Baldovce, 38 – Richvald, 23 – Záborské

**Figure 8**  
Evaluation of innovation capacity from the perspective of the local governments (diamond model)



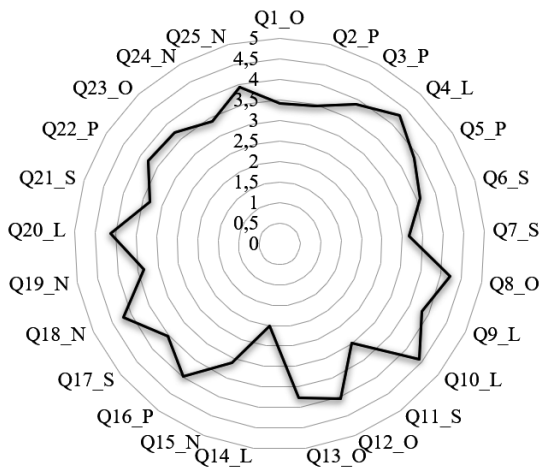
Source: Author's own.

Legend: 1-199: Baldovce, Bukovina, Ďurďové, Folkušná, Henclová, Hradisko, Lenka, Uňatín; 200-499: Bory, Dedinky, Dubinné, Figa, Harhaj, Lesnica, Lukavica district of Bardejov, Malá Domaša, Moštenica, Podhradík, Ratka, Ráztocka, Štvrtek, Teplý vrch, Trnie, Údol; 500-999: Bravčovo, Čajkov, Harmanec, Kokšovce, Kolinovce, Krškany, Podhorany, Richvald, Slovenská Kráľná, Spišské Hanušovce, Tajov, Záborské, Zalobín; 1,000-1,999: Babin, Beňuš, Brezovica, Horná Štubňa, Hirochoň, Oravský Podzámok, Predajná, Rabčice, Vitanová; 2,000-4,999: Kozárovce, Liesek, Polomka, Raslavice, Spišský Štiavnik, Terchová; 5,000-10,000: Svit; More than 10,000: Fiľakovo.

The areas of the diamond corresponding to individual municipalities vary in relation to their innovation potential in the different evaluated areas. The municipalities with high innovative potential in all evaluated areas include Záborské, Richvald, Baldovce. Municipalities with a lower evaluated potential in all areas are Ratka, Harhaj, Spišský Štiavnik, Teplý vrch. The remaining municipalities achieve differing evaluations in various fields (Figure 8). The evaluated municipalities have the largest reserves in the area of networking and strategy (Figure 9).

**Figure 9**

Evaluation of innovation capacity from the perspective of the local governments (diamond model) – the average result in the questions



Source: Author's own.

Legend: L – learning; N – networking; O – organization; P – processes; S – strategy.

The problem in the area of networking is in particular the lack of systematic comparison of processes and services with other municipalities – benchmarking analysis. However, it may be positively perceived that although municipalities do not compare their processes and services with other municipalities, it shows that they are able to cooperate with other municipalities in developing new services for their citizens (p-value 0.008, 0.003; rs = 0.360, 0.394). Local governments not only take on the positive experiences from other local governments, but build cooperation with external organizations and individuals. The municipalities declare the building of partnerships with other municipalities in Slovakia and abroad, regional development agencies, suppliers of information systems, businesses and so on.

One of the limits of the research method is the insufficient sample size. The validity of our results can be confirmed by results of our previous research (Mi-

kušová Meričková and Muthová 2018). The results confirmed our hypothesis that “The development and implementation of innovative concepts of public services fail because of the weak innovation potential providers of local public services.” The municipalities have the largest reserves in the area of networking and strategy as confirmed in our previous research (Mikušová Meričková and Muthová 2018). Also according to the Supreme Audit Office (SAO) the biggest problem is the missing strategy for development of eGovernment. However, the SAO considers the process of informatization to be successful in municipalities. The improvement is mainly due to the acquired experience of employees of municipal authorities, such as also the growing number of eGovernment. A negative evaluation of the development of eGovernment was recorded only by four per cent of the sample checked by the SAO (SAO 2020). Špaček et al. (2019) confirmed that the situation is similar in the Czech Republic, Hungary and Romania. The problems are a lack of real strategic thinking, legislative issues and organizational imbalances.

The results of the SAO inspection show that public service electronicization projects usually do not meet the set objectives. The SAO has already pointed out that the problem is the outsourcing of IT services. According to the SAO the internal provision of IT services may be more beneficial to the organization and the state. IT solutions by internal employees use a better knowledge of their own processes and information systems and are therefore possibly faster and more effectively applicable in practice (SAO 2020). However, the results of the SAO inspection confirmed that insufficient staff capacity is a problem for the successful implementation of eGovernment.

Another problematic area is the area of “strategy”. Moreover, innovation as expressed by the local governments in strategic documents appears sporadically. Municipalities introduce innovation in communicating with citizens (sending information via SMS notifications, Facebook, e-mail or RSS feeds), and the use of renewable energy and waste management. The declared efforts to innovate in the interest of development can therefore be considered more or less a formality. For example, an electronic mailbox is a matter of course in Slovakia. The results showed that only 0.49 % of the 149,000 inhabitants in the inspected municipalities had an active electronic mailbox in 2018 (SAO 2019). Citizens still prefer personal or paper contact with the authorities.

According to European commission (2019) Slovakia has a non-consolidated eGovernment. This means that a government in this scenario does not utilize ICT opportunities yet and has a limited number of users of online public services but could reap corresponding benefits in the future (European commission 2019, 77). Slovakia could enhance penetration (for example % of individuals using the internet (internet use) and % of individuals submitting filled-in forms of users who need to submit forms (eGovernment user) and digitization (online availability, usability, mobile friendliness, transparent government, citizens and business mobility and

key enablers) by digitizing both front and back offices of public services providers. First, ICT opportunities would need to be realized and citizens and business would need to be convinced to use eGovernment services.

Insofar as we view the evaluated area “process”, it can be seen as positive that the municipalities, according to their response, monitor the needs of their citizens, and more than 60 % of this is achieved also thanks to innovations of local public services. Innovation is most often cited by the municipalities as the electronization of public services, electronic discussion forums for the municipalities’ people, mobile applications through which citizens can draw attention to illegal waste dumps or the poor condition of public spaces, and communicating through Facebook. Monitoring the needs of the citizens takes place through the City Monitoring application, web sites, Facebook, offices of first contact and questionnaires. When it comes to introducing innovation, it is important not only to gain support from municipality leaders, but also support from municipality employees themselves. Smaller municipalities do not have the capacity to promote and educate eGovernment. For them it is necessary to improve communication, education and promotion from the state.

The answer to the question of the role played by local government employees in the innovation process is evaluated in the “organization” area. 60 % of the municipalities claimed that the local government employees are involved in designing ideas for improving the provision of public services. It is notably innovations in communication with citizens, monitoring of citizens’ needs and providing benefits for those members of the population with permanent residency. It should be noted that only 41.8 % of local government employees have a clear idea of how local government innovations can be useful in the future. According to Urs (2018) the problem is a lack of interinstitutional interoperability, outdated internal procedures and lack of management support in municipalities.

According to claims, local government employees are continuously educated through courses (mainly focused on legislative changes, the increase of computer literacy, e-learning courses, etc.). Also they learn from positive experience of innovation from other local governments, not only from Slovakia but also from abroad, e.g. cross-border projects, conferences, forums; also from own mistakes). The largest reserve in the evaluated area “learning” is the municipality cooperation with universities and other research centres.

From the list of e-services, only 27 public services have been involved in projects for the electronization of local public services in more than half of the municipalities of our selected sample. According to the Campegimini methodology (2010) and online sophistication ranking, most electronic public services in Slovakia are only at the one-way interaction level, where an individual may download the form but ultimately must hand it over to the relevant office.

We also wanted to know if the size of the municipality has an impact on the component of the innovative potential of the municipality. There is a weak cor-

relation between the size of the municipality and one component of the innovation potential – Mechanisms for the implementation of the development strategy of a municipality (p-value 0.032;  $r_s = 0.292$ ).

The next question is which components of the innovation potential have an impact on the offer of innovation of local public services using information-communication technologies. There is a strong correlation between the implemented mechanisms utilized in innovation within the framework of the strategy of development of municipalities and existing innovations in the provision of local public services (p-value 0.000, 0.000 respectively;  $r_s = 0.686, 0.551$  respectively). Innovations allow the local governments to more intensively monitor their citizens' needs and adapt to these needs according to the nature of innovation and the course of the innovation process (p-value 0.004;  $r_s = 0.383$ ). The nature of innovation, in addition to the needs of citizens, is determined by the success of innovation processes in other municipalities (p-value 0.001;  $r_s = 0.431$ ). Initiating elements in the innovation process of local public services are local government employees (0.000;  $r_s 0.614$ ), whose inspiration is once again found in already successfully implemented innovation in local public services of other municipalities in Slovakia and abroad. The conclusion can therefore be deduced that local governments, concurrent with employee initiative, will monitor the needs of their citizens and implement the mechanisms of innovation of local public services in their own development strategy, which will result in the innovation of local public services based on the needs of citizens (p-values of 0.001, 0.001, 0.000, 0.000 respectively;  $r_s = 0.422, 0.447, 0.664, 0.577$  respectively).

## **5. Conclusions**

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The object of the paper was to identify problems of public service innovations demand and supply, which determines the adoption of local public service innovations based on the use of IT technology in the context of the Slovak Republic.

The results of the investigation confirmed that there is a demand from citizens for the innovation of local public services, but the process of developing and implementing innovative concepts of public services fails on the grounds of the low innovation potential of the service providers. According to Heeks and Bailur (2007) rankings of e-government development also often focus largely on policy statements and the willingness of employees to adapt to the innovation of public services. There exists a discrepancy between the demand for and the supply of innovative local public services using IT technologies, and, furthermore, poor public awareness of the possibilities of using electronic public services is a serious problem. In the process of introducing the innovation of public services it is essential to focus primarily on the requirements of users' benefit from the consumption of services

and on the ease of use of services by respecting the preferences of citizens, ensuring inclusiveness and accessibility of services and effective communication to citizens.

The reality is, however, according to our findings that none of the municipalities involved in the MDC project conducted such surveys of the preferences of their citizens. Our previous research also shows a similar result (Mikušová Meričková et al. 2017). This may also be one reason for the failure of projects for the electrification of public services in the conditions of Slovak municipalities (the electronic public services used 68,339 citizens to 31 May 2018 – Data.gov.sk). Also Gauld (2009; Gauld et al. 2020) says that “the actual purpose of e-government is of course disputed but one theme is largely managerially driven cost-cutting, rather than necessarily a focus on citizen preferences.” Municipalities do not have a clear strategy for introducing the innovation of public services, the starting point of which would be to establish an initial assumption about demand for innovation of local public services in relation to the demographic structure of the population of the local authority and identify categories of citizens as innovators in the process of diffusion of innovation, or respectively the target group of citizens which should be the subject of marketing communication in the process of introducing innovation and subsequent investigation into the preferences of citizens in relation to a specific innovation. After identifying the demand for specific electronic services, securing the comprehensiveness and availability of these services should follow. Citizens do not perceive electronic public services as a full equivalent of the original public service, they consider e-services to be incomprehensive. About a third of the urban population is formed by people aged 55 years and over who have low computer literacy and a lower level of being equipped with computers connected to the internet (which citizens themselves admit as a problem of realistic access to e-services provided by the local government). This conclusion was also confirmed by research conducted by Gauld et al. (2020). Older age and less education were associated with lower ITC and e-government use (Dugdale et al. 2005; Norris 2001; Thomas and Streib 2003). In relation to support for demand for electronic public services, the very innovation process of electrification should be preceded by a preparation of citizens through training courses on IT skills within the framework of informal education.

One of the limits of the research method is the insufficient sample size. The problem with our research is the low level of responsiveness to the questionnaire. Visser et al. (1996) claim that surveys with low response rates are not necessarily low in validity. It is not appropriate to distribute the questionnaire electronically due to the research problem in our case. We could exclude respondents without internet access and without ICT skills. Respondents completed the questionnaire in person. The disadvantage of this way of addressing respondents is time consuming. Also there exist concerns if respondents have really understood the questions. We performed a pre-test to verify the comprehensibility of the questions. Pre-testing will help us determine if respondents understand the questions. Also there is problem with the selection sample of municipalities. We acknowledge that, given the

extremely limited size of our sample (N=54), the generalization of our findings need reflection.

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# Organizational Readiness for Co-Creation of Public Services in the Central and Eastern European Administrative Tradition: Development of the Conceptual Multi-Attribute Decision Support Model

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## Abstract

Co-creation of public services and policies is considered a promising practice of re-shaping the traditional relationship between the state and its citizens, businesses and non-governmental organizations (NGOs). Nevertheless, there are also warnings that the implementation of the process of co-creation could fail. A possible reason is that the organization is not ready or sufficiently mature to implement the process of co-creation. This paper addresses co-creation drivers and barriers identified through systematic literature review and analysis of case studies from two Central and Eastern European (CEE) countries. The aim of this paper is to provide practitioners from CEE countries with a conceptual multi-attribute decision support model for evaluating the organizational readiness for co-creation. The methodological framework consists of three steps. The first two steps, content analysis (i.e. literature review) and case-study analysis, were used to identify and analyze drivers and barriers, which are then used in the last step to develop the conceptual multi-attribute decision support model. The developed model consists of 26 attributes grouped into three categories: capacity of the organization, drivers and barriers related to internal (public organization) co-creators, and context related drivers and barriers.

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The key points for practitioners are:

- Co-creation drivers and barriers affect organizations at the beginning of their co-creation journey (i.e. in identifying the key co-creation success factor at the organizational level);
- Co-creation drivers and barriers serve as guidance to organizations that were unsuccessful in co-creation;
- The conceptual model supporting the evaluation of co-creation readiness serves as a tool to those that consider implementing co-creation;
- The model offers an insight into a possible methodology for evaluation of readiness in different areas;
- For practitioners from the CEE region, co-creation drivers and barriers, together with the conceptual multi-attribute decision support model supporting the evaluation of co-creation readiness, offer a roadmap to successful co-creation.

**Keywords:**

Co-creation; drivers; barriers; multi-attribute decision support model; organizational readiness; administrative tradition; CEE.

## **1. Introduction**

The paper aims to discuss the evaluation of co-creation readiness of public organizations. It draws from the experience of two Central and Eastern European (CEE) countries, namely Slovenia and Croatia, more precisely from the drivers and barriers of co-creation identified in two promising cases from the aforesaid countries. However, a broader administrative context should be considered in such regard. Public administrations are often classified according to their societal, political and legal systems and administrative culture in particular, i.e. beliefs and values concerning the role of the state and its civil service (e.g. Pollitt and Bouckaert 2011). According to the European Commission (2017, 34), even though all public administrations in the European Union (EU) share values associated with democracy and the rule of law, the respective regional cultures in which national public administrations are embedded show clear differences. Public administrations function in distinctive and diverse contexts, i.e. cultural, political and administrative, that shape the public administration and the ways in which it works and may be changed (Ongaro 2019). According to some authors (e.g. Durose and Richardson 2016a, 2016c; Torvinen and Haukipuro 2018), a “one-size-fits-all” approach to co-creation is hence less successful in the organizations that are insensitive to the context and the corresponding administrative culture. A literature review reveals that the concept of co-creation is mostly studied in the context of Anglo-Saxon administrative traditions and rarely in the CEE administrative tradition (Jukić et al. 2019; Nemeč et al. 2019) despite the fact that there are several promising co-creation cases in this

region (see for example Kempa and Kozłowski 2020; Kukučková and Bakoš 2019). In accordance with the findings that in matters of the public-administration context (Ferlie and Ongaro 2015) especially when considering successive New Public Management reforms. This observation has important consequences for the requisite work practices, skills and knowledge bases of current public managers, as they are increasingly being asked to act as strategic as well as operational manager. Cover; Half Title; Title Page; Copyright Page; Table of Contents; List of illustrations; Acknowledgements; 1. Introduction: our core argument and overview; 1.1 The proliferation and broadening of schools of strategic management; 1.2 Narratives of public management reform: getting beyond the Weberian bureaucracy; 1.3 Strategic management in the public sector: contingent or perennial?; 1.4 Overview of the book; 2. Schools of strategic management and their implications for contemporary public services organizations: part 1 -- from structure to culture. 2.1 The design school and strategic planning; 2.2 The strategic positioning school; 2.3 Mintzbergian strategy: emergence, organizational learning and context; 2.4 The entrepreneurial school and (social, the development of a decision support model for the evaluation of organizational readiness for co-creation in CEE is needed. Namely, CEE countries present specific features in societal development, therefore a specific administrative tradition and characteristics are attributed to the region (Kovač and Bileišis 2017, Kuhlmann and Wollmann 2019).

Such findings correspond with the research of Parrado et al. (2013), suggesting that co-production is more easily implemented in countries with a pluralistic administrative tradition (e.g. the Anglo-Saxon tradition) and those with administrative traditions with more autonomous citizens (e.g. the Nordic tradition). According to Voorberg et al. (2017a), it depends on the administrative tradition and governance culture that characterize the public sector in specific countries whether and how co-creation is a real game changer. This raises the question of how the practice of co-creation can be implemented in other administrative governance systems with a weaker tradition of citizen participation. There are many cases of successful implementation of co-creation in different areas (e.g. Daly et al. 2019; Rexhepi et al. 2017; Röcke 2014), while some authors draw attention to the fact that collaborative interaction or co-creation between public and private actors (e.g. citizens) can also have adverse consequences and lead to co-destruction (Echeverri and Skälén 2011; Järvi et al. 2018; Plé and Cáceres 2010). Within this context, a thorough understanding of when and where to leverage co-creation has become even more important to ensure that no co-destruction takes place (Oertzen 2018). In the context of public administration, Uppström and Lönn (2017) note that when developing and evaluating e-Government initiatives, one needs to be aware of the effects of co-creation and co-destruction of all involved stakeholders. According to Pluchinotta and Ferlie (2019), there are drivers and barriers that have impact on co-creation, such as designated and skilled project managers and team coordinators, willingness to invest in the community, organize effective meetings/workshop

with (and in) the community, have meaningful interactions with the community and a better understanding of challenges and opportunities, etc. In addition to the drivers and barriers for co-creation, Järvi et al. (2018) present the reasons that can lead to co-destruction of value before, during and after collaboration with other stakeholders. These reasons include the inability to change, absence of clear expectation, absence of information, insufficient level of trust, mistakes, inability to serve, customer misbehaviour and blaming. To increase the chances of successful co-creation, public organizations should first evaluate their maturity or readiness for implementation of co-creation projects and not just simply copy the good practices of co-creation from other administrative traditions. This can be done by studying the co-creation drivers and barriers. Based on the lack of research of co-creation in CEE countries, the paper aims to identify the main drivers and barriers of co-creation in the CEE region and, based thereon, to develop a conceptual multi-attribute decision support model. We believe that the decision support model would be useful for decision makers because a hierarchical structure and transparent evaluation would make decision problems easier and help them decide whether to begin the process of co-creation or not and, consequently, reduce the possibility of co-destruction. The decision support model will help practitioners evaluate the organizational readiness for co-creation in this region.

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The paper therefore intends to answer the following research questions:

**RQ1:** *What are the drivers and barriers that facilitate and impede co-creation in the CEE region?*

**RQ2:** *How can the identified drivers and barriers be applied to build a multi-attribute decision support model for the evaluation of co-creation organizational readiness in the CEE context?*

The paper is organized as follows: the next section (2) provides the essentials of the theoretical background of co-creation, administrative traditions and



public governance models in CEE, and multi-attribute decision models. Section 3 describes the methodological approach adopted, the content analysis of Web of Science (WoS) papers and the case studies from selected countries in the CEE region. Section 4 presents the results for both cases from Slovenia and Croatia analyzed with Fuzzy Cognitive Maps. The case-study analysis and literature review from Section 4 serve as input for Section 5, where we present our conceptual decision model for the evaluation of organizational readiness for co-creation for the countries of the CEE administrative tradition. The last section summarizes the results and highlights the final remarks and research implications.

The topicality of the paper is reflected in the multidisciplinary of the theme, as required by systemic wicked societal issues of such kind. The aim of the paper is also to provide a basis for comparison with similar countries and other systems.

## **2. Theoretical basis**

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### **2.1 Co-creation**

Co-creation is the new buzzword promoted in response to the main problems in the aftermath of the 2008 economic crisis. The neoliberal “dictate” characterizing this period has perpetuated the demise of the welfare state and undermined the scope and quality of public services, thus gravely affecting the quality of life and wellbeing of citizens (Selloni 2017). Beside the economic consequences, the crisis has additionally alienated citizens from policy making, thus contributing to the deepening of the democratic deficit – an already endemic problem of modern democracies (Giannone 2015). This has been the context in which co-creation attracted academic and political attention as a way to break this “vicious circle” and help citizens reclaim their position in policy making.

Hence, in contrast to both hierarchical strategies traditionally applied in the public sector (in line with the Weberian model) and competitive strategies featuring in the private sector – which under the pressure of the New Public Management (NPM) have also been introduced in the public sector (Torfing 2019) – co-creation has emerged as a “game changer”, indicating a potential paradigmatic shift towards the New Public Governance (NPG), also labelled as Good (public) Governance (GG). Differently from NPM, where citizens are recognized as customers making rational choices between different service providers, NPG has bestowed them a new role as equal partners of state institutions in the process of creation of high-quality public policies and services (Torfing and Triantafillou 2013). Thus, co-creation has emerged as an idea building on the involvement of a wide range of actors in various stages of the production process and use of their resources (experience, assets, knowledge etc.) for (co-)creation of public value (Voorberg et al. 2015; Farr 2016; Torvinen and Haukipuro 2018)(b).

As such, it has been recognized as the most promising solution to the “wicked problems” of today – a favourite “one-size-fits-all” phrase used by scholars (e.g. Torfing and Sørensen 2019) to capture all political, economic and social challenges faced by governments. At the level of public service delivery systems, co-creation is seen as the path to more effective and efficient public policies, higher user satisfaction and improved quality of public services at a lower cost (Bovaird et al. 2015; Voorberg et al. 2015; Durose and Richardson 2016b; Osborne et al. 2016). In addition, at the higher societal level, the effects of this innovative collaborative practice are recognized as decreased fiscal pressures, strengthened social cohesion, democratized public services, active citizenship, stronger ownership, and democratic legitimacy (Fledderus et al. 2014; Voorberg et al. 2015; Durose and Richardson 2016a; Osborne et al. 2016; Bryson et al. 2017; Touati and Maillet 2018; Wiid and Mora-Avila 2018).

Moreover, the enthusiasm for co-creation as a new emerging concept has also (re)shaped the political discourse at the international level (OECD 2011). The EU, for instance, has embraced this concept as a bottom-up approach that fosters a culture of experimentation and leads to tailor-made solutions, growth, and legitimacy (EU Commission 2012, 2013; European Committee of the Regions 2017). Moreover, the Union has been actively providing financial support for the diffusion of this idea – by financing the work of the Observatory of Public Sector Innovation (OPSI 2020) and five projects under the auspices of the Horizon 2020 programme explicitly referring to co-creation (Co-VAL 2018). In particular, the Observatory of Public Sector Innovation (OPSI 2020) – a forum within the framework of the OECD that gathers civil servants from different countries – bears great potential for a spill-over effect of these ideas from the international to the national level. The hopes for this are high, especially after the adoption of the OECD Declaration on Public Sector Innovation in 2019, which has been signed by 40 countries.

However, despite being recognized as a promising concept, co-creation still lacks a clear definition. This is evident in its ambiguous relationship with other related (older and better established) concepts, in particular co-production (Voorberg et al. 2015; Jukić et al. 2019). Although in reality co-creation and co-production are closely intertwined or, according to Osborne et al. (2016, 644), “co-production is intrinsic to the process of public service delivery and is linked directly to the co-creation of value both for service users and for society”, for the sake of analytical clarity we will try to highlight the main points of departure between the two and thus delineate the main properties of co-creation as a separate theoretical concept.

Namely, in contrast to co-production as a process focused on the improvement of specific services (Kershaw et al. 2017), the goal of co-creation is more ambitious, leading to public value creation (Gebauer et al. 2014; Farr 2016; Putro 2016; Torvinen and Haukipuro 2018). Hence, differently from co-production, which takes place at the service level – usually at the delivery phase of the service production cycle

(Ryan 2012; Pestoff 2014; Alford 2014; Thijssen and Van Dooren 2016; Oldfield 2017; Vennik et al. 2016; Nesti 2018) –, co-creation implies the inclusion of different stakeholders and the exchange of their resources at the higher, i.e. strategic and/or policy, level of change (Sevin 2016; Edelenbos et al. 2018; Torvinen and Haukipuro 2018; Touati and Maillet 2018). In more practical terms, this means that co-creation captures citizens' involvement at the co-initiator and/or co-design level, while co-production refers to citizens' involvement at the co-implementation phase of public services (Voorberg et al. 2015, 1348). Eventually, Torfing et al. (2016) point to "innovation" as the key feature that distinguishes co-creation from co-production. Seen through this prism, co-production is a rather limited concept that implies the improvement of a particular service within its existent format, while co-creation strives to transform the very understanding of a problem and to open the door to new innovative (never before considered) possibilities for its solution.

On this basis, we recognize the definition of Torfing et al. (2016, 8) as the most comprehensive explanation of co-creation "as a process through which two or more public and private actors attempt to solve a shared problem, challenge, or task through a constructive exchange of different kinds of knowledge, resources, competences, and ideas that enhance the production of public value in terms of visions, plans, policies, strategies, regulatory frameworks, or services, either through a continuous improvement of outputs or outcomes or through innovative step-changes that transform the understanding of the problem or task at hand and lead to new ways of solving it." Therefore, we take this definition as the basis for the development of our multi-attribute decision support model aiming to evaluate organizational readiness for co-creation in countries that belong to the CEE administrative tradition.

## **2.2 Administrative traditions and public governance models in CEE countries**

Any administrative reform or innovative approach is inevitably determined by the context in which various changes are proposed. Therefore, reformers need to establish and take into account this context in order to achieve the desired effects. Otherwise, plans and purely imported innovations can be just a dead letter or even counterproductive. Said context is usually recognized as administrative "tradition" or administrative, political, legal "legacy" in an individual country or region. It is highly acknowledged that public administrations differ from each other; moreover, that they represent a certain persistence or an important support for the administrative system to introduce specific administrative innovations (Painter and Peters 2010; Bevir 2011; Kovač and Bileišis 2017; Kuhlmann and Wollmann 2019).

Administrative traditions incorporate various complex variables. They are based on and consist of the historical development of a country or region, its culture, and the role of the state in a society. An administrative tradition is a more or

less enduring pattern in the style and substance of public administration in a particular country or group of countries; it is seen as a composition of both ideas and structures (Painter and Peters 2010, 6ff). Traditions include values and attitudes to administrators and their attitudes to citizens, the understanding of the rule of law, the economic system and prosperity or crises, the difference in power or authoritarian vs. participative orientation towards other stakeholders, the relations between politics and professionalism, law vs. management, de/centralization of authorities, accountability relations, transition processes, etc. The CEE countries, for instance, cope with transition-related issues and are subject to EU requirements, often complementary to their rather small size and hence lack of critical structures and administrative capacity. The same goes for Slovenia and Croatia which, before gaining independence in 1991, had been part of former Yugoslavia with state-captured administrations (Vintar et al. 2013; Kovač and Jukić 2017; Koprić et al. 2014), thus facing challenges such as politicized and too legally oriented administration, lack of coordination in PA and its transparency, undeveloped participation.

There are several categorizations of administrative traditions: the administration-centred or Napoleonic tradition in the French circle, the individual-centred tradition in the Anglo-Saxon setting, the legislator-centred or *Rechtsstaat* tradition in the German circle and in the majority of CEE areas, the ombudsman-centred or Nordic/Scandinavian tradition (Statskontoret 2005, 74–76). A further distinction (Kuhlmann and Wollmann 2019, 71–131) is made between the continental European Napoleonic (French-Italian), continental European federal (German), Nordic, Anglo-Saxon, and Central Eastern with Southern European models or families. Other authors list even more categories (e.g. Painter and Peters 2010, 19–30): Anglo-American, Napoleonic, German, Scandinavian, Latin American, postcolonial South Asian and African, East Asian, Soviet, Islamicist traditions. These traditions mostly correspond to the following dominant public governance models:

- The (neo) Weberian administration, which is highly present in the *Rechtsstaat* or German-Austrian-oriented traditions;
- The (post) NPM that is characteristic of Anglo-Saxony, partly Scandinavia and the Netherlands, in the 1990s also revealed in the CEE reforms, at least in written strategies and individual projects;
- Good (public) governance (GG), including good administration, as a kind of umbrella concept striving for extracting and balancing the best features of other models, advocated by global institutions such as the World Bank and the OECD (Bevir 2011; Koprić et al. 2014; Kovač and Sever 2015; OECD 2017; Tomažević 2019).

Various studies expose specific features of the CEE region. This is due to its mixed legacies, mainly from Germany or Austria and France from centuries ago, combined with Soviet and/or (post)communist or (post)socialist experience in the last decades, and prevalingly still ongoing democratization and modernization processes, several implementation gaps, and the like (Dunn et al. 2006; Meyer-Sah-

ling 2009; Vintar et al. 2013; Koprić et al. 2014; Kovač and Bileišis 2017; Kovač and Jukić 2017). Some authors further diversify more detailed sub/traditions or parallel traditions within a region; for example, in CEE, individual countries present Soviet-Scandinavian, Soviet-Visegrad, French-Soviet, or Austrian-Yugoslavian legacies (Kovač and Bileišis 2017, 471–488). Generally, there is a lower reproductive capacity of administrative traditions in CEE compared to Western European countries (Meyer-Sahling 2009), which inter alia explains the growing yet rather superficial introduction of NPM or GG in Eastern Europe. To analyze this framework, the main public governance models present in Central Europe are further elaborated below (Table 1).

**Table 1**

Administrative traditions and governance models as a framework for co-creation

<i>Based on tradition(s)</i>	<i>Rechtsstaat</i> and partly Napoleonic tradition	Anglo-Saxon and Scandinavian traditions	Global institutions' concepts
<i>Main governance models</i>	(new) Weberian Administration	(post) New Public Management	Good (public) Governance
<i>Prevailing timing</i>	19 <sup>th</sup> –20 <sup>th</sup> century	1980s–early 2000	After 2000
<i>Main principle(s)</i>	Legality	Efficiency & effectiveness, service-orientation	Balancing eight principles, including participation, inclusiveness
<i>Character of PA vs. citizens orientation</i>	Authoritative	Service-oriented	Participative, inclusive
<i>Administration task holders</i>	Purely public administration	Privatization, deregulation	State thorough delegation, participation, collaboration
<i>Interests' determination</i>	Primarily public interest protection	Private interest realization	Balancing public and private interests
<i>Role of PA users</i>	Citizens	Clients	Partners

However, none of the countries in question is governed by a single tradition or governance model, since individual models have shown various benefits but also weaknesses. Dysfunctions relate to politicization and an overloading of the “ought” perspective leading to bureaucracy and formalism *per se* within Weberian concepts, a lack of constitutional state and an erosion of democracy within NPM, while GG leads all relevant stakeholders to enable collaborative governance only in a limited way and presents an outflow of democratic accountability due to networking (Kovač and Jukić 2017). Thus, in most countries, we recognize blended or hybrid and ever changing approaches, recently, for example, oriented towards the digital era. In addition, there is a strong notion of convergence in administrative reforms,

intensified through Europeanization and EU multi-level governance since the early 1990s (Koprić and Kovač 2016; Hammerschmid et al. 2016; Kovač and Jukić 2017). Yet administrative tradition specifics often represent the drivers and barriers to individual and, more so, systemic changes, such as co-creation. Consequently, administrative tradition is reflected in dominant public governance models and approaches that a given supra-, sub- or – most frequently when initiating systemic change – national authority is pursuing.

### 2.3 Towards a multi-attribute decision support model

From the point of view of both research and practice, policy-making is a long-term public decision-making process (Ferretti et al. 2019) presenting several complexities (e.g. De Marchi et al. 2016; Pluchinotta et al. 2019b). In this regard, decision analysts can introduce formal methods aimed to assist decision makers in improving their decision-aiding processes (Tsoukiàs 2007), thus allowing the understanding of the driving and restraining forces.

A decision support model aims at supporting (public or private) managers in taking decisions of various types. In the context of this paper, the decision support model under development aims at supporting public managers in taking the decision whether to implement co-creation or not. Specifically, the decision support model supports the evaluation of organizational readiness or maturity for the (successful) implementation of co-creation. Organizational readiness for co-creation is a complex concept that needs to be measured with various criteria (e.g. change in existing organizational structure and culture – Rutherford and Spurling 2016; Williams, Kang, and Johnson 2016, desire and willingness to co-create – Chaebo and Medeiros 2017; Torvinen and Haukipuro 2018, potential benefits for the organization – Kleinhans 2017, strong political will – Cepiku and Giordano 2014; Griffiths 2013; McCabe 2015, etc.). This calls for the employment of multiple-criteria decision-making methods (MCDM).

There are many different multi-attribute decision-making methods (e.g. Analytic Hierarchy Process – Saaty 1987, Multi-Attribute Utility Theory – Von Winterfeldt and Fischer 1975, Preference Ranking Organization METHOD for Enrichment of Evaluations – Brans and Vincke 1985, etc.). In this paper, the DEX method (Decision EXpert) (Bohanec and Rajkovič 1990) is used due to its few main advantages that are very handy when evaluating organizations (Bohanec et al. 2017).

- DEX is hierarchical, indicating a decomposition of a decision problem into smaller, simpler sub-problems;
- DEX uses symbolic attributes instead of numeric ones;
- DEX has a finite value scale consisting of symbolic values like “low”, “medium” or “high”;

- DEX is rule-based. Evaluation of decision alternatives is defined in terms of decision rules.

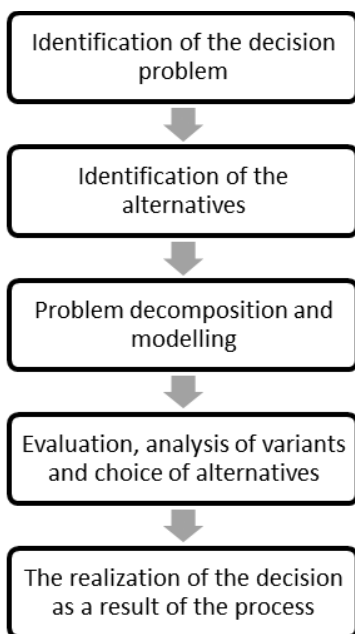
According to Bohanec et al. (2013), a DEX model consists of the following components:

- Attributes/criteria are symbolic variables that represent the basic properties of decision alternatives;
- Scales of attributes are mostly qualitative and preferentially ordered;
- Hierarchy of attributes/criteria represents the decomposition of the complex decision problem into simpler sub-problems;
- Decision rules are utility functions represented in the form of decision tables, which determine the aggregation of lower-level attributes to higher-level ones.

According to Jereb et al. (2003), the most important feature of a successful decision support model is to help the decision maker to make a quality decision in a systematic and organized way.

Several examples of decision-aiding approaches are available (e.g. Tsoukiàs 2008). For instance, Bohanec (2006) states in his book that the process of decision-aiding follows the following steps shown in Figure 1.

**Figure 1**  
Decision aiding steps



### **3. Methodological framework**

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The methodological framework of the paper consists of three steps:

1. Content analysis of WoS papers;
2. Case studies from two CEE countries (Slovenia and Croatia);
3. Development of a conceptual decision support model enabling the evaluation of organizational readiness for co-creation of public services.

The goal of the first two steps was to identify the co-creation drivers and barriers in literature (Step 1) and in practice (Step 2). The results provided inputs for Step 3, where co-creation drivers and barriers were used as attributes in the decision support model.

Each of these steps was conducted based on its own comprehensive methodological approach. In the following subsections, the methodological approaches of the three steps are presented in greater detail.

#### **3.1 Content analysis of Web of Science papers**

A content analysis<sup>3</sup> of WoS papers was conducted in order to identify the co-creation drivers and barriers from literature. The selection of papers in the WoS database followed four criteria: (1) time-span of the papers: 10 years (between 2009 and 2018) that (2) include the terms “co-creation” or “co-production” and (3) are classified under the WoS category: Public Administration, and (4) are written in English.

155 papers were identified based on these criteria. Content analysis was performed on 139 papers. The rest of the papers (16) did not address co-creation/co-production in the context of (core) public administration and were excluded from further analysis.

#### **3.2 Case studies from the CEE region (Slovenia and Croatia)**

A multi-step methodology for the elicitation and analysis of co-creation barriers and drivers in the context of two promising practices from the CEE region was used. Firstly, 19 semi-structured interviews in selected promising cases from two CEE countries (Slovenia and Croatia) were conducted. Secondly, case study reports were analyzed to detect the keywords of the stakeholders’ argumentation and the causal connections among them.

##### *3.2.1 Establishing a context of the case studies*

Slovenia and Croatia both share political, legal and administrative legacies based on the 19<sup>th</sup>-century Austrian and the 20<sup>th</sup>-century Yugoslav heritages. Moreover, they

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<sup>3</sup> A method frequently used in the field of public administration and other social science fields (e.g. Ropret et al. 2018; Kovač and Jukić 2017).



are both full members of the EU (Slovenia since 2004 and Croatia since 2013) and regarded as small states, still struggling with post-socialist transition. Thus, their experiences are also applicable to similar countries in the region.

The case studies analyzed originate from two Slovenian and Croatian cities: Ljubljana and Rijeka. The Slovenian administrative system is two-tiered, meaning that state administration and local self-government are separated; primacy is given to the state government, while local self-government (municipalities) has an instrumental nature (Kovač 2014). The local self-government consists of 212 municipalities, with 11 of them (including Ljubljana) having the status of an urban municipality. Regions have not been established in the Slovenian administrative system, yet. Ljubljana is also the capital of Slovenia with 295,504 residents (out of a total of 2,095,861 residents in Slovenia).

The Croatian local government system, on the other hand, consists of 21 counties, 128 towns/cities and 428 municipalities (European Committee of the Regions 2020). Furthermore, there are four urban agglomerations with seats in Zagreb, Split, Rijeka and Osijek. The urban agglomeration of Rijeka comprises four cities (including Rijeka) and six municipalities. Rijeka is the third biggest Croatian city with 128,384 residents (regionalni.weebly.com 2018).

In both cases, the local self-government entities (i.e. the urban municipality Ljubljana and the city of Rijeka) are responsible for tasks of local importance (e.g. primary health care, kindergartens, primary education, communal services, etc.).

Hence, the two case studies were selected based on the following two criteria:

- Co-creation at the same level of governance - i.e. the local level
- Co-creation in countries that share a (more or less) similar context

One of the key goals of the local self-governance reform that CEE countries introduced after gaining independence and undergoing democratic transformation was to bring citizens closer to decision- and policy-making about the key aspects of their everyday lives. Therefore, the first criteria for the selection of the case studies originated from the presumption that innovative and promising practices of co-creation are more likely to emerge at the local level than at the “distant and alienated” national level of governance.

Moreover, Slovenia and Croatia share similar historical and cultural backgrounds. This common experience represents an important aspect that could affect the potential co-creation drivers and barriers. Hence, with the purpose of building a consistent decision support model relevant for the context in which it will be applied, we decided to base it on two cases that share (more or less) similar conditions.

The Slovenian case was based on the Service for Citizens' Initiatives in the City of Ljubljana – an interactive online tool enabling direct citizens' participation and contribution to the work of the municipality. The web portal, established in 2008,

served as a direct digital channel of communication and access for citizens' initiatives regarding local problems under municipal authority. The Service represents a collaborative innovation tool used by citizens to complement the work of the municipal administration and thus contribute to better public services. Although the Citizens' Initiative Service was officially established in 2003, it is the election of Zoran Janković for Mayor in 2006 and the establishment of the web portal in 2008 that are engraved in the collective memory of the municipal administration as the very beginnings of the Service. In 2008, a more "sophisticated", i.e. IT, solution was designed in the form of a web portal with the purpose to enable a more systematic insight and approach to the local problems raised by citizens. Since 2008, the portal had functioned for almost 10 years before its upgrade in August 2018, which was (again) initiated by the Mayor. The 2018 upgrade, however, did not introduce visible changes for citizens as it was primarily focused on the background system aiming to improve and ease the work of the municipal administration working on citizens' initiatives. The findings of the Slovenian case study derive from nine semi-structured interviews carried out in March 2019 and a qualitative analysis of official municipal acts and strategic documents published on the web page of the Municipality of Ljubljana. The interviews were conducted with civil servants directly involved in the work of the Service and its development.

The Croatian case was conducted in the cultural sector, where the Rijeka 2020 European Capital of Culture (ECoC) project was analyzed. With the Rijeka 2020 EcoC project, the City of Rijeka and the Primorje-Gorski Kotar County aimed to improve the scope and variety of the city's and region's cultural opportunities, expand accessibility and participation in culture, build capacities in the cultural sector and its ties to other sectors, and increase the international visibility as well as the city's and region's profile. The Rijeka 2020 Participatory Programme was identified as one of the most innovative areas of co-creation thanks to the comprehensive citizen participation. Organizations, NGOs, citizens and other stakeholders were included in the EcoC project. The core idea of the Participatory Programme was to actively involve citizens in creating cultural, social and environmental programmes. Specifically, the Programme consisted of two micro-funding programmes (Civil Initiatives and Green Wave), a capacity-building programme (Learning to Build Communities), a participatory decision-making body (Council of Citizens), and RiHub as a physical place for education, meetings, exchange and joint action. The present case study is based on ten semi-structured interviews with representatives of the RIJEKA 2020 LLC (the organization responsible for the implementation of the ECoC project), the City of Rijeka and other related organizations carried out between April and May 2019. In addition, several documents, calls for action, reports and websites were analyzed.

The following table summarizes the key characteristics of the two case studies presented above. Details of the methodology adopted for the interviews and the case study are presented in the deliverables D2.1 (Pluchinotta et al. 2019c) and D2.3

(Cvelić et al. n.d.; Vrbeč 2019) of the COGOV project. It is worth underlining that the analysis presented in this paper represents a further step in the case-study exploration, and the mentioned reports were used as starting points for the analysis.

**Table 2**  
Characteristics of the two case studies analyzed

<b>Case study characteristics</b>	<b>Slovenia</b>	<b>Croatia</b>
<b>Case area</b>	Open government	Culture
<b>Case analyzed</b>	Service for Citizens' Initiatives in the City of Ljubljana	2020 Rijeka European Capital of Culture (ECoC) project
<b>Data-gathering approach</b>	<ul style="list-style-type: none"> <li>• 9 semi-structured interviews</li> <li>• Analysis of municipal acts and strategic documents</li> </ul>	<ul style="list-style-type: none"> <li>• 10 semi-structured interviews</li> <li>• Analysis of municipal documents, project-related websites, calls for action and reports</li> </ul>

In order to maximize the results, an incremental stakeholder identification practice, which is referred to as “snowballing” or “referral sampling”, was implemented (e.g. Reed et al. 2009). Specifically, each interviewed stakeholder suggested the involvement of other stakeholders considering their role in the case study under analysis. Hence, the case of the Service for Citizens' Initiatives relies on nine semi-structured anonymous interviews conducted in the second half of March 2019 among the civil servants from the Municipality of Ljubljana who had been directly involved in the work of the Service and its development. The case of the Rijeka 2020 ECoC project relies on ten semi-structured anonymous interviews carried out in April and May 2019 at the key managerial positions within the RIJEKA 2020 LLC, the City of Rijeka and other related organizations.

### 3.2.2 From interviews and document analysis to Fuzzy Cognitive Maps

In order to elicit and structure stakeholders' knowledge on the promising practices' drivers and barriers, Fuzzy Cognitive Maps (FCMs) were applied (for details on the methodology see Eden and Ackermann 2004; Kok 2009; Özesmi and Özesmi 2004; Pluchinotta et al. 2019). The collected knowledge (i.e. case study reports) was, hence, processed in order to obtain a FCM for each case study (for details on the translation into variables and relationships of a FCM see Giordano et al. 2020; Santoro et al. 2019) the effectiveness of flood risk management strategies is highly dependent on stakeholders' perception and attitudes, which play a critical role on how individuals and institutions act to mitigate risks. Furthermore, practitioners and policy-makers realized that grey infrastructures may not be the most suitable solution to reduce flood risk, and that a shift from grey solutions to Nature Based Solutions is required. Within this framework, the present work describes a methodology to enhance the Nature Based Solutions implementation by facilitating the

generation, acquisition and diffusion of different stakeholders' risk perceptions. It is based on the combination of Problem Structuring Methods for the elicitation of stakeholders' risk perceptions through individual Fuzzy Cognitive Maps, and Ambiguity Analysis for the investigation of differences in risk perceptions and problem framing. The outputs of the Ambiguity Analysis, used during a participatory workshop, facilitated a dialogue aligning the divergences and promoting the social acceptance of Nature Based Solutions. These results of the implementation of this multi-step methodology in the Glinščica river basin (Slovenia).

FCMs are bidirectional graphs with feedback, consisting of nodes (i.e. variables, concepts) describing the main characteristics of the system, and connections between nodes (signed and weighted). Weights of the arcs are in the interval  $[-1,1]$  (Papageorgiou and Kontogianni 2012) E1 and E2 genes of hepatitis C virus (HCV). Afterwards, the FCM are transformed into adjacency matrices (Harary et al. 1965); namely, when a connection exists between two variables of the FCM, the value is coded in a squared asymmetric matrix. Following the principles of graph theory, for each variable of the FCM/matrix a Centrality Index (CI) was computed. The CI allows to identify the most important vertices within a graph, accounting for the complexity of its network of links (Özesmi and Özesmi 2004).

FCM is a well-known tool used in different fields to capture expert knowledge, allowing to identify complex interrelations among elements of the system under investigation (e.g. Ackermann et al. 2014; Olazabal et al. 2018). Within this paper, the use of FCM was mainly aimed at enhancing the potential richness and diversity of the collected knowledge on barriers and drivers of co-creation in the selected countries of the CEE region.

## **4. Presentation of results**

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### **4.1 Co-creation drivers and barriers from literature review**

Based on the analyzed articles we identified the issues relevant for the process of co-creation. Depending on their positive or negative connotation, we identified them either as drivers (positive connotation) or as barriers (negative connotation). The identified drivers and barriers were systematically structured in five categories according to the subject they affect in the process of co-creation: 1) capacity of the organizations, 2) drivers and barriers related to the quality of the relationship between co-creators, 3) drivers and barriers related to internal (public organization) co-creators, 4) drivers and barriers related to external co-creators, and 5) context-related drivers and barriers. A detailed interpretation of those categories was made by Vrbek and Pluchinotta (2020). Such a categorization of drivers and barriers also showed that barriers are mostly opposite to drivers, which is why in the presentation of drivers and barriers only drivers and barriers without a positive counterpart among drivers are presented. This structure is the basis for developing

a decision support model. Two of those categories (2. drivers and barriers related to the quality of the relationship between co-creators and 4. drivers and barriers related to external co-creators) were not included in the decision support model for the evaluation of organizational readiness for co-creation.

This decision followed a thorough analysis of their relevance for the organizational capacity and properties of a public organization. Only drivers and barriers recognized to embed the organizational aspects that a public organization should have to be able to conduct co-creation were included in the model. Precisely, the “drivers and barriers related to external co-creators” were excluded for referring to intrinsic features and perceptions of external co-creators (e.g. citizens and third-sector organizations), which are impossible to assess by public servants – the prime users of this model. Moreover, the “drivers and barriers related to the quality of the relationship between co-creators” did not relate to the organizational aspects of a public institution, but to the relationship developed among (external and internal) co-creators in the context of a specific act of co-creation. As such, this “relationship” captured the activities undertaken and the perceptions among co-creators during a specific act of co-creation, rather than the organizational properties and the capacity of the organization under which the process took place (i.e. the prime focus of the model).

The drivers and barriers within the category “capacity of the organization” refer to the structural characteristics of the organization, communication between the public organization and stakeholders, strategic orientation of the organization, and available resources. A key driver identified within this category is “readiness for change of existing institutional structure and culture” (Rutherford and Spurling 2016; Williams et al. 2016). On that note, a multi-stakeholder, decentralized and polycentric governance featuring less centralized and highly connected structures is suggested (Cepiku and Giordano 2014; Durose and Richardson 2016c), as this kind of governance structure and environment stimulates collaboration over competition and citizen empowerment, which enables a high degree of freedom of action and autonomy of the decision-making required for successful co-creation (Surva et al. 2016; Lindsay et al. 2018a). Collaboration can be successful if a continuous two-way channel of communication exists, as it provides regular and direct interaction with external stakeholders (Barbera et al. 2016; Tu 2016). The relationship between the public organization and citizens should be built on trust and equality (Saha 2012; Burall and Hughes 2016; Cho et al. 2016; Sicilia et al. 2016; Tu 2016; Andersen et al. 2017; Kane and Boulle 2018; Lindsay et al. 2018a, 2018c; Wiid and Mora-Avila 2018), and rely on mutual understanding and constructive interaction (Surva et al. 2016; Edelenbos et al. 2018; Kane and Boulle 2018), where all parties involved clearly identify the expected outcomes and each other’s goals and effectively understand and value each other’s wants (Fledderus et al. 2014; Isett and Miranda 2015; Putro 2016; Tu 2016; Tuurnas 2016). According to several authors (e.g. Dunston et al. 2009; Pill and Bailey 2012; Sicilia et al. 2016; Surva et al. 2016), public organiza-

tions will be able to co-create if they not only have appropriate financial and human resources, but are also willing to invest in capacity-building and training. Unfortunately, the lack of evidence within the public organization that co-creation has a positive effect, the misalignment of resources, and the use of productivity targets instead of quality ones can have a negative impact on the process (Baker and Irving 2016; Bovaird and Loeffler 2016; Martin 2018).

The category of drivers and barriers related to internal (public organization) co-creators refers to the competences, mind-set and autonomy of public-organization employees. The main barriers in this category are the fear that they would have an increased workload (Nesti 2018) and that the process of co-creation could reveal the existing structural/organizational flaws (Meričkova et al. 2015). Regardless of that, public servants should change their perception about citizens as they change from passive subject to active agents (Dunston et al. 2009; Griffiths 2015), where all participants work toward a common goal (Lam and Wang 2014; Ostling 2017; Lindsay et al. 2018a). The change of perception relates to how public-organization co-creators understand co-creation beyond mere consultation and formal participation and whether they are aware of the benefits that collaboration with the public might have. Moreover, they should also have the skills to participate and experiment in such a process and be open to surprises (Dunston et al. 2009; Duijn et al. 2010; Strokosch and Osborne 2016; Durose and Richardson 2016c). As public servants should be open to surprises, they also need to enjoy a certain level of flexibility and autonomy in terms of taking decisions during the process of co-creation (Lindsay et al. 2018b). As there are plenty of participators in co-creation, a skilled/trained facilitator should also be included, who can guide participants to better articulate their positions, manage conflict, reconcile different needs/desires, and achieve mutual agreements (Duijn et al. 2010; Meričkova et al. 2015; Howell and Wilkinson 2016; Jones et al. 2016; Rose 2016; Sicilia et al. 2016; Oldfield 2017; Kane and Boule 2018). An important driver in the context of working toward a common goal is the desire to enhance the public image of the organization (Vennik et al. 2016). Finally, the public image can be enhanced also if high-profile public servants take up the role of advocates of co-creation (Griffiths 2015; Strokosch and Osborne 2016).

The last category, represented by context related drivers and barriers, refers to the political support, legislation and regulation, and wider collaborative environment and international support. According to several authors (e.g. Burall and Hughes 2016; Voorberg et al. 2017a), less defined policy areas, where neither the government nor other actors have clear solutions, are more suitable for co-creation. The implementation of co-creation will also be easier if there is a strong political will at the highest political level (Griffiths 2015; Cepiku and Giordano 2014; Burall and Hughes 2016; McCabe 2015; Strokosch and Osborne 2016), if co-creation is already introduced at some level in the system, and if the idea enjoys strong international support (Dunston et al. 2009; Kekez 2018). According to Voorberg et al. (2017b), the type of administrative tradition in the country will also have an impact

on the acceptance of co-creation because some are more favourable for the process of co-creation than others. On the other hand, there are some barriers that can affect successful co-creation, such as cold fiscal climate, i.e. budgetary restrictions and austerity measures implemented at the national level (Lum et al. 2016; Martin 2018; Pearson et al. 2018).

## 4.2 FCM Maps

The following section presents the analysis of the barriers and drivers of co-creation elicited from the two case studies from the CEE region.

### 4.2.1 Case study from Slovenia

Figure 2 shows FCM variables and relationships according to the stakeholders' understanding. Table 3 lists the variables, each variable's unique ID, and the related centrality index (CI).

Several drivers of the Service for Citizens' Initiatives in Ljubljana were mentioned by the interviewees. The main one was "Long term community-oriented objectives" (A5) (high CI) caused by the "Strong leadership of the Mayor" (A7), the "Awareness among Civil Servants of the importance of their work" (A8), and the "Willingness to invest in the Service" (A6), highlighting the importance of the role of the Mayor. Furthermore, the "Negative image of the Municipality" (A11) and the related "Motivation among civil servants to support the reform" (A9) and (A8) were considered key drivers to the "Improvement of the Service".

According to the respondents in the Slovenian case study, the variable "workload" (A16) represented the main barrier. It was described as an increased workload related to the 2018 upgrade of the Service for Citizens' Initiatives in Ljubljana and symbolized the fear of an additional burden for the municipal employees. It is interesting to observe that, although the barrier "Suitable internal organizational structure" (A15) causes the same effects (i.e. "Inconsistent and contradictory responses to same/similar citizens' initiatives" (A12), "Delayed answers" (A13) and "Lost and unanswered initiatives" (A14)) as the key barrier (A16), the respondents did not consider it similarly important (low CI). Other barriers with lower CI are: "Adaptation period to the new system" (A4) and "Service's cost" (A17).





**Table 3**

List of drivers and barriers of the Slovenian case study and related CI

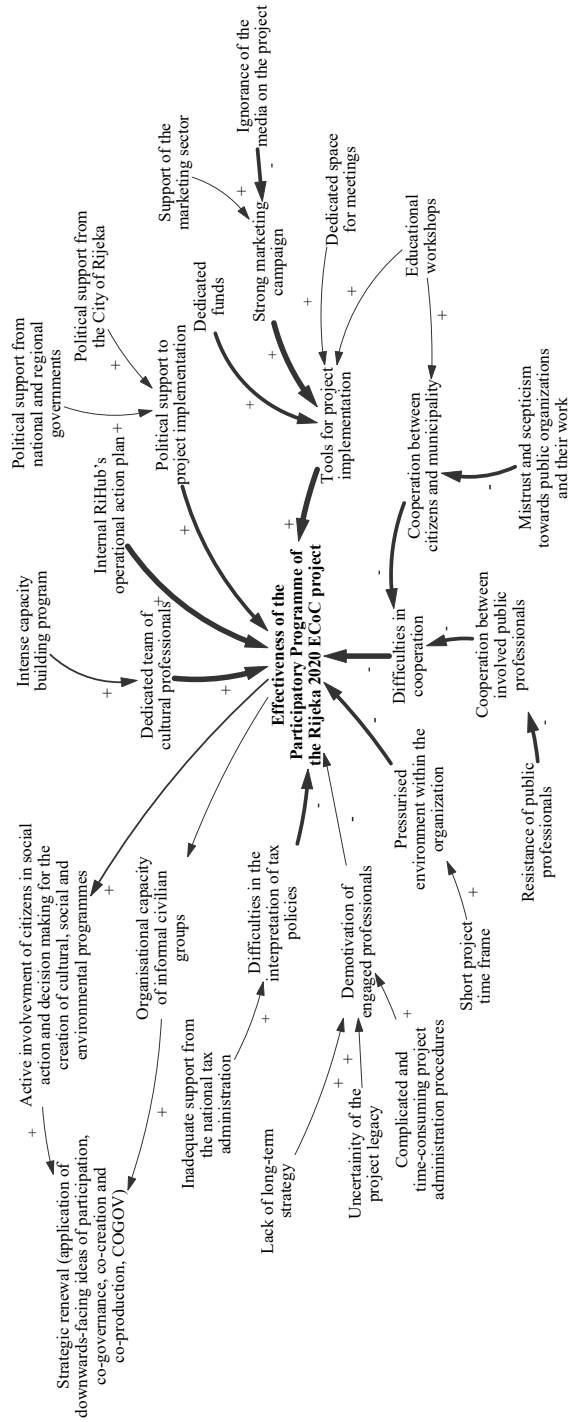
ID	VARIABLE	CLUSTER	CI
A3	Effectiveness of the Service for Citizens' Initiatives in the City of Ljubljana	Main Objective	3.20
A16	Workload	Barrier	2.50
A10	Improvement of the Service (upgrade 2018)	Objective	2.30
A5	Long term community-oriented objectives	Driver	1.90
A8	Awareness among Civil Servants of the importance of their work	Driver	1.70
A11	Negative image of the Municipality	Driver	1.50
A2	Better and easier access of Citizen's initiatives	Objective	1.40
A6	Willingness to invest in the Service	Driver	1.40
A7	Strong leadership of the Mayor	Driver	1.40
A9	Motivation among Civil Servants to support the reform	Driver	1.30
A12	Inconsistent and contradictory responses to same/similar citizens' initiatives	Barrier	1.10
A13	Delayed answers	Barrier	1.10
A14	Lost and unanswered initiatives	Barrier	1.10
A15	Suitable internal organizational structure	Barrier	0.90
A17	The Service's cost	Barrier	0.80
A1	Collaboration with Citizens and contribution to a better public service	Objective	0.70
A4	Adaptation period to the new system	Barrier	0.50

#### 4.2.2 Case study from Croatia

The following FCM represents the drivers and barriers identified among the stakeholders during the interviews. The related CI for each variable and its unique ID is reported in Table 4, together with a graphical representation of their relationships (Figure 3).

According to the respondents, the main barriers in the implementation of the Rijeka 2020 ECoC project were generally related to any kind of "Difficulties in cooperation" (A10), for example "between citizens and a municipality" (A13) and "Cooperation between involved public professionals" (A11). "Mistrust and scepticism towards public organizations and their work" (A14) and the "Resistance of public professionals" (A12) were mentioned as the main causes. The barrier "Demotivation of engaged professionals" (A4) was also considered a key element influencing the ECoC Programme. Other key barriers influencing the effectiveness

**Figure 3**  
Drivers and barriers of co-creation for the Rijeka 2020 ECoC project (Croatia)



**Table 4**

List of drivers and barriers of the Rijeka 2020 ECoC project and related CI

<b>ID</b>	<b>VARIABLE</b>	<b>CLUSTER</b>	<b>CI</b>
A1	Effectiveness of the Participatory Programme of the Rijeka 2020 ECoC project	Main Objective	4.90
A16	Tools for project implementation	Driver	2.50
A10	Difficulties in cooperation	Barrier	1.70
A18	Strong marketing campaign	Driver	1.50
A13	Cooperation between citizens and municipality	Driver	1.30
A4	Demotivation of engaged professionals	Barrier	1.20
A22	Political support to project implementation	Driver	1.10
A11	Cooperation between involved public professionals	Driver	1.00
A26	Dedicated team of cultural professionals	Driver	1.00
A8	Pressurized environment within the organization	Barrier	0.80
A25	Internal RiHub's operational action plan	Driver	0.70
A15	Educational workshops	Driver	0.60
A2	Difficulties in the interpretation of tax policies	Barrier	0.50
A12	Resistance of public professionals	Barrier	0.50
A14	Mistrust and scepticism towards public organizations and their work	Barrier	0.50
A19	Dedicated funds	Driver	0.50
A20	Ignorance of the media on the project	Barrier	0.50
A3	Inadequate support from the national tax administration	Barrier	0.30
A5	Lack of long-term strategy	Barrier	0.30
A6	Uncertainty of the project legacy	Barrier	0.30
A7	Complicated and time-consuming project administration procedures	Barrier	0.30
A9	Short project time frame	Barrier	0.30
A17	Dedicated space for meetings	Driver	0.30
A21	Support of the marketing sector	Driver	0.30
A23	Political support from the City of Rijeka	Driver	0.30
A24	Political support from national and regional governments	Driver	0.30
A27	Intense capacity building programme	Driver	0.30

of the Programme were “Demotivation of engaged professionals” (A4) (caused by “Lack of long-term strategy”, “Uncertainty of the project legacy” and “Complicated and time-consuming project administration procedures”) and “Ignorance of the media on the project” (A20).

On the other side, the “Tools for project implementation” (A16) was indicated as the key driver of the ECoC Programme implementation. Moreover, “Political support to project implementation” (A22) and the presence of the “Internal RiHub’s operational action plan” till 2021 (A25) were mentioned as beneficial aspects of the promising practice. Lastly, the participants stated that the ECoC Programme relied on a “Strong marketing campaign” (A18), “Dedicated funds” (A19), and “Dedicated space for meetings” (A17).

## **5. Multi-attribute decision model**

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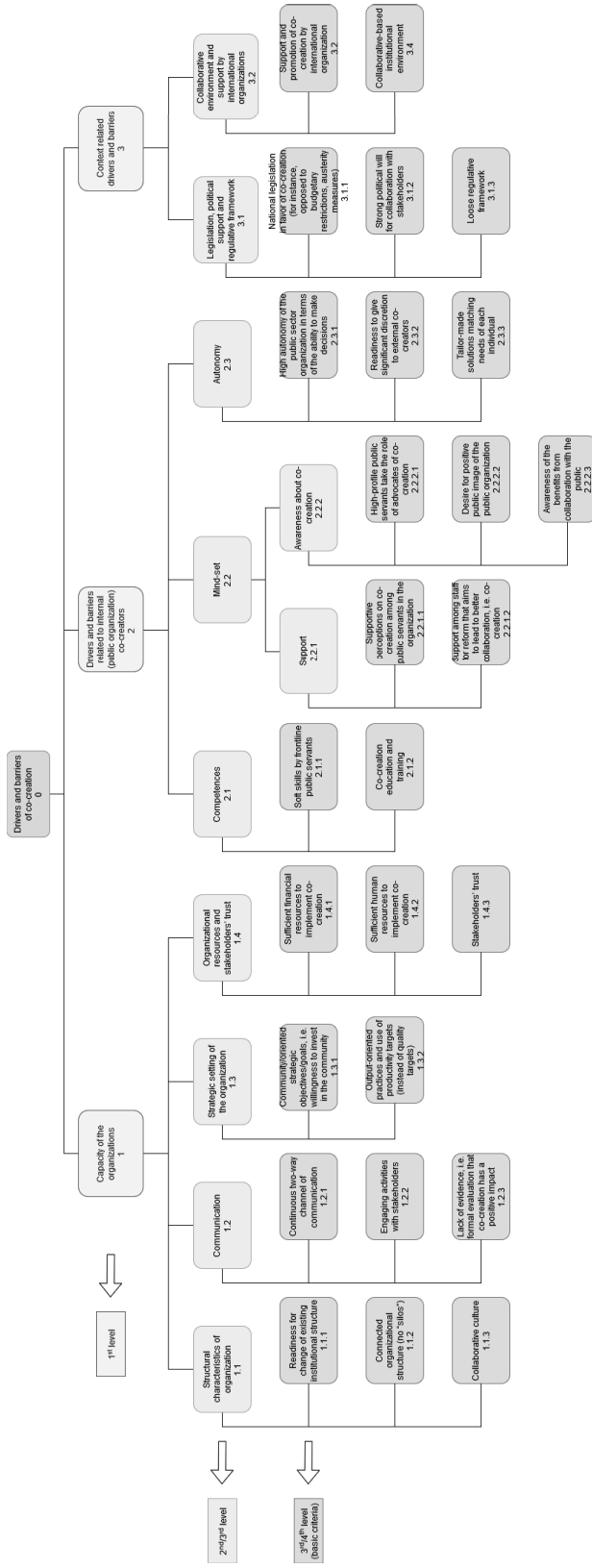
Based on a detailed analysis of two case studies from the CEE region (Slovenia and Croatia) and content analysis of WoS papers, co-creation drivers and barriers were identified. These drivers and barriers were used as criteria for a multi-attribute decision support model for the evaluation of organizational readiness for co-creation of the organizations in the CEE region.

The proposed decision model takes into account the categorization of drivers and barriers from the content analysis and case studies with few adjustments. We excluded two categories related to “quality of the relationship between co-creators” and “external co-creators” as they do not relate to the organizational aspects of a public institution or cannot be evaluated by the end-users. The category “quality of the relationship between co-creators” relates to a specific relationship developed among external and internal co-creators, while the category “external co-creators” refers to intrinsic features and perceptions of external co-creators (e.g. citizens and third-sector organizations). As we wish to ensure a universal application of the model across CEE administrative traditions, drivers and barriers should not be exclusive to a specific national context and related to a specific project.

On this basis, the decision support model for the evaluation of organizational readiness for co-creation of the organizations in the CEE region was developed as a hierarchical, tree-like structure embedding the drivers and barriers divided into three main categories: capacity of the organization, drivers/barriers related to internal (public-organization) co-creators, and context-related drivers and barriers. The structure of the decision support model is shown in Figure 4.

From Figure 4 we can deduce which attributes are basic and which are derived attributes. An example of a basic attribute is “Collaborative culture” (1.1.3) since it represents the final node or leaf. The decision maker is required to enter the values for those attributes. Other attributes are derived as they are aggregated nodes of the model. Based on decision rules or utility functions, which are represented in

**Figure 4**  
Structure of the decision support model



decision tables, we can aggregate the values from the basic attributes to the highest attribute, which represents the final evaluation of the organizational readiness for co-creation of the organizations in the CEE region.

In the next few tables, we will present whether the criteria were identified through the content analysis of WoS papers or through the detailed analysis of two cases from the CEE region.

Table 5 presents the criteria in the aggregated attribute “Structural characteristics of organization” 1.1.

**Table 5**  
Aggregated attribute “Structural characteristics of organization”

<b>Criteria</b>	<b>Source</b>
<b>Readiness for change of existing institutional structure 1.1.1</b>	Case study (Slovenia) and literature
<b>Connected organizational structure (no “silos”) 1.1.2</b>	Case study (Slovenia) and literature
<b>Collaborative culture 1.1.3</b>	Literature

Table 6 shows the criteria in the aggregated attribute “Communication” 1.2.

**Table 6**  
Aggregated attribute “Communication”

<b>Criteria</b>	<b>Source</b>
<b>Continuous two-way channel of communication 1.2.1</b>	Literature
<b>Engaging activities with stakeholders 1.2.2</b>	Case study (Croatia), Literature
<b>Lack of evidence, i.e. formal evaluation that co-creation has a positive impact 1.2.3</b>	Literature

Table 7 shows the criteria in the aggregated attribute “Strategic setting of the organization” 1.3.

**Table 7**  
Aggregated attribute “Strategic setting of the organization”

<b>Criteria</b>	<b>Source</b>
<b>Community/oriented strategic objectives/goals, i.e. willingness to invest in the community 1.3.1</b>	Case study (Slovenia, Croatia), Literature
<b>Output-oriented practices and use of productivity targets (instead of quality targets) 1.3.2</b>	Literature

Table 8 shows the criteria in the aggregated attribute “Organizational resources and stakeholders’ trust” 1.4.

**Table 8**  
Aggregated attribute “Organizational resources and stakeholders’ trust”

<b>Criteria</b>	<b>Source</b>
<b>Sufficient financial resources to implement co-creation 1.4.1</b>	Case study (Slovenia, Croatia), Literature
<b>Sufficient human resources to implement co-creation 1.4.2</b>	Case study (Slovenia, Croatia), Literature
<b>Stakeholders’ trust 1.4.3</b>	Case study (Croatia),

Table 9 shows the criteria in the aggregated attribute “Competences” 2.1.

**Table 9**  
Aggregated attribute “Competences”

<b>Criteria</b>	<b>Source</b>
<b>Soft skills by frontline public servant 2.1.1</b>	Literature
<b>Co-creation education and training 2.1.2</b>	Literature

Table 10 shows the criteria in the aggregated attributes “Support” 2.2.1 and “Awareness about co-creation” 2.2.2, which are part of the aggregated attribute “Mind-set” 2.2. Those criteria are aggregated in another aggregated attribute because of DEX limits (too many decision rules because we have 5 criteria with 3 choices –  $3^5 = 243$  decision rules)

**Table 10**  
Aggregated attribute “Mind-set”

<b>Criteria</b>	<b>Source</b>
<b>Supportive perceptions on co-creation among public servants in the organization 2.2.1.1</b>	Case study (Croatia), Literature
<b>Support among staff for reform that aims to lead to better collaboration, i.e. co-creation 2.2.1.2</b>	Case study (Slovenia)
<b>High-profile public servants take the role of advocates of co-creation 2.2.2.1</b>	Literature
<b>Desire for positive public image of the public organization 2.2.2.2</b>	Case study (Slovenia, Croatia), Literature
<b>Awareness of the benefits from collaboration with the public 2.2.2.3</b>	Case study (Slovenia), Literature

Table 11 shows the criteria in the aggregated attribute “Autonomy” 2.3.

**Table 11**  
Aggregated attribute “Autonomy”

<b>Criteria</b>	<b>Source</b>
<b>High autonomy of the public-sector organization in terms of the ability to make decisions 2.3.1</b>	Literature
<b>Readiness to give significant discretion to external co-creators 2.3.2</b>	Literature
<b>Tailor-made solutions matching needs of each individual 2.3.3</b>	Literature

Table 12 shows the criteria in the aggregated attribute “Legislation, political support and regulative framework” 3.1 and “Collaborative environment and support by international organizations” 3.2, which are part of the aggregated attribute “Context-related drivers and barriers” 3. Those criteria are also aggregated because of DEX limits (too many decision rules because we have 5 criteria with 3 choices).

**Table 12**  
Aggregated attribute “Context-related drivers and barriers”

<b>Criteria</b>	<b>Source</b>
<b>National legislation in favour of co-creation (for instance opposed to budgetary restrictions, austerity measures) 3.1.1</b>	Case study (Croatia)
<b>Strong political will for collaboration with stakeholder 3.1.2</b>	Case study (Slovenia, Croatia), Literature
<b>Loose regulative framework 3.1.3</b>	Case study (Croatia), Literature
<b>Collaborative-based institutional environment 3.2.1</b>	Literature
<b>Support and promotion of co-creation by international organization 3.2.2</b>	Literature

For each of the basic criteria presented, a question was defined to be answered with No, Partially or Yes. The aggregated attributes on the first level or main categories have a five-point scale (Poor, Average, Good, Very good and Excellent), while other aggregated attributes have a three-point scale (Poor, Average and Good). Higher levels of the decision tree must have a bigger scale.

An example of decision rules for the category aggregated attribute “Structural characteristics of organization” is shown in Figure 5. Exemplary rules show that an organization would score Good for this aggregated attribute only if two basic attri-



**Figure 5**  
Decision rules for the aggregated attribute “Structural characteristics of organization”

	Readiness for change of existing institutional structure 33%	Connected organizational structure (no “silos”) 33%	Collaborative culture 33%	Structural characteristics of organization
1	No	No	<=Partially	Poor
2	No	<=Partially	No	Poor
3	<=Partially	No	No	Poor
4	No	*	Yes	Average
5	<=Partially	<=Partially	Yes	Average
6	*	No	Yes	Average
7	No	>=Partially	>=Partially	Average
8	<=Partially	Partially	>=Partially	Average
9	<=Partially	>=Partially	Partially	Average
10	*	Partially	Partially	Average
11	No	Yes	*	Average
12	<=Partially	Yes	<=Partially	Average
13	*	Yes	No	Average
14	Partially	<=Partially	>=Partially	Average
15	Partially	*	Partially	Average
16	>=Partially	No	>=Partially	Average
17	>=Partially	<=Partially	Partially	Average
18	Partially	Partially	*	Average
19	Partially	>=Partially	<=Partially	Average
20	>=Partially	Partially	<=Partially	Average
21	>=Partially	>=Partially	No	Average
22	Yes	No	*	Average
23	Yes	<=Partially	<=Partially	Average
24	Yes	*	No	Average
25	>=Partially	Yes	Yes	Good
26	Yes	>=Partially	Yes	Good
27	Yes	Yes	>=Partially	Good

butes scored Yes and the third one scored at least Partially. An organization would score Poor only if two basic attributes scored No and the third attribute scored Partially or No. In all other cases, an organization would score Average.

**Figure 6**  
Evaluation of two examples

Option	Selected organization 1	Selected organization 2
. Drivers and barriers of co-creation	Average	Good
.. Capacity of the organizations	Good	Average
... Structural characteristics of organization	Average	Average
.... Readiness for change of existing institutional structure	Yes	Partially
.... Connected organizational structure (no "silos")	Yes	No
.... Collaborative culture	No	Yes
... Communication	Poor	Average
.... Continuous two-way channel of communication	No	No
.... Engaging activities with stakeholders	No	Partially
.... Lack of evidence, i.e. formal evaluation that co-creation has a positive impact	No	Partially
... Strategic setting of the organization	Good	Poor
.... Community-oriented strategic objectives/goals, i.e. willingness to invest in the community	Partially	Partially
.... Output-oriented practices and use of productivity targets (instead of quality targets)	Yes	No
... Organizational resources and stakeholders' trust	Average	Average
.... Sufficient financial resources to implement co-creation	Yes	Yes
.... Sufficient human resources to implement co-creation	Yes	No
.... Stakeholders' trust	No	No
.. Drivers and barriers related to internal (public organization) co-creators	Average	Good
... Competences	Average	Average
.... Soft skills by frontline public servants	Yes	Yes
.... Co-creation education and training	No	No
... Mind-set	Average	Average
... Support	Poor	Average
.... Supportive perceptions on co-creation among public servants in the organization	No	No
.... Support among staff for reform that aims to lead to better collaboration, i.e. co-creation	Partially	Yes
.... Awareness about co-creation	Good	Average
.... High-profile public servants take the role of advocates of co-creation	Yes	Partially
.... Desire for positive public image of the public organization	Partially	Yes
.... Awareness of the benefits from collaboration with the public	Yes	Partially
... Autonomy	Poor	Average
.... High autonomy of the public sector organization in terms of the ability to make decisions	No	Partially
.... Readiness to give significant discretion to external co-creators	No	No
... Tailor-made solutions matching needs of each individual	Partially	Partially
.. Context related drivers and barriers	Average	Very good
... Legislation, political support and regulative framework	Poor	Good
.... National legislation in favor of co-creation (for instance opposed to budgetary restrictions, austerity measures)	Partially	Yes
.... Strong political will for collaboration with stakeholders	No	Partially
.... Loose regulative framework	No	Yes
... Collaborative environment and support by international organizations	Average	Average
.... Collaborative-based institutional environment	Yes	No
.... Support and promotion of co-creation by international organization	No	Yes

Figure 6 shows the evaluation based on two synthetic examples. The values for the basic criteria were randomly selected using the random generator. We can see that Selected organization 2 has a higher final score (Good) than Selected organization 1 (Average) because the aggregated criteria on the first level score higher. Selected organization 2 scores Average (Capacity of the organizations), Good (Drivers and barriers related to internal (public-organization) co-creators) and Very good (Context-related drivers and barriers), while Selected organization 1 scores Good (Capacity of organization), Average (Drivers and barriers related to internal (public-organization) co-creators) and Average (Context-related drivers and barriers).

The decision model does not only enable decision makers to see their final score for organizational readiness for co-creation, but also enables others to compare different alternatives (organizations) over selected criteria. For example, if

there was a need to choose the most suitable organization according to organizational readiness for co-creation, the end-user would be able to choose the right alternative.

## 6. Conclusions

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Co-creation has a potential to re-shape the traditional relationship between the state and its stakeholders (i.e. citizens, businesses and NGOs). It is often perceived to likely overcome the societal challenges (environmental, health/ageing, social). Thus, it is not surprising that this concept has gained considerable political and academic interest in the last decade. However, when implementing new methods in the PA environment, the context (i.e. its administrative tradition) should be considered first, rather than just copying methods proved to be successful in the Anglo-Saxon and Scandinavian administrative contexts into the environments with a *Rechtsstaat* background (CEE region), for example. It is for this reason that organizational maturity/readiness is to be evaluated before testing new governance methods. This holds true for co-creation as well, as it has mainly been exercised in Anglo-Saxon and Nordic administrative traditions with a stronger tradition of citizen participation/collaboration compared to the CEE region.

This was the main motivation for the analysis of co-creation drivers and barriers in the CEE region in this paper. The research presented was guided by two research questions:

**RQ1:** *What are the drivers and barriers that facilitate and impede co-creation in the CEE region?*

**RQ2:** *How can the identified drivers and barriers be applied to build a multi-attribute decision support model for the evaluation of co-creation organizational readiness in the CEE context?*

In searching for the answer to RQ1, we managed to identify three main groups of co-creation drivers and barriers based on an in-depth content analysis of WoS papers and on the two case studies performed in two CEE countries (Slovenia and Croatia): (1) Capacity of the organization, (2) Drivers and barriers related to internal (public organization) co-creators, and (3) Context related drivers and barriers. Each of these groups has its own set of drivers and barriers related to the main group. This led us to the answer to RQ2. Being able to categorize co-creation drivers and barriers in the CEE region into three main groups in a hierarchical manner, we decided to develop a conceptual multi-attribute decision support model supporting the evaluation of organizational readiness for co-creation based on the DEX method. The latter is based on the decomposition of a complex problem (in our case, co-creation readiness at the organizational level) into a simpler problem – in our example, three levels of co-creation drivers and barriers organized hierarchically in

a way that each lower level contributes to the evaluation of the corresponding higher level. The scale used to measure each driver/barrier (i.e. attribute in the decision support model) is qualitative and unified for all attributes (yes/no/partially).

While the presented case studies originate from open government and culture areas, the drivers and barriers identified are similar to those extracted in the fields of education, housing and health in other CEE countries (Nemec et al. 2019; Murray Svidronova et al. 2019) from a style of delivery dominated by the public sector to a more efficient, more effective mixed system, characterised by variations in ownership and sources of financing. Concepts such as public-private-civil sector mix, partnerships, co-operation, and co-creation have emerged as ways of organising public-services production and delivery. Our case deals with co-production via the involvement of the third sector in welfare services. The goal of this paper is to map the real relations between public bodies and the non-governmental sector in the co-production of welfare services in two newer EU member countries – Hungary and Slovakia. The information obtained suggests that the examples of good practice exist, but at a global level the quality of partnership between the government and the non-governmental sector is problematic. The study also highlights important drivers and barriers determining the quality of collaboration and the results of projects – limited resources (mostly financial. This gives an additional validation of the model.

Before the practical implementation of the model, its attributes need to have defined weights, as not every co-creation driver/barrier is equally relevant in the final evaluation of co-creation readiness. This is part of our plan for future research. Nevertheless, the model presented in this paper still offers a great starting point for public managers in the CEE region when considering the implementation of co-creation with external stakeholders in their organizations.

We believe that there is a potential for future research to address various co-creation points of view through the lenses of administrative tradition in which co-creation (or any other method) is studied and/or implemented. Nevertheless, future research (and practice) should focus on the digital tools supporting co-creation – not only the measurement of co-creation readiness, but also other stages following the readiness evaluation, for example: (1) supporting the selection of services suitable for renewal based on co-creation principles; (2) supporting the whole interactive process of co-creation, and (3) evaluation of the co-creation process.

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# Multi-level Governance and Internally Displaced Persons Policy in Ukraine: Bridging the Gap between the Global and Local; Governmental and Civic

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## Abstract

This paper examines the means by which Ukraine has sought to address a critical and highly complex unanticipated policy problem. This is the emergence of almost 2 million internally dislocated people (IDPs) within the country in 2014 as a consequence of major, highly violent and continuing border conflict in the country's South and East. In large part, as a consequence of its financial and administrative circumstances, Ukraine has addressed this situation in what has been a relatively unique manner for the country, relying upon organizations other than a central government ministry to shape and implement critically important policy and service delivery. This paper documents and maps both the extensive array of organizations whose involvement has gradually led to the emergence of what has become essentially a fledgling system of multi-level governance (MLG) which has been critical to the nation's success in addressing the very difficult and complex policy problems created by massive internal dislocation. In so doing, the paper explores MLG, both theoretically and as it has developed in actuality, in terms of Ukraine's response to the critical problems posed by the need to address its large and serious IDP crisis. The paper also examines the issue of community adaptation by IDPs and develops two models of community response. In order to do this, the paper relies

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upon historical review, comparative analysis, personal interviews and the use of expert focus groups.

**Keywords:**

Ukraine; global governance; internally displaced persons (IDPs); multi-level governance (MLG); adaptation; United Nations.

## **1. Introduction**

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In late February 2014, Ukraine was confronted with a major challenge to its territorial integrity as a consequence of violent conflict initiated in both Crimea and along its Eastern border. The fighting in Crimea resolved quickly as Ukrainian military and security forces were unable to maintain control of that historically militarily and politically strategic peninsula in the face of an overwhelming force of combined foreign troops and some local militia. However, continuing violent conflict in the Eastern part of the country, where Ukraine shares a border with Russia, remains the norm, even if at reduced level, to the present. Among the most notable results of this continuing conflict has been the death of over 14,000 individuals and the internal displacement to other parts of the country, at one time or another, of up to 2 million Ukrainian citizens, many of whom were elderly and with limited resources. The purpose of this paper is to examine how the need to address its IDP problem led to the emergence of a system of multilevel governance that has proven particularly effective in mitigating the potentially disastrous consequences of this situation.

For a nation that has struggled greatly, both economically and politically, since gaining its independence upon the demise of the Soviet Union three decades ago, the displacement of so many people within its borders has created many major challenges. In addition to massive human tragedy, there have been very great continuing national financial and administrative difficulties. This has been a critical challenge for a country that, since its establishment, has struggled to achieve effective, efficient and transparent governance at both its national and subnational levels. A particular problem has been the socio-economic consequences for those who have been displaced. As a recent report from the Migration Population Institute noted, the great majority of the displaced individuals come from that region of the country which has traditionally had the highest income. However, the income for a typical displaced family now is half of the national average (Jaroszewicz 2019).

Nevertheless, despite many difficulties, and a large number of hurdles still being overcome, over the past half dozen years, progress has been made in addressing the numerous problems created as a result of Ukraine's large number of internally displaced persons (IDPs). Indeed, as various studies have found, many IDPs have become integrated into the communities to which they fled and now intend to remain in their new communities. This contrasts very significantly with prior comparable experiences. For example, studies have shown that individuals displaced by

the Chernobyl disaster were still struggling with their displacement almost 30 years after the event (Torbin and Voronenkov 2013).

However, addressing the many IDP issues raised by the continuing reality of violent conflict, even of low intensity, has presented, and continues to present, a serious challenge to the Ukrainian government. Equally significantly, the consequences, both for those displaced, and the many more Ukrainians continuing to be impacted by the ongoing conflict, are great. Communities and families divided, both physically and emotionally, major economic devastation and the continuing threat of occasional unpredictable attacks still are the norm. Indeed, a United Nations report has suggested that close to 3 1/2 million individuals who live near the conflict line currently are in need of some form of humanitarian assistance (UNOCHA 2019).

Particularly critical has been the issue of human security in the face of the violent disruption of routine ways of life and the great personal insecurity that provided for all those so victimized. As a recent report of the International Criminal Court has pointed out, the conflict, especially in Eastern Ukraine, most notably attributable to the initiatives of antigovernment forces, has involved not only armed violence directed against the civilian population, but also specific cases of murder, rape and torture. A 2016 report by UNICEF found that one in five schools in the conflict area had been destroyed or damaged putting large numbers of children in harm's way (International Criminal Court 2019).

As many reports by international bodies and organizations have shown, underlying IDP data are individual stories of massive human tragedy (Kuznetsova et al. 2018). Such realities would represent a major challenge to governmental institutions under even the best of circumstances. Recent events in the Middle East and Europe, and the events of a quarter century ago in former Yugoslavia, more than demonstrate the terrible complexity of effectively addressing major violence-forced human displacement, whether internal or external. For a government such as Ukraine's, with relatively young institutional structures, plagued by historic problems of corruption and instability, and increasingly caught up in what, in many respects, amounts to a renewal of cold war struggles between Russia and the United States, not to mention recently having been unwittingly drawn into very bitter US domestic politics, the challenges have been extraordinary.

How does a country in the situation of Ukraine seek to address such matters? Perhaps because of its relative youth as a country, and its heritage of Soviet authoritarianism, Ukrainian authorities have historically looked to national government ministries to address extant and emerging policy problems. In part this is due to the historic weakness of the nation's sub-national governments, long-standing problems of private sector corruption and the lack of a strong civil society dating back to Soviet and even pre-Soviet times. Equally significant has been the historic expe-

rience of a region long characterized by high centralization, strong ministries and limited international engagement.

However, in the case of the IDP issue, the key to Ukraine's ability to address these matters in a successful way is not to be found in the actions of a particular ministry or of its government alone, nor of any other single organization or entity, either governmental or non-governmental. Rather, the critical variable has been the gradually increasing engagement of multiple organizations and entities in addressing IDP issues, including international bodies, the countries sub-national governmental bodies and its non-governmental organizations. In that sense, the addressing of these matters represents a very informative case study of both the emergence of multilevel governance in a new, and still emerging, democracy, Ukraine, and the significant benefits that occur as a result of the emergence of successful multilevel governance within the context of a traditionally highly centralized government system.

## **2. Theoretical framework**

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Various scholars, in defining the concept of multi-level governance (MLG) emphasize the lack of a concentration of power and competence at any one level or sector of governance (Ágh 2010). In such arrangements, the individual actors within a system of governance are formally independent, but functionally interdependent and "are in a complex relationship with each other" (Piattoni 2009).

Perhaps the best expression of the concept has been provided by Schmitter (2004), who defines multi-level governance (MLG) as a structural arrangement for making decisions that involves and engages a multiplicity of politically independent but otherwise interdependent actors – private and public – at different levels of territorial aggregation in more-or-less continuous negotiation/deliberation/implementation, and that does not assign exclusive policy competence to a particular entity or assert a stable hierarchy of political authority to any of these levels. This definition reflects "a key vision" of MLG as involving a plurality of levels of territorial participants in which, out of necessity, non-hierarchical relationships between actors in different sectors of governance emerge.

This model of MLG governance draws upon the findings of three other separate bodies of theory: network theory, governance doctrine and the global governance paradigm. Indeed, a key element of the underlying theoretical framework for multilevel governance is provided by network theory. Börzel describes network theory as involving a set of relatively stable relationships which are of a non-hierarchical and interdependent nature, linking a variety of actors who share common interests with regard to a policy and who exchange resources to pursue these shared interests assuming that co-operation is the best way to achieve common goals (Börzel 1998).

Equally important in terms of the development of the concept of multilevel governance has been the increasing focus on the concept of governance on the part of organizations like the United Nations and the World Bank. As Rosenbaum has noted, the concept of “governance” has been adopted by those organizations to contrast with the traditional concept of government (Rosenbaum 2014). Governance, as a concept, reflects a fundamentally different way of looking at the relationship between governmental and non-governmental institutions in that it hypothesizes that effectively the real relationship between the governmental and the non-governmental is a horizontal one rather than a vertical one. As Benz and Papadopoulos have noted, the characteristics of governance reflects the patterns of interaction, the regulation of common affairs and the fusion of public and private resources (Benz and Papadopoulos 2006).

They characterize the concept of governance as involving the following element: a plurality of decision centers with no clear hierarchy. Instead, decision structures are characterized by relationships between actors organized in networks (Benz and Papadopoulos 2006). The boundaries of decision structures are fluid in terms of inclusion and outcomes. They are determined in functional, not territorial terms. Actors, especially collective actors, exercise power. Interest group participation is an essential characteristic. Models of interaction can be characterized by both competition and cooperation. However, a general willingness to compromise is expected. Institutions engage in various patterns of governance as they determine elements of inclusion, modes of interaction and the relationships of influence and linkage between actors.

The concept of governance in turn has given rise to a body of writing about notions of the possibilities for global governance. As proposed by Weiss and Thakur: “global governance’ is the complex of formal and informal institutions, mechanisms, relationships, and processes between and among states, markets, citizens and organizations, both inter- and non-governmental, through which collective interests on the global plane are articulated, duties, obligations and privileges are established, and differences are mediated through educated professionals” (Weiss and Thakur 2003).

Each of these theoretical approaches represent an important element of any conceptualization of systems of multi-level governance. When brought together they are invoked to suggest an extremely dynamic system, characterized by flexibility and a diversification of interactions among managerial entities in cross-territorial and cross-sectoral dimensions. These relationships involve different combinations of actors in nature and form, as well as a degree of formalization and unification of interaction across different areas of public policy. The dynamism of MLG is determined by its lack of a static center. The changes in external and internal parameters of the MLG system can cause constant fluctuations as participants seek to find the

optimal combination of relationships in a specific time and under specific conditions.

### **3. Methodology**

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The methodological approaches used to collect data for this paper are those traditional to case study research – extensive document review, especially from international organizations and the Ukrainian government; participant observation; personal interviews; focus groups; and comparative analysis. Interviews have been conducted with individuals associated with various of the programs described subsequently. Between 2015 and 2019, an annual focus group was organized which involved representatives of the various governmental agencies, international organizations and non-governmental organizations identified. Each year from 2015 to 2019 an annual matrix analysis of potential organizational interaction relationships was constructed (see Appendix I).

### **4. The historical context**

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Ukrainian legislation designates Crimea and portions of the Donetsk and Luhansk Oblasts (regions) as temporarily occupied territories. This designation seriously impacts the rights of citizens living in those regions and, most notably, defines those individuals and groups of people that are considered Internally Displaced Persons – IDPs. According to the UN's Guiding Principles on Internal Displacement (Deng 1998, 15) “internally displaced persons are persons, or groups of persons, who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of, or in order to avoid, the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized State border.”

The intensity of the first two years of hostilities in Eastern Ukraine produced a rapidly increasing number of IDPs, which reached a total of 1,780,946 in May 2016. During the following four years, as hostilities moderated in the conflict zone, the number of IDPs has gradually declined to 1,446,881 individuals as of April 2020. Nevertheless, Ukraine still remains that European country with the largest number of IDPs (followed by Azerbaijan, Georgia, Cyprus, Serbia) and has the 11<sup>th</sup> largest number of IDPs of all countries in the world.

According to the Ukrainian Ministry of Social Policy, 60 % of all IDPs originated from Donetsk Oblast, 37 % from Luhansk Oblast, and 3 % from the Autonomous Republic of Crimea. Nearly half of all registered IDPs now permanently reside in the Ukrainian-controlled sections of the Donetsk and Luhansk oblasts, and within 20 kilometers of the demarcation line that divides the occupied territory and that portion of the two oblasts which are still controlled by Ukrainian authorities.



The IDPs were registered as currently residing in Donetsk Oblast (about 500,000), Luhansk Oblast (about 300,000), the City of Kyiv (about 150,000), Kyiv Oblast (over 50,000), Kharkiv Oblast (over 120,000), Dnipropetrovsk Oblast (over 60,000) and Zaporizhia Oblast (over 50,000).

The issue of counting IDPs, and addressing IDP issues, has been complicated by current Ukrainian government policy towards residents of the occupied territory. To receive pension benefits, as well as other forms of government social assistance, Ukrainian citizens residing in an occupied territory must be registered as IDPs. This requires that they have a residential address in a non-occupied territory. Consequently, many Ukrainian IDPs are actually continuing to live primarily in or near their original residence in the occupied territory ... but have established addresses in a government-controlled territory near the conflict demarcation line. As a consequence, the best estimates of many organizations working with displaced persons, including the International Monitoring Center, is that the actual current number of IDPs in Ukraine is probably about 730,000 people (Internal Displacement Monitoring Center 2019).

The issue of human displacement is not a new one for the area that is now the nation of Ukraine. Indeed, the 20<sup>th</sup> century can be seen as the century of IDPs in the part of the world that is now Ukraine. During the First World War, the main flow of refugees from those parts of the former Russian Empire occupied by Germany was to the territory that is now modern Ukraine. During the 1930s, and even into the 1940s, within the former Soviet Union, there were numerous waves of internal displacement, especially to what is now Eastern Ukraine. Conducted in a highly repressive fashion, this involved the deportation of various ethnic and social groups from the region and their replacement with individuals more responsive to the needs of the political regime. While complete data is not readily available, the best historical estimates are that this involved millions of people.

During the Second World War, which led to a degree of migration unprecedented in world history, the evacuation and re-location of millions of civilians in the face of violent military conflict took place in what is now modern Ukraine. Following that war, as a part of the economic modernization of the USSR, the construction of large hydraulic structures led to mass displacement of people from newly flooded areas. One of the more complex lingering issues of internal displacement in Ukraine has revolved around the forceful relocation during and after the war of the Crimean Tatar population, which, with the collapse of the Soviet Union, has struggled to return to its homeland over much of the past three decades with varying degrees of economic and political success.

Yet another tragic page in the region's history, the Chernobyl ecological catastrophe, also produced major human displacement. It created a unique social group of 120,000 displaced persons who had to adapt to the effects of radiation and stress as they moved to new places of residence and sought to rebuild their lives.

The Soviet experience with Chernobyl has particular relevance for understanding the more recent efforts of Ukraine to address the problem of human displacement.

The integration of IDPs from the Chernobyl disaster relied almost entirely upon government actions. In part, this was the consequence of both the nature of the Soviet governance system and the very underdeveloped state of civil society in the USSR. The desire of government authorities to hide the consequences of Chernobyl from the world community also played a significant role in limiting any possibilities for external assistance, whether from international agencies or non-governmental organizations. This effectively prevented the formation of any multi-level mechanisms for implementing needed policy solutions and action, thus delaying the integration of IDPs in adapting to their required new living situations. Indeed, as noted earlier, various studies by Ukrainian experts suggest that in many cases three decades after the Chernobyl disaster displaced people had yet to achieve the same social and economic conditions and characteristics as the local citizens with whom they were integrated in the disaster's aftermath.

## **5. IDP policy in Ukraine**

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In 2014, the Ukrainian Parliament enacted the legislation "On Ensuring the Rights and Freedoms of Internally Displaced Persons". Subsequently, the government announced its "Strategy for Integration of Internally Displaced Persons". Together these two initiatives established the principal goals of Ukrainian policy regarding IDPs: taking all possible measures to prevent forced internal displacement; to protect and respect the rights and freedoms of IDPs; and to create conditions for the voluntary return of IDPs to their abandoned places of residence or to integrate them into their new place of residence in Ukraine. However, the reality of establishing policy and implementing it is very different, especially in the face of the limited fiscal resources available to the Government of Ukraine under even the best of circumstances. The policy implementation has been made more difficult since the principal underlying cause of the dislocation, the violent conflict in Eastern Ukraine, continues to draw heavily upon the country's very limited resources.

Facing these realities, the Ukrainian government has turned both to the international community and its local governments, as well as the private and not-for-profit sector, for assistance. While such a response to the very serious and highly complex problem of human dislocation might not be considered unusual in many parts of the world, it has been for Ukraine, given its Soviet and post-Soviet heritage. This heritage has been so pervasive that even today, three decades after the collapse of the Soviet Union, the nation is still struggling to put in place an effective system of sub-national government, both at the oblast (regional) level and at the municipal level. At times, Ukraine also has had a difficult, and sometimes contentious, rela-

tionship with various parts of the international community, both institutional and non-governmental.

However, as the country began to struggle in the post 2014 period with the problem of internally dislocated people, the government sought the support of outside groups. Such initiatives were seen as necessary to supplement the limited financial resources which Ukraine could bring to bear in addressing the needs of its IDPs. This has produced in this arena of policymaking in Ukraine a system of complex intergovernmental relationships which has replaced the traditionally governmentally dominated, and normally quite hierarchical, approach to policymaking that characterizes most policy arenas in Ukraine.

It has also required the national government to initiate a series of efforts aimed at the coordination of the activities of multiple independent agencies and organizations – international, non-governmental and sub-national. Thus, in April 2014 an inter-departmental coordination headquarters, involving representatives of numerous national ministries and agencies, was established to oversee the relocation and temporary accommodation of Ukrainian citizens who had fled from the Crimean Peninsula. Subsequently, as hostilities increased in the Eastern region of the country, the activities of the coordinating body expanded to include addressing the increasingly great number of persons being displaced from there, as well.

As the number of displaced persons grew, particularly in the areas bordering the conflict zones in the East, regional coordination headquarters were established which quickly assumed increasing responsibility both for the placement of, and the provision of assistance to, the growing number of IDPs. These sub-national offices served both to coordinate and lead the national government response, drawing on the services and resources of numerous national ministries during the first years of conflict.

As it became clear that the conflict would not be quickly resolved, it also became clear that IDP issues were going to remain a continuing source of concern for the national government. Thus, in 2016, the Ministry of Temporarily Occupied Territories and Internally Displaced Persons of Ukraine was created to facilitate the mobilization of increased resources to address IDP issues. Upon its establishment, this Ministry, along with the Ministry of Social Policy, which already had assumed a significant role in addressing IDP dislocation, would become the two major national government agencies dealing with IDP issues. Over time, the Office of Ukraine's National Ombudsperson also would become increasingly engaged in IDP issues as it opened an office for "observance of the rights of internally displaced persons".

As an increasing number of government agencies, and many other organizations, would become involved in addressing the problems of internally displaced persons, the need for the coordination of activities grew significantly. Thus, an increasing emphasis came to be placed upon further refining the strategy with less

emphasis upon non-systematic short-term projects and programs and more on how to devise long-term solutions for the resolution of IDP issues.

This meant that increasing attention was paid to issues of providing permanent housing and long-term employment opportunities, as well as devising strategies to more effectively integrate displaced persons into the communities to which they had migrated. In particular, it was recognized that efforts did need to be made to encourage the residents of such communities to recognize that the newly arrived displaced persons actually represented a potentially valuable resource in terms of the economic development of their new home communities. This meant that the strategy for integration of IDPs had to take account of the resource needs of the host communities where relocation was occurring.

## **6. Multi-level engagement**

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Addressing IDP matters involved mobilizing increasing amounts of scarce resources, both human and financial. In similar situations, governments often draw upon a wide variety of international and national sources of support. However, unlike the typical EU country, where a multilevel governance approach frequently characterizes the majority of sectoral policies, IDP integration policy represents a rare example of the functioning of such a system in Ukraine. Thus, Ukraine's response to its IDPs crisis provides an important case study of both the complexities of introducing and the strengths of reliance upon multilevel governance to address major public problems. A close examination of this policy arena also provides a very useful introduction to the wide array of international actors and diversity of participants that can be found in complex systems of multi-government policy and service delivery systems. The most important elements of the MLG system impacting IDPs policy in Ukraine have included:

### **6.1 Global level/governmental sector**

In the contemporary globalized world, almost all nation states are connected in one manner or another to various international intergovernmental organizations – many of which perform important functions as participants in MLG processes. These include developing various regulatory functions, elaborating proposed rules of conduct; advocacy of policy objectives and methods/forms for their achievement; coordination of the interests and actions of members; defining control functions involving the assessment of compliance and/or the conformity of member states conduct as regards formal agreements. and operational functions involving the independent implementation of tasks and functions (Nemec 2010).

Many such organizations have over the past six years become very involved in Ukraine as they have sought to provide some degree of international support for and protection of IDPs' interests there. These include international organizations

of both more general competence and more specialized bodies. In particular, the United Nations, and various of its more specialized units, have served as common platforms to encourage cooperation in addressing the problems of IDPs.

In June 2018 the UN Security Council (SC) issued a Statement by the President of the Security Council on Ukraine, which emphasized the need for scaling up efforts to alleviate the suffering of the civilian population affected by the conflict (Security Council 2018). Previously, the UN Peacebuilding Commission conducted an assessment in 2014 regarding the need to end hostilities and build peace in Eastern Ukraine. Its report “Recovery and Peacebuilding Assessment Report for Eastern Ukraine” (UN Ukraine 2020) specifically addressed the problems of IDPs.

In 2017, the United Nations General Assembly approved Resolution 72/182 on the protection of and assistance to internally displaced persons. It expressed deep concern about the alarmingly high numbers of internally displaced persons throughout the world, as did the UN Human Rights Commission – HRC (Human Rights Council 2012). In 2015, the HRC Special Rapporteur on IDPs’ Human Rights issued a report on the human rights of internally displaced persons with a specific section on Ukraine in the addendum (Beyani 2015). The recommendations of that report became the basis for long-term policy decisions of both the UN and various Ukrainian government bodies.

Various UN agencies involved in the execution of UN conventions related to human rights also have addressed the issue of IDPs in Ukraine, thus influencing Ukrainian initiatives. The National Report of Ukraine (2019) on the implementation of the UN International Covenant on Civil and Political Rights focused on the electoral rights of IDPs (Human Rights Committee 2018), while the UN Committee on the Rights of the Child (2019) has encouraged policy to address children’s issues. The UN Development Program (UNDP) has implemented a Peace Recovering and Development Program that has worked in the Donetsk, Luhansk, Dnipropetrovsk, Zaporizhia and Kharkiv oblasts. Its priorities include supporting local authorities in responding to the urgent needs of IDPs (ППООН в Україні 2019).

The United Nations Population Fund has developed a special humanitarian program for IDPs in Ukraine providing medicines, personal care products and other consumables for IDPs (Харківська обласна державна адміністрація 2015). The UN Children’s Fund has provided important new social services. UN-Women supports civic initiatives encouraging increased participation by women in local decision-making processes and empowering women IDPs. Since 2014, The World Food Program has provided (within the Emergency Response Program for the Affected Population) food aid in the form of food kits and remittances for more than 800,000 IDPs in Ukraine.

Among the various special bodies of the UN General Assembly, the Office of the United Nations High Commissioner for Refugees (UNHCR) Office in Ukraine has coordinated the actions of several agencies concerned with IDP security issues

and IDP protection activities. It has monitored the security situation through its field presence in both government-controlled and non-government-controlled areas and tracked human rights violations and security threats faced both by IDPs and conflict-affected populations. It has also provided IDPs with business services, legal assistance and individual financial help. It also monitors changes in Ukrainian legislation regarding IDPs and supports their community integration while conducting advocacy and awareness-raising activities for decision-makers, stakeholders and the public.

The United Nations Economic and Social Council (ECOSOC) has addressed the rights of IDPs generally in their statement of “Guiding Principles on Internal Displacement”. The UN Food and Agriculture Organization has organized the distribution of various agricultural products, such as seed potatoes, poultry, chicken coops and livestock feed to IDPs. The International Organization for Migration (IOM) – United Nations Migration Agency – has set up a free national hotline for IDPs through its office in Ukraine.

The main administrative body of the United Nations, the UN Secretariat, has been very involved. In 2019, its Office for the Coordination of Humanitarian Affairs established the Humanitarian Fund for Ukraine, which seeks donor contributions to address humanitarian issues related to the conflict in Eastern Ukraine. The Office of the UN High Commissioner for Human Rights had created a UN Monitoring Mission for Human Rights in Ukraine, which has prepared more than 40 reports on the human rights situation in Ukraine, including relevant recommendations on IDPs. The extensive array of UN programs has led to the adoption of the Partnership Program between the Government of Ukraine and the UN and the establishment of a UN Office for Project Services in Ukraine. Finally, the World Bank is also active in Ukraine with several projects that address the needs of IDPs, including several designed to enable the start-up of small businesses.

## 6.2 Global level civic and business sector

Increasingly, international non-governmental organizations (NGOs) are playing important roles in addressing humanitarian issues all over the world. As former UN Secretary-General Kofi Annan said in his report at the Millennium Summit: “Today, global affairs are no longer the exclusive province of foreign ministries, nor are states the sole source of solutions for our small planet’s many problems. Many diverse and increasingly influential non-state actors have joined with national decision makers to improvise new forms of global governance joined with national decision makers to improvise new forms of global governance. The more complex the problem at hand ... the more likely we are to find NGOs, private sector institutions and multilateral agencies working with sovereign states to find consensus solutions” (Annan 2000, 67).

Since 2014, the International Committee of the Red Cross (ICRC) has been assisting IDPs from Eastern Ukraine with food, household items, and medicines. It has also developed a special series of programs on economic security for IDPs and launched several programs aimed at returning them to places of permanent residence. Doctors Without Borders (Médecins Sans Frontières – MSF) is implementing several programs in Eastern Ukraine. It has placed mobile clinics providing basic medical and psychological care to IDPs and people living in 28 settlements in the conflict zone. Various global corporations operating in Ukraine also are implementing several programs related to IDPs. For example, Monsanto’s divisions in Ukraine have repeatedly funded social projects in rural areas for IDPs.

### **6.3 European Regional level/intergovernmental sector**

There are about three million IDPs in Europe. Consequently, all the agencies of the Council of Europe (CE) have addressed issues regarding IDPs. Of particular note, the CE Committee of Ministers, in its “Recommendation 2006(6) on Internally Displaced Persons” emphasized that IDPs enjoy the full range of human rights without any discrimination. It expressed deep concern over conditions regarding IDPs and proposed a number of steps encouraging Ukrainian authorities to address such problems in a more effective manner.

The CE Parliamentary Assembly (PACE) initially addressed IDP issues in 2009 in its report “Forgotten People of Europe: Protecting the Human Rights of Long-term Displaced Persons”. The PACE has repeatedly expressed its concern about the scale of IDP problems in Ukraine. Most notably, its Resolution 2198 in 2018 urged Ukrainian authorities to provide the necessary financial resources to local administrations responsible for IDPs and invited the country to join the CE Development Bank to seek assistance for projects aspiring to meet the housing needs of IDPs in Ukraine.

The Congress of Local and Regional Authorities (CLRA) of the CE has addressed the responsibility of municipalities and regions to promote the integration and participation of IDPs and to promote non-discrimination and good relations between them and local people. In its “Recommendation 386” in 2016 the CLRA urged Ukrainian authorities to amend domestic legislation in order for residency requirements not to prevent IDPs from exercising their voting rights. It further asserted that relevant laws and rules be amended in order not to require IDPs to have to choose between expressing their voting rights and the right to obtain the status of IDPs and/or social benefits.

Given the frequency of human rights violations that have been a part of the conflict in Ukraine the CE Commissioner for Human Rights and the Directorate-General for Human Rights and the Rule of Law have had frequent involvement in the country since the conflict erupted. In June 2014, the CE Commissioner for Human Rights addressed a letter to the Prime Minister of Ukraine, which called

attention to the need to take urgent measures to protect IDPs. Subsequently, the CE Directorate General for Human Rights and the Rule of Law issued an opinion on the draft Law of Ukraine “On Ensuring the Rights and Freedoms of IDPs”, which contributed to its improvement.

Perhaps the most important CE institution regarding the protection of IDPs is the European Court of Human Rights (ECHR), which has had considerable experience with IDP issues in the Caucasus and former Yugoslavia. The ECHR is currently considering numerous cases of human rights violations in Eastern Ukraine involving IDPs. Also, since 2018, the Council of Europe Office in Ukraine has been implementing the project “Internal Relocation in Ukraine: Developing Long-Term Solutions”. Its goal is to strengthen the employment capacity of IDPs, especially displaced professionals. This project also works with various key partners to improve the system of human rights protection and access to justice in Ukraine to meet Council of Europe standards.

The Conference for Security and Co-operation in Europe (OSCE) initially addressed IDP issues in “The Challenge of Change”, the report of the 1992 OSCE Summit in Helsinki. That document includes a section devoted to refugees and IDPs. The OSCE Office for Democratic Institutions and Human Rights is responsible for addressing and seeking to resolve IDP issues. In 2014, the OSCE formed the OSCE Special Monitoring Mission to Ukraine, which has prepared numerous reports on the state of IDPs, including “Internal Displacement in Ukraine: Increased Vulnerability of Affected Populations and Tensions in Communities”. In addition, the OSCE has implemented several IDP projects in Ukraine, including, “Responding to Social Security Threats from Conflict”, which assesses the problems of psychological, socio-economic adaptation and integration of IDPs into new communities in Ukraine.

The European Union (EU) is also concerned with the internal displacement of people, especially in countries with which association agreements have been signed, including Ukraine. In 2015, the European Commission proposed a European Agenda on Migration, which would provide EU development and humanitarian support for vulnerable groups and children in communities in partner countries which hosted IDPs. The following year, the European Commission adopted the Communication “Lives in Dignity: From Aid-dependence to Self-reliance. Forced Displacement and Development”, outlining a new approach to forced relocation focused on economic development.

The EU Asylum, Migration and Integration Fund, set up in 2014, funds various projects designed to address problems caused by forced migration. EU support has taken the form of numerous financial grants and loans, as well as education and community support programs. Thus, by 2019, Ukraine has implemented about 50 different EU projects in the field of IDPs involving the contributions of more than 60 million euros.



## **6.4 Regional and National level/civic sector**

The European Council on Refugees and Exiles (ECRB), a pan-European network of NGOs sponsors several projects aimed at assessing the adequacy of state and civil society response to the needs of IDPs. The European Platform for Conflict Prevention and Transformation, composed of approximately 150 European NGOs working in the field of conflict prevention and peacebuilding has initiated efforts to encourage the integration of IDPs in host communities (Friedman 2014).

A review of information from the Register of Civic Associations (non-governmental organizations) of Ukraine indicates that there are approximately 70 registered nation-wide associations which include the words “refugees” and “displaced persons” in their titles. Beyond those, there are many other national civic associations which, while not directly concerned with displaced persons, have undertaken activities related to the problems of IDPs and in some cases have made such activities one of their chief priorities. Together, during the period from 2014 to 2020, these various NGOs have implemented more than 300 projects related to the adaptation of IDPs.

## **6.5 Subnational and local levels**

Ukraine has three subnational government mechanisms that can address IDP issues at the local level. Territorial divisions (local offices) of the Ministry of Temporarily Occupied Territories and Internally Displaced Persons exist within each oblast bordering the temporarily occupied territories (which are home to the largest number of registered IDPs) – Donetsk, Luhansk and Kherson. The second, the decentralized general regional administrative units of the national government, the local state administrations, traditionally address and implement national policy at the level of the oblasts and rayons (sub-units of oblasts). The third is the local self-governments. They are slowly gaining the resources and capacity to address issues of social policy at the community level, the result of modest initiatives encouraging some measure of national decentralization.

Despite the traditional centralization of Ukrainian government, the sub-national governments have become critical actors regarding the successful implementation of policies impacting IDPs. While policies, even the most humane and supportive, can be announced by the nation’s President, legislative body and/or cabinet of ministers in Kyiv, Ukraine’s capital, it is in the communities in which IDPs reside, and seek to rebuild their lives, where they are implemented. It is there that the collective impact of the many different organizations and agencies – governmental, inter-governmental, non-governmental and private – have their individual and collective impact, whether coordinated or not.

Over the past six years, it has become evident that, irrespective of national policy, there has been considerable variation regarding what happens at the local level. In some areas, oblast administrations, local governments, NGOs and business en-

terprises have worked effectively to implement various projects integrating IDPs in their new communities. However, in other communities that has not been the case. It often appeared that the intensity of regional and local government engagement with IDP issues was driven by the number of IDPs within a community.

## **7. Assessing the development and success of an emerging multi-level system**

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To better understand the processes of integration of IDPs into the communities to which they had migrated, annually, beginning in 2014, a panel of experts, varying in number from 24 to 48 (reflecting the extensiveness of external agency program activities in the particular year) was organized. Participants included individuals from government ministries, international agencies, non-governmental organizations, the private sector and local communities. The principal focus was to explore the extent to which various organizations, both governmental and non-governmental, working with IDPs had begun to engage in collaborative efforts. Most recently, in November 2019, 28 representatives of non-government organizations, the private sector and government administrators concerned with IDP issues were assembled.

Each year, the group has been asked to assess both organizational collaborations and the characteristics of local responses which, taken collectively, define different modes of adaptation as a means of assessing the performance of individual oblasts in that regard. The expert group began by defining issues of adaptation and specifying what conditions and circumstances made for better or worse forms of adaptation. Several critical elements were identified, including local operating procedures and practices for integrating IDPs into the regional community, and the resulting organizational and IDP interactions.

Two very distinct models of IDP adaptation were identified by the expert panel. Each model addressed very different types of community responses to the presence of IDPs. In addition, the regional integration regime for IDPs also typically reflected the degree of cooperation between IDPs and regional governmental authorities, local self-governments, formal and informal civic organizations and professional associations and local business structures. As Table 1 indicates, based on the extent of interaction between those entities, two distinct types of IDP integration models were discerned – “Supportive” and “Non-Supportive”.

**Table 1**  
Types of regional modes of IDP integration in Ukraine

	<b>Models of IDP integration</b>	
	<b>Non-Supportive</b>	<b>Supportive</b>
<b>Regional programs for IDP integration</b>	Non-availability of IDP integration programs	Availability of IDP integration programs
<b>Socio-economic priorities of the region</b>	Concerns about growing competition in the labor market. Lack of resources for IDP arrangement.	IDPs are considered an additional resource for the development of the territory, a positive impact on the demography in the region.
<b>Political and managerial practices at the regional level</b>	Use of institutional “barriers” to IDP integration. Existence of socio-political criticism of IDPs.	Creating a positive “portrait” of IDPs. Lack of socio-political criticism of IDPs.
<b>Civic activity regarding development of support for IDPs</b>	Low activity, low degrees of interaction of civic organizations focused upon IDPs with governmental authorities at the regional level and with local self-governments.	High activity and effective links between NGOs addressing IDP issues and programs and governmental authorities.
<b>Activities of international organizations</b>	Low level of activity of international organizations in the field of IDP integration	High level of activity of international organizations in the field of IDP integration
<b>Ensuring the right to access to local housing</b>	Limited placements of IDPs	Availability of housing locations for IDPs
<b>Labor market assistance and access</b>	Tensions in the regional labor market	Availability of workplaces for IDPs
<b>Ensuring the right to education</b>	Restrictions on the education rights of IDPs	Ensuring the implementation of IDPs’ rights to education
<b>Health care</b>	Limited and complicated access to medical services	Good provision of medical services
<b>Regional image in the perception of IDPs</b>	Negative image of the region in the perception of IDPs	Positive image of the region in the perception of IDPs

Following the development of the two models of regional adaptation and community response to the presence of IDPs, the panel of experts was then asked to assess the response of each of Ukraine's twenty-six oblasts to the presence of IDPs utilizing the criteria defined in the two models of regime integration. Subsequently, the panel of experts were then asked to identify which oblasts fell into which category and what the reasons were that explained the highly disparate local community response.

The panel of experts concluded that 16 of Ukraine's oblasts fell into the supportive category, while ten fell into the non-supportive category. Upon being queried as to those factors that served to distinguish IDP supportive from non-supportive oblasts, the conclusion was that the key factor was the extent of IDP presence. The second involved time. Where there was a substantial IDP presence in oblasts over a period of time, the response of the local officials, and the local community, was definitely more positive. In those communities where the presence was more limited, and the presence of IDPs more recent, the community response was more negative.

Most assuredly, another significant factor contributing to successful IDP integration was the availability of multiple sources of support, both social and economic, for displaced persons within the communities in which they were found in the greatest number. Frequently, these programs were organized and funded by the external organizations participating in the emerging system of multi-level governance. The availability of such assistance contrasts very significantly with Ukraine's prior IDP experiences with Chernobyl and Crimean Tatar refugees who experienced much more difficult processes of social and economic re-integration.

In terms of addressing the issue of organizational collaboration, continuing efforts have been undertaken since 2014 to systematically review regulations, projects, programs and expert surveys on the issues of IDPs. Matrices of interactions between the various organizations and agencies involved in working on IDP policy and projects were then created. Appendix 1 provides an example of these matrices. Within each matrix, the maximum number of possible interactions is 120 pairs. Each year the expert group was asked to identify instances of actual collaboration between the various entities involved in addressing the problems of IDPs in Ukraine.

In 2014, the first year that the expert group was assembled, they identified 34 pairs of interactions among the various types of organizations involved in addressing IDP issues in Ukraine. In 2015, 2016, 2017 and 2018, the number of interaction pairs increased to, respectively, 37, 44, 54, 58, largely due to the growing involvement of non-governmental actors in IDP policy. For 2019, the number of interactions increased to 68 (see Appendix 1). This reflected the fact that increasingly, unlike many areas of public policy in Ukraine, IDP policy and programs reflected the emergence of a growing system of collaboration, thus encouraging the emergence of some measure of multilevel governance around this policy area in Ukraine.

While the complexities of addressing IDP issues have led to the development of an emerging system of multi-level governance for Ukraine, this experience has not been without its administrative, organizational and political problems. In order to identify the most critical issues as regards inter-level cooperation to support IDP adaptation, a brief questionnaire was developed and interviews were conducted with 52 representatives of central and regional authorities, local government officials and staff and civil society organizations during March–April 2020. Particular attention was given to the issue of the responsiveness of central government officials and staff and the adequacy of commitment to collaborative efforts.

The most frequent and widely felt problem was that of inadequate information availability complicating the coordination of activities and the establishment of effective cooperation among system participants. In particular, the responses noted that central and regional public authorities often were reluctant to share information with the various other actors in the multilevel system. In addition, it was often very difficult or impossible to connect the databases of various system participants, as well as some issues of the duplication and repetition of information collection.

The absence of any requirement for the mandatory implementation of decisions made regarding the coordination of activities was another significant issue. Consequently, decisions made at one level or region could only be recommended for implementation in another sector. Particularly problematic were issues of duplication of powers and activities across central and regional authorities and relations with local self-governments involving coordination of decision-making, as well as methods of monitoring the implementation of decisions.

Complicating the interaction between the central and regional authorities and the local self-governments was the problem of the lack of local financial resources to ensure the implementation of local self-government responsibilities regarding IDPs. While some national decentralization efforts have been undertaken during the past several years, in many cases, local self-government bodies simply did not have enough funds to adequately address the housing rights of IDPs and their need for employment or various forms of social support.

## **8. Conclusions**

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Increasingly, it is becoming self-evident that as public problems become more complex, the ability of a single government, let alone a single agency, to solve them is increasingly less feasible. For many national governments, engaging with sub-national governments, civil society, the private sector and the international agencies as vehicles to address complex problems is an increasingly common approach. For Ukraine, this is a relatively new phenomenon as the nation struggles to respond to the financial, social and administrative issues created by massive internal displacement resulting from continuing violence at its Eastern border.

The past half dozen years in Ukraine have been characterized not only by a national government increasingly open to collaborative activities, but an extraordinary outpouring especially of international engagement. Indeed, one of the most interesting findings in examining these matters is a better realization of the diversity of potential international partners in terms of addressing such matters.

Equally important the Ukrainian case serves to illustrate two other important lessons in which time plays a very significant role. First, as regards the integration of IDPs, familiarity and time significantly influences community responsiveness and IDP acceptance. Second, as regards MLG, we see that the longer participants engaged with one another, the more they collaborated. In turn, the Ukrainian case serves to illustrate the importance of the kind of support that external actors can provide in helping to resolve IDP crisis situations.

However, effective multilevel governance is not based simply on the number of connections, but on the degree of constructive organizational collaboration which, in turn, leads to some measure of system cohesiveness and, most importantly, successful service delivery. This can be ensured both through the effective distribution of power across the various participants, especially involving each level of government, and through the structural and functional optimization of the relationship between them.

Systemic interaction of governmental actors in the multi-level community integration of IDPs involves complex processes, often characterized mainly by the state of “independence-dependence” or “interdependence” in the performance of various functions regarding the implementation of policy on IDPs. A review of the activities surrounding Ukraine’s response to the needs of IDPs bears witness to the slow but steady emergence of a system of multilevel governance in a very important area of public policy for the country.

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## Appendix 1

### The matrices of interactions between governance entities on IDP policy in Ukraine

Level		Sector															
		Governmental						Civic					Business				
		(1) UN bodies, agencies, programs	(4) EU, CoE bodies	(7) Central national bodies	(10) Regional state bodies	(11) Regional self-government bodies	(14) Local self-government bodies	(2) Global NGOs	(5) European NGOs	(8) National NGOs	(12) Regional NGOs	(15) Local NGOs	(3) Global Corporations	(6) European Corporations	(9) National Corporations	(13) Regional Corporations	(16) Local Business
Global	(1) UN bodies, agencies, programs		+	+	-	-	-	+	-	+	+	+	-	-	-	-	-
	(2) Global NGOs	+	-	+	+	-	+		+	+	+	+	+	-	-	-	-
	(3) Global Corporations	-	-	-	-	-	+	+	+	-	-	+		-	-	-	-
Regional	(4) EU bodies, CoE bodies	+		+	+	-	+	-	+	+	+	+	-	+	-	-	-
	(5) European NGOs	-	+	+	+	-	+	+		+	+	+	+	+	-	-	-
	(6) European corporations	-	+	-	-	-	+	+	+	-	-	+	-		-	-	-
National	(7) Central national bodies (ministers, agencies)	+	+		+	+	+	+	+	+	+	-	-	+	-	-	
	(8) National NGOs	+	+	+	+	-	+	+		+	+	-	-	+	-	-	
	(9) National corporations	-	-	+	-	-	+	-	-	+	-	+	-	-		-	-
Subnational	(10) Offices of national bodies, region state administrations	-	+	+		+	+	+	+	+	+	-	-	-	+	+	
	(11) Regional self-government bodies	-	-	+	+		+	-	-	-	+	+	-	-	-	+	+
	(12) Regional NGOs	+	+	+	+	+	+	+	+		+	-	-	-	+	+	
	(13) Regional corporations	-	-	-	+	+	+	-	-	-	+	-	-	-		-	
Local	(14) Local self-government bodies	-	+	+	+	+		+	+	+	+	+	+	+	+	+	
	(15) Local NGOs	+	+	+	+	+	+	+	+	+		+	+	+	+	-	+
	(16) Local business	-	-	-	+	+	+	-	-	-	+	+	-	-	-	-	

- + Defined interaction
- Unidentified interaction



## The Effectiveness of Economic Sanctions: A Literature Review

Tadeáš Pala

### Abstract

This paper offers a broader reflection on the current and historical discourse related to the analysis of the effectiveness of economic sanctions. Is it possible to reliably measure the effectiveness of economic sanctions? In addition to summarizing the literature in this area, the article points out numerous problems in the interpretation and use of terminology. Confusion about different approaches in this discipline creates an environment in which it is difficult to orient oneself or segregate objective information. This confusion affects the behaviour of national governments. National governments frequently resort to economic sanctions, even though the measurement of their effectiveness is unclear. The article aims to introduce partial and valid arguments related to the effectiveness or ineffectiveness of the imposed sanctions. Moreover, its goal is to present the preferred approach how to measure the effectiveness. The paper concludes that universally valid metrics for measuring effectiveness are hardly achievable due to the inability to compare events across modern history, without taking into account the context. At the same time, there is neither a terminological nor a semantic consensus on the basic concepts, which makes the situation more complicated. One of the main issues is the inconsistent terminology, since many authors do not distinguish between effectiveness and efficiency. Thus, the author tends to interpret effectiveness as an ability to achieve the goals initially pre-set. Although this definition offers a rather loose view which does not allow too much comparison and generalization, it is, in the author's view, the least "blurred" one. At the same time, the author encourages an individual approach to particular case reports and warns against attempting to econometrically and statistically capture something that is practically incommensurable or not measurable at all. Therefore, the author recommends, as a result of this literature overview, to stick to the perception of effectiveness (or its negation) as an ability (or a disability) *to achieve predetermined goals*. The value-added of this article is to contribute to the discussion about economic sanctions nowadays. It comes with conclusions about

diverging approaches based on the unique, comprehensive literature review of respected authors. Also, the short list of case studies of what the author considers an example of effective and non-effective sanctions will be included.

**Keywords:**

Effectiveness; economic sanctions; definition; literature review; paradigmatic discord; historical cases.

## **1. Introduction**

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It is an important task to further explore the principles of this phenomenon. The most straightforward questions towards economic sanctions are evident: *Do they work? Are they effective? How can success be measured?* Research on economic sanctions is once again a popular topic, although economic sanctions were seen as a natural part of the bipolar world of the Cold War. Even after the end of this historical period, the issue of economic sanctions did not disappear from the international environment. It has partially become even more significant. It has also diversified due to the fact that the risk of a major war conflict has somewhat diminished after the collapse of the Soviet Union. As a result, the solution of conflicts has often shifted to the economic arena instead of battlefields. Recently, there are, for example, several scenarios in international relations where economic sanctions have been implemented. The countries involved can be Iraq, Iran, the Democratic People's Republic of Korea, or the Russian Federation.

Specifically, the EU and the US have imposed sanctions on a relatively large scale after the annexation of Crimea and the occupation of part of the Donbas by Russian forces (Welt et al. 2020). That is one of the main reasons why the issue of economic sanctions is still relevant in this historical period. As part of this reflection, we will first learn about some aspects and specifics of economic sanctions as such. Then we will focus on their strengths and weaknesses. The main arguments will be demonstrated on examples from modern history. Finally, a reflection summarizing the positives and negatives will be presented. This reflection will also represent the added value which will offer optimal options, including more general circumstances in which economic sanctions can maximize their effect. Like various customs duties, fees and selective taxes, economic sanctions can be considered a form of state intervention that regulates the economic activity of the population. Economic sanctions can be perceived, in Rothbard's view (Rothbard 2001), as a type of triangular intervention, given that the state interferes in the possibility of exchange between two other entities, even if one of them is a foreign one. Economic sanctions are also related to the category of public economics in other aspects, especially in the consequences of their imposition. As a rule, the state that imposes sanctions is forced to respond in some "non-market" way to the cut-off of a certain part of the trade that had been natural until then. This obviously applies to both

the export and import part of the spectrum. Such a state is, of course, forced to substitute the supply of the commodity that is subject to an embargo or sanction in an extraordinary way in case it previously bought it from the sanctioned state. But it is equally necessary to compensate in some way for the damages caused by the loss from the potential return of the sector that was dependent on past trade. The responsible state must, therefore, consider what impacts the sanctions will have on the population and, where appropriate, subsidize private producers or purchase goods and services from them in order to avoid a catastrophic collapse. These phenomena can be considered, in Salamon's interpretation (Salamon and Elliott 2002), interventions that in some situations must be applied to make the functioning of the state smoother. In a wide range, economic sanctions concern the categories of international trade, justice and, to a certain extent, also stability.

In the context of this essay, the definition of the term "effectiveness" is a somewhat difficult task, because, as we will learn in the article itself, the very essence of this concept lies in the results expected at the beginning of the sanctioning process itself. In other words, in the academic environment, there is no clear consensus on the definition. Some of the authors (Hufbauer et al. 1985, for example) tend towards quantitative approaches, some are more in favour of qualitative analysis (Pape 1997, 1998). Nevertheless, the description of the different approaches and the comparison of valid arguments will allow for a more comprehensive view of the plausible definition. The essay's conclusion will also present the author's opinion, based on the findings occurring in the discussion among different academic orientations.

## **2. Economic sanctions**

The motivations and actions of international trade players are generally regarded as a typical example of rational thought processes. The rationality and maximization of one's own benefits are the main narratives of international trade, and the phenomenon of interdependence has proved to be beneficial for all concerned. The idea of open and not very limited trade prevails. This trade is limited only by pragmatism, rationality, and natural competition. Here, the regulations and rules should primarily allow the whole system not to collapse or not to be fully dominated by monopoly usurpers. These ideas are based on Adam Smith's tradition, or they correspond to the concepts of those seeking a minimal state. However, even Smith himself makes some exceptions in the context of his time, when the state has the right to intervene in economic exchange, especially in the area of customs and maritime transport, which was implicitly tied to the security of the then British Empire. It is in this historical precedent that we can identify the germs of what we now consider to be economic sanctions, embargoes, and the like (Smith 2008).

However, even in an environment where all parties usually tend to maximize the quality of their pragmatic behaviour in order to increase their benefits, there are

situations in which rationality in market behaviour is pushed aside. A typical example of this situation is the case of so-called economic sanctions, which this essay addresses as a topic. Economic sanctions can undoubtedly be considered a political intervention in the economy par excellence. It is an intervention in the basic logic of an open market, where national political interests take precedence over economic ones, or situations where the economy submits itself to politics, thus becoming its instrument. To some extent, Aristotle's theory of economics corresponds to this idea, still emphasizing ethical and pragmatic motivations, which in some respects exceed trading and business (Younkins 2002).

In many cases, sanctions have been used as complementary measures in the context of conventional wars and armed conflicts. Nowadays, due to the high degree of interdependence of markets and the overall importance of international trade, these instruments are increasingly being used as an independent alternative to conventional warfare, given that for many states access to global markets is a completely crucial matter of existential importance.

The sole definition of the term "economic sanctions" is an uneasy task to execute. The most important dispute arises over the purpose of "economic sanction". The main clash is between the "punish" and "comply" narratives. Galtung (1967) elaborates this issue: "We shall define sanctions as actions initiated by one or more international actors (the 'senders') against one or more others (the 'receivers') with either or both of two purposes: to punish the receivers by depriving them of some value and/or to make the receivers comply with certain norms the senders deem important."

In this paper, we incline towards Pape's approach. He favours the "comply" aspect since it seems more measurable: "Economic sanctions aim to lower trade in order to coerce the target government to change its political behavior." He elaborates his definition with a more complex taxonomy of economic strategies. There are three main strategies of international economic pressure: economic sanctions, trade wars and economic warfare.

Economic sanctions seek to lower trade in order to coerce the target government to change its political behaviour. This measure may be used as a tool, directly or indirectly, to impose costs on the economy as a whole. The aim is political change in a particular affair.

Trade wars are when the state threatens to inflict economic harm or actually inflicts it in order to persuade the target state to agree to terms of trade more favourable to the coercing state (Conybeare 1987). The main difference of both strategies is that Economic sanctions aim at the political establishment. However, the trade war is pointed towards economic policies. A good example may be the comparison offered by Pape (1997): "When the US threatens China with economic punishment if it does not respect human rights, that is an economic sanction. When punishment is threatened over copyright infringement, that is a trade war." Both authors also

agree that Trade wars are often applied towards the “friendly” and “former allies” since the trade connection as such is too valuable for both sides. Economic sanctions, on the contrary, are often being imposed against “enemies” since their aim may be even revolt and destruction of the regime. The third strategy is: “Economic warfare that seeks to weaken an adversary’s aggregate economic potential in order to weaken its military capabilities, either in a peacetime arms race or in an ongoing war. ... As a result, the most important measure of the pressure of economic warfare is the change in military production.” (Pape 1997, pp.94). The Cold War arms race may serve as an example of this strategy. The technological inequity and incompetence to compete with American technology forced the Soviet Union to change its military production. The interruption of the “MAD”<sup>1</sup> international status quo caused by effective American “economic warfare” accelerated the dissolution of the Soviet Union.

In this paper, we will focus on some of the more general characteristics of economic sanctions, historical examples, and then on current cases. Generally, the study will focus on the meaningfulness and importance of economic sanctions. In other words, the following question will be posed: In which cases is it possible to consider economic sanctions successful or effective? The identification of such criteria is a partial objective of this work. However, it is likely that these criteria may not consist of accurately definable and universally accepted mechanisms.

Measuring the effectiveness of economic sanctions is, of course, a very difficult task that can only be undertaken with a certain degree of approximation and without unambiguous omni-explanatory expectations. The main limit of the debate on economic sanctions is the incommensurability of the players, in terms of their significance as well as in terms of time. Some researchers approach this problem by trying to analyze the course of economic sanctions against one selected state or, on the contrary, evaluate the state that imposes sanctions in the context of time development. However, even these analyses have their drawbacks: In particular, each economic sanction takes place in a very specific context, which, for example, results in comparable sanctions being effective in one case and ineffective in another (Peksen 2019).

A typical difficulty of analyzing economic sanctions is the minimum transparency available. The actual expenses of the party imposing sanctions are very difficult to determine, as it is generally a virtual calculation of the potential loss of profit, which, of course, is largely fictitious. The same applies to the party on which the sanctions are imposed. It is difficult to define whether they had the intended impact. It is possible that the state on which sanctions are imposed will indeed comply, but to isolate the separate weight of individual sanctions or other factors, such as armed violence, ethnic or social pressures, etc. is almost impossible.

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1 “Mutual Assured Destruction” – the stalemate situation when both US and Soviet nuclear powers were capable of full destruction of the opponent, even in the case of response.

### **3. Difficulties with the definition of effectiveness and non-effectiveness**

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The definitions of these terms are probably the main pitfall the essay is trying to address. Some of the authors do not distinguish between “effectiveness” and “efficiency”. This drawback is caused by several factors. In some languages, the distinction between those two terms is not clear. It is important to state the basic differences between those two terms. While “efficiency” may be simply understood as the ratio of costs and benefits, we will perceive the concept “effectiveness” (or its negation) as the ability (or disability) *to achieve predetermined goals*, and not as efficiency, which describes the overall circumstances or advantageousness of the whole process. The problem of the definition confusion about individual concepts (and particularly about their translations from different languages) is the main “leitmotif” of the essay, as well as the “leitmotif” of the whole issue of economic sanctions as such. As will be outlined in the following chapters, various authors often classify historical events differently. In my view, however, this is largely caused by misunderstandings. I admit that the definition of effectiveness applied in this essay may seem partially “overcautious” or “alibistic”, because it is not actually focused on clearly objective circumstances, such as costs, profits and losses, but on the often subjective perception of the goals achieved. In its defense, however, it should be noted that this is probably one of the most applicable forms of analysis because there are so many unknown variables in the game that the effort to calculate all sub-items and influences is completely unrealistic. It should be taken into consideration that even though the “effective sanctions” – which we define here – may coincide with another definition of “successful sanctions,” whereas sometimes this is far from the case. For example, Hovi et al. (2005) offer a formulation where economic sanctions can be effective when a sanctioned party reaches the condition of “noncompliance impossible”. While this consideration may at first seem to capture the point, the moment we try to operationalize this concept, we get into a very abstract environment. It is the determination of the sanctions’ right goal which represents the main stumbling block of the analysis, as I will try to demonstrate in the following chapters.

### **4. Historical contexts of research and literature overview**

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It is a goal of this chapter to provide academia with a comprehensive overview of a supposedly “known”, but disputed field of study. If we want to summarize the issue of the effectiveness and impact of economic sanctions, we should draw our attention to the dispute of Pape vs. Hufbauer et al. This dispute exemplifies the conditions related to the debate on the issues presented. Both studies analyzed a number of situations and historical scenarios, and in both cases, economic sanctions were effective only in a minority. Hufbauer’s research analyzed 115 historical scenarios (Hufbauer et al. 2007), identifying the presence of successful sanctions in 40 cases. In Pape’s

approach, however, only 5 scenarios were identified as successful, and so, according to him, the proportion of successful economic sanctions is minimal. In particular, it is important to note that the most important things in analyzing effectiveness are the definitions of concepts and the consensus on them. This is clearly visible in the academic dispute. Some scholars identify economic sanctions as an accompanying phenomenon of armed conflict (which usually follows immediately), while others tend to analyze it as an independent phenomenon. Both camps seem to be right: on the one hand, economic sanctions very often lead to or are the harbingers of armed conflict. On the other hand, not every economic sanction actually culminates in an act of violence in the form of armed conflict. As already mentioned, the crucial point is, in particular, the objective that the economic sanctions should actually fulfil, or what they should really achieve. It is here, as well as in all the analyses of effectiveness, where the very essence of the problem lies. Many authors have different ideas and concepts. These ideas can vary considerably: from sanctions as an alternative to a war aimed at forcing an opponent to fully subject and accept the sanctioning party's dictate, to defining a success when the target sanctioned country has paid the price for non-cooperation – as, for example, Baldwin contemplates (Baldwin 1985). For instance, veteran diplomat Sir Jeremy Greenstock – Britain's ambassador to the UN between 1998 and 2003 – says about sanctions critically: "... there is nothing between words and an act of war if we want to put pressure on the governing body" (Marcus 2010).

Further research tries to identify new perspectives or aspects that have been overlooked by previous theories. As a rule, however, most theories face semantic inconsistencies in the terms used. The main issue is the chaotic substitution of the words "effectiveness" and "efficiency". Some authors try to identify the ability to fulfil the pre-set, but others try to create a cost-benefit analysis. These two approaches, however, are very different and rationally produce divergent results.

Another specific problem are econometric criteria. In his work Van Bergeijk analyzes methodological imperfections that reduce the possibility of objectivization (Van Bergeijk and Siddiquee 2017). The object of his critique is the lack of transparency during the series of Hufbauer's research. The main problem of today's specialized literature and existing research lies in the fact that there are only a few large longitudinal studies, which are usually critically analyzed by follow-up research. Unfortunately, this research attempts to replicate the achieved findings without bigger success. Peksen is aptly dealing with this topic. In his work, he offers a summary of the main shortcomings of the previous research along with an analysis of both concepts and definitions, as well as the doubts about the meaningfulness of sanctions as such.

Many authors attempt to provide readers with a quantitative analysis of sanctions' effectiveness. With new cases of imposed sanctions, new articles are arising, as well. Recent example of newly described case of imposed economic sanctions



may be the book called “The role of economic sanctions in case of Russian Federation”. In this book, Oxenstierna and Olsson (2015), conclude that there are clear impacts on the Russian economy. Still, according to our perception of “effectiveness” the sanctions did not push the target nation to a political shift.

Similarly, Haidar (2017) analyzes the case of Iranian sanctions, especially in the context of export deflections. He analyzes the data in a very complex manner and attempts to deliver a conclusion. Even though all quantitative analysis is very sophisticated, still it is very problematic to identify the primary factors and therefore real effects of economic sanctions.

A valuable contribution to the debate is brought by Chen (2017), who elaborates the ineffectiveness of sanctions on the recent case of North Korea. He identifies the inability to target correctly as a main reason for ineffectiveness. This attitude shows the importance of setting the goal correctly. Imposing states often make this kind of mistake. If the goal is not set clearly, it is not possible to effectively achieve or measure it.

## **5. Arguments supporting the effectiveness of economic sanctions**

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In this sub-chapter, the main arguments supporting economic sanctions as a conflict resolution tool are presented. In particular, we will deal with the factors and circumstances that increase the chances of sanctions being considered successful. As indicated in the previous chapter, it is clearly difficult to establish precise and objective criteria, because economic sanctions are phenomena whose effectiveness is difficult to segregate.

The basic premise of the sanctioning party is to force the sanctioned party to change its behaviour at the minimal cost (of the sanctioning party). It is therefore obvious that the sanctioning party must be in good shape in the given segment. This criterion is not always easy to meet, since international trade, and the export of goods and raw materials in particular, is the basis of a healthy mercantilist economy. Therefore, the risk of endangering their own exporters is a rather thorny issue, and states must be able to offer them a suitable opportunity to transform their own export capacities. This situation can usually be achieved in two cases: the first being a situation where the sanctioning party is in a very strong economic position and, so to speak, can afford some losses. The second case, which has other causes but similar consequences, is the situation where the sanctioning party is asymmetrically larger. The optimum imposer of sanctions is, therefore, a country which finds itself in the position of a geopolitical superpower as well as in a prosperous economic condition (Hufbauer et al. 2007).

The second important factor is the actual setting of achievable goals. Of course, it is a bit tricky to analyze this factor, but only reasonably set goals can be

achieved. It is optimal to understand the possibilities that arise from the previous factor. The awareness of the strength of the sanctions may suggest a possible dimension of the objectives envisaged. As a rule (Marinov 2005), it appears more meaningful to expect rather limited targets. Another option is to use economic sanctions as a complementary tool that will work in synergy with other instruments. The typical complements that accompany the imposition of economic sanctions are, for example, support for the opposition as well as pressure on allies and international organizations to worsen the position of the sanctioned country. The effort to absolutely change the opponent's strong position solely by means of economic sanctions can, therefore, be considered a relatively risky business (Marinov 2005).

If we look in more detail at the very form of sanctions, we need to focus on some aspects that can ensure their actual effectiveness. The extent of the sanctions, and particularly the ability to isolate the sanctioned country from the supply of raw materials and products, is therefore crucial in this respect. As outlined above, there is a huge risk that the loss of export or sales will be replaced by another, third player, who will get richer on this occasion at the expense of the two competing countries. It is in the interest of the state that imposes sanctions to limit this option and make it as uncomfortable as possible for other countries. Typically, so-called "secondary sanctions" are created and applied, which penalize countries that, despite the sanctioning state's resentment, continue to trade with the sanctioned state (Forrer 2018).

The high degree of complexity and interdependence of international markets often results in important business contacts between the sanctioning state and the so-called third player who could replace it in business contacts with the sanctioned one. This method is used by superpowers who hold a hegemonic position in international trade and can afford it to dictate conditions – firstly because of their economic strength and secondly, mainly because they are linked to most regional businesses. A typical user of this method is the United States of America, who makes extensive use of secondary sanctions to deter other players from potentially cooperating with, for example, boycotted Iran. However, other organizations have taken similar steps in various cases, such as arms and proliferation embargoes, particularly in the context of nuclear disarmament. Any state that would support sanctioned states would be severely punished by the international community. These efforts seek to address, in particular, the use of so-called "dual-use" technologies.<sup>2</sup> A typical example of an "ideal" implementation of economic sanctions is the cooperation of a large part of the international community to jointly block one player. It happens in the case of the so-called "rogue states"<sup>3</sup>, which are usually quite fully blocked from most forms of international trade, and they have no choice but to rely on their own autarkic efforts, the black market or assistance through other proxy players.

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2 "Dual use" means products that can be used in both the civilian and the military sectors, e.g. nuclear fuel, aerospace research, ballistic carrier rockets or other technological components.

3 "Rogue states" are countries which violate or break international norms and strive to proliferate WMDs or support international terrorism.

In the context of historical experience, it is possible to meet with the following typical paradox: economic sanctions work best not against the sworn enemy, but especially against “friends” and “former allies.” Although this statement may sound nonsensical, it should be borne in mind that this is mainly the case for states with which good historical relations have been disrupted by some shake-up or change over the course of time, but there is still historical memory that includes phases of cooperation and friendship. Historical reminiscences of good relations can alleviate the irritation of the sanctioned state’s population. However, some authors leave aside this case, where the allied states impose various complications on each other in the trade segment, as a typical “trade war” that can only work if both states do not intend to stop the trade completely (Pape 1997).

Another factor that can positively influence the effect of sanctions is related to the adoption of sanctions by the population of the sanctioned state. This is mainly about the careful and personalized targeting of sanctions on the regime’s proponents, who will be forced to take their population “hostage”. Obviously, it is difficult to determine objectively how the population will respond. Nevertheless, the risk of cultural differences will be addressed in a section that summarizes the main risks of implementing economic sanctions. Therefore: if it has been said that sanctions tend to work against the states that do not seek complete hostility, then appropriate timing should be used. For example, in the case of sanctions imposed on the Russian Federation after the annexation of Crimea, the high effect is attributed not only to the sanctions themselves but also to the concurrent oil crisis or the fall in the price of Russian oil (Tyll et al. 2018). This case is a glowing example of good practice, as it is necessary to take advantage of the negative circumstances of the opponent, especially when it is possible to foster a split within its ranks. The aforementioned “personalization” of sanctions can be very beneficial in this regard. In this context, the so-called “smart” sanctions<sup>4</sup> are usually mentioned (Smeets 2018).

The last, quite positive manifestation of sanctions may also be their impact on the population of the sanctioning state. Obviously, a certain minority will suffer from economic intervention due to the fact that they will lose selling markets or will not receive imported products. However, embargoes, economic sanctions, and similar instruments can, in some cases, help prevent armed conflict and acts of violence. Applying economic sanctions as a tool on the range somewhere between peace and war is certainly a good option. It can help mitigate escalated emotions, especially if the population demands real action from their elites. Unfortunately, it is obvious that the occurrence of sanctions cannot considerably prevent armed conflicts as such.

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4 Smart sanctions are designed to raise the target regime’s costs of noncompliance while avoiding the general suffering that comprehensive sanctions often create. Like precision-guided munitions, smart sanctions target responsible parties while minimizing collateral damage (Drezner 2003).

## 6. Arguments questioning the effectiveness of economic sanctions

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In addition to information sources supporting the implementation of economic sanctions, there is, of course, a lot of literature that reports on unsuccessful economic sanctions and the pitfalls of this phenomenon as such.

The main and usually the most common argument is the understandable risk of the ineffectiveness of sanctions, which is framed by noticeably larger losses on the part of the sanctioning state than on the part of the sanctioned one. This situation may arise from an improper estimation of market mechanisms. Or the opponents may find themselves under partial pressure, which costs the sanctioning state a lot of effort, but in the end, it does not actually hit it too much. There are several reasons for this. In addition to a simple miscalculation, the sanctioning party may misjudge the context in which the target country is located. Namely, there are sociological, cultural and historical aspects whose impact is difficult to predict (Frye 2017).

These three kinds of aspects can disrupt the structure of even well-targeted economic sanctions. It should be noted that economic rationality, or at least the pursuit of it, is far from being such a dominant motive for some states, especially with certain forms of absolutist or authoritarian regimes. Typical examples are countries with fundamentalistic forms of theocracy, such as Iran, or states with authoritarian leaders firmly holding security forces in their hands. These kinds of partly unsuccessful sanctions can be typically illustrated with the example Iraq under the reign of Saddam Hussein, or Serbia under the reign of Slobodan Milosevic. In both countries, by combining authoritarian governance and nationalism, local leaders managed to mobilize the population against the sanctioning enemy states. The population of such culturally specific countries does not necessarily follow the rationality or the language of numbers. The role of honour, national feeling, identity, religion, etc. is extremely important to them. The so-called “rally round the flag effect” may come into play. These aspects, which are hard to grasp, can be more preferable to them than economic benefits or living standard. This is typical of nations with a strong historical and traditionalist affiliation or a population that has long lived in economic scarcity but has been intensely subjected to a certain type of ideology – usually socialism or communism (Kaempfer et al. 2004).

In particular, economic sanctions can be literally counterproductive if the governing body of the sanctioned state manages to skilfully exploit the anger of public opinion against an “aggressor outside the state.” This situation provides an opportunity to blame the “external aggressor” for many other internal problems, which are of a completely different origin. Nevertheless, by means of suitable rhetoric, they can be diverted from the real culprits (usually from the ranks of a ruling party). As indicated in the chapter on the possible positive implementation of economic sanctions, properly targeted economic sanctions not only weaken the ruling

elites but also seek to strengthen the opposition of the sanctioned regime. A typical example of this has been the effort of the United States in Latin America since the end of World War II until today.<sup>5</sup>

Harsh sanctions, which can be cunningly attributed to the “evil external aggressor” by the ruling establishment, may also seriously damage or even destroy the inner opposition which will be stigmatized as the “inner enemy” and a “fifth column.” The economic sanctions imposed from the outside can just “incidentally” cause its persecution. In such a way, both the ruling establishment and the manipulated population may vent their anger on the opposition. For this reason, it is necessary to proceed very carefully so that sanctions do not strengthen the power of the establishment and eradicate valuable allies (Frye 2017).

Traditionally, perhaps the most important system problem in the application of sanctions is the existence of third countries that are willing to replace lost trade potential. A typical example is the situation in which the Islamic Republic of Iran, whose currency has been severely weakened in sanctions by the USA, has transformed itself into a reserve of Turkish lira and gold, which has allowed it to trade at least partially with its key raw material – (crude) oil (Early 2015). Many similar cases have been identified in the course of history. In the literature, the term “black knights” has been used for these third players. In the case of “rogue states”, which are sanctioned by the consensus of many countries, the “black knight countries” usually have some historical grudge against or controversy with the dominant international arrangement. Another typical example might be the never acknowledged, but fundamental support of North Korea from China. However, these players are not always “problematic states”. The example of sanctions imposed on apartheid-dominated South Africa shows that even respected states such as Japan, Britain, and West Germany did not hesitate to briskly seize vacant business opportunities (Early 2015). Purely technically, the sanctioning state may impose so-called secondary sanctions to discourage potential third parties. Nevertheless, these circumstances are already against the logic of isolating and solving the problem and, because of their strength, have a negative impact on international relations as such.

There are also other cases of unforeseen effects both of the economic and the non-economic kind. Some sanctioned countries achieved a relatively significant level of autarky thanks to the integration of the domestic economy. An example may be the case of South Africa between 1985 and 1993. The country suffered losses due to the imposed economic sanctions but also managed to stabilize the local economy (Coulibaly 2005). The successful implementation of so-called “Import substitution industrialization” may, in theory, make the target country even stronger. However, there are not many examples in modern history of an undisputable successful case

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5 For example, the Contras in Nicaragua in the 1970s and 1980s. Another case may be the alleged support of the present opposition against president Maduro in Venezuela.

of this strategy. Some authors (Adewale 2017) consider the BRICS initiative to be a positive example.

Another example of the unforeseen effects of imposed sanctions is the case of Israel. Israel was forced to look for alternative economic, cultural and defence relations, after the Suez crisis, since all neighbours and the Soviet enemies declared hostility. The need for new allies forced the newly emerged state Israel to form strong bonds with the US as well as “the West”, from which they both ended up benefiting mostly.

The example from more recent history showing the unforeseen effect of imposed sanctions is technological and military development. Sanctions imposed on the Russian federation are considered to be one of the main motives of Russian independent military development. If the connections with Western countries were not affected by sanctions, there might not be a reason to develop new fifth-generation aircraft of new armoured platforms. It is of course very questionable whether those new technologies can compete with the Western counterparts.

## **7. Discussion and findings**

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The effect of economic pressure is quite limited in most cases. Pape offers an interesting interpretation in his analysis of Saddam’s Iraq, on which economic sanctions were imposed in 1990. Until then, the Ba’athist regime had created a relatively functioning society, which in some form had a reasonable standard of living and collective goods. Pape sees these facts as reasons why economic sanctions did not work. After the sanctions had been imposed, the government had the possibility of draining the resources originally shared by the entire population. As an opposite example, Pape presents the case of South Africa under the apartheid regime, where, at the time of sanctions, most of the wealth was already in the hands of the Caucasian minority.

Thus, in the case of Iraq, it was not Saddam Hussein and his protégés who suffered the consequences of the sanctions, but the population that was cut off from various commodities, some of which were vital. 40,000 combatants and 5,000 civilians were reported to have died during the Allied bombing. Although these people died in the context of armed activities, the main cause of their death was the absence of essential medicinal drugs and other products whose import was subject to international sanctions. Up to 567,000 children could have hypothetically lived if they had been given medication, vaccination and the like (Pape 1998). Thus, to what extent the sanctions had been “effective” remains a question, especially given that Saddam Hussein ruled for more than 10 more years.

To sum it up, most of the problems related to the sanctions’ effectiveness lies in the fact that the perspectives of all parties concerned are fundamentally different. It is very difficult to set an exact definition of not only effectiveness as such but also

an exact definition of economic sanctions. As already indicated, the approaches of various scholars differ, too. At the same time, the evaluation of the economic sanctions' effectiveness suffers from a significant lack of detachment, in terms of both facts and time. It is extremely complicated to guess what each participant "is up to" and thus reflect upon more objective impacts. At the same time, however, the understanding of the current context, which is very crucial, is gradually fading away over time. This results in various analyses being able to define one and the same event as part of armed conflict, as an economic sanction or merely as a trade war.

## **8. Application of effectiveness definition – case studies**

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As assumed, there is a significant dispute in the context of effectiveness analysis, when it comes to the evaluation of economic sanctions. As presented in the chapters above, there are many approaches, qualitative or quantitative, but from our point of view, these theories are feasible only to a limited extent. Thus, as mentioned in the previous chapter, the author decides to stick with the definition of a sanction's effectiveness (or its negation) as an ability (or a disability) *to achieve predetermined goals*. In this case, we consider proclamations, reasons and demands as goals.

Using this approach, we decided to perform an exemplary analysis of real cases. According to the point of view set on the presented definition, we try to demonstrate, on a sample of 3 cases, how to interpret the success and effectiveness of implemented sanctions.

In the following chapter, three case studies will be presented serving as examples of levels of sanctions' effectiveness. All three exemplary cases are relevant to current political and economic events.

The first presented case is one that the author considers relatively effective (according to the used definition of "effectiveness"). The second case represents a historical event that is to be regarded as only partially effective. In the last case, the ineffectiveness of imposed sanctions will be presented.

The author is aware that this approach has its limits. Case studies used in this subchapter are supposed to have an illustrative purpose only. Multiple factors have influenced each case. It is difficult to derive other collateral variables or to determine causality. The comparison is meant to serve as a "hypothetical" example. In order to provide at least partial objectivity, all three cases are describing sanctions imposed by the United States, proclaimed by a Presidential Executive Order.

All three cases are described in the table and for each of them, there will be a commentary and relevant quotation of the imposing policymaker attached, to better explain the logic of the presented conclusions.

**Table 1**  
Effectiveness and cases

Target country	Intentions	Result	Effectiveness
IRAN	Prevent nuclear and ballistic missile proliferation	Achieved – by multiple actions, Iran is not yet equipped with sufficient nuclear capabilities.	YES (under the condition that we omit other factors)
VENEZUELA	Destabilize autocratic political elites and undermine the non-democratic regime	Partially achieved – the government in Venezuela is currently in a state of hurting stalemate. The president position is being claimed by two “presidents”.	PARTIALLY (under the condition that we omit other factors)
RUSSIAN FEDERATION	Force the Russian Federation to withdraw from Crimea and to stop supporting the self-proclaimed republics	The intention of these sanctions has not been achieved. On the contrary, Crimea is considered as an internal part of RF, and self-proclaimed republics still exist thanks to support from Russian side.	NON-EFFECTIVE (under the condition that we omit other factors)

*Case study no. 1: USA vs. IRAN:* For many decades the Iranian regime has been considered an eminent threat to US foreign policy. Amongst other issues, the problem that troubles US authorities the most is the Iranian nuclear and ballistic missiles programme. It has been a target of US counteractions for a long time. US representatives decided to implement many series of sanctions, embargos and other measures to prevent the nuclear proliferation towards Iran. In our analysis we analyze one of the most known events from recent history. Presidents of the US have released multiple economic sanctions with relatively clear reasons and demands. The most known is a series of executive orders presented by President Clinton between 1994 and 1996. These orders and acts served as a basis for all following administrations.

*“I, WILLIAM J. CLINTON, President of the United States of America, find that the proliferation of nuclear, biological, and chemical weapons (‘weapons of mass destruction’) and of the means of delivering such weapons, constitutes an unusual and extraordinary threat to the national security, foreign policy, and economy of the United States, and hereby declare a national emergency to deal with that threat” (Exec. Order No. 12938, 1994).*

From this, we can measure the effectiveness of the imposed sanctions. Their goal was to stop or postpone the nuclear and ballistic proliferation process in Iran.



From today's perspective, it is very probable to assume that the Iranian regime is still not equipped with the coveted nuclear technology, and this fact is caused by the effective non-cooperation with other countries that share the US point of view or are forced to yield. Iran's goal is to own nuclear weapons as a deterrent. Due to this fact, we may assume that if Iran owned nuclear capacities, it would be presented as a big success by state propaganda.

In the context of our definition of sanctions' effectiveness, it is to be concluded that these specific sanctions are effective. It is mainly thanks to the dominant asymmetry between the two counterparts. Also, the reasons and goals presented by the president were stated relatively clearly; therefore it is relatively easy to evaluate them. Of course, even in this relatively clear case, it is very difficult to identify the possible influences of other factors.

*Case study no. 2: USA vs. VENEZUELA:* The socialist and despotic regime of President Maduro continues the legacy of previous president Hugo Chavez. This regime is known to stand in opposition to US foreign politics intentions. Under the rule of the socialist regime Venezuela suffered drastic economic decrease and isolated itself. For US foreign politics the Venezuelan regime is also a political threat, since it has deep connections with the Russian federation. This phenomenon makes Venezuela a rather risky neighbour on the American continent.

*"I, BARACK OBAMA, President of the United States of America, find that the situation in Venezuela, including the Government of Venezuela's erosion of human rights guarantees, persecution of political opponents, curtailment of press freedoms, use of violence and human rights violations and abuses in response to antigovernment protests, and arbitrary arrest and detention of antigovernment protestors, as well as the exacerbating presence of significant public corruption, constitutes an unusual and extraordinary threat to the national security and foreign policy of the United States, and I hereby declare a national emergency to deal with that threat" (Exec. Order No. 13692, 2015).*

According to our definition of sanctions' effectiveness, we cannot say that the sanction intentions were completely fulfilled, but we can see partial achievements. The greatest achievement is the victory of Juan Guaidó, who proclaimed himself president of the country. It is still unclear what the development of this political situation will be, but we can see some significant changes that may be influenced by the imposed sanctions. Again, we can not clearly say whether these sanctions were the sole reason for Maduro's decline. However, we can indicate a significant push in the desired direction, and the pattern of influence is evident. For the final outcome and conclusion, we must wait.

*Case study no. 3: USA vs RUSSIAN FEDERATION:* The events that took place in Ukraine after the so-called Euromaidan revolution in 2014 shook the status quo of the post-soviet area. The Russian annexation of the Crimean peninsula, as well as the direct and indirect military support of the self-proclaimed separatist republics was a rather surprising event that drew the attention of the international community. Most of the democratic states and Western superpowers were disgusted by such violation of international laws and treaties. As a result of those violent events, many countries imposed sanctions against Russia and its leaders, the businessmen and people responsible. The US imposed a wide spectrum of sanctions, with goals that were relatively clear, aiming towards acts of aggression. The US goals were a retreat from the Crimean territory and the termination of separatist republic support. The explanation of the imposed sanctions stated:

*“I, BARACK OBAMA, President of the United States of America, find that the actions and policies of persons including persons who have asserted governmental authority in the Crimean region without the authorization of the Government of Ukraine that undermine democratic processes and institutions in Ukraine; threaten its peace, security, stability, sovereignty, and territorial integrity; and contribute to the misappropriation of its assets, constitute an unusual and extraordinary threat to the national security and foreign policy of the United States, and I hereby declare a national emergency to deal with that threat” (Exec. Order No. 13660, 2014).*

As we can see, the demands of the imposed sanctions were not fulfilled; on the contrary, Crimea is connected to the Russia mainland. Separatist republics still exist, and Ukraine’s integral sovereignty is being disrupted by ongoing armed conflict. Using the logic of our definition of effectiveness that we presented in previous chapters, we may consider the imposed sanctions to be non-effective.

As mentioned above, these 3 case studies can work only as illustrative examples of the implementation of our definition in recent cases. It is indeed impossible to predict how events will develop in the future. In the end, following research may show the presented cases in a different light.

## **9. Conclusions**

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It is very complicated to fully answer the question of whether we can clearly identify the effectiveness of sanctions, or how to measure it. Based on disputes amongst the various authors, we are sceptical about quantitative analytical approaches. However, what can be inferred from the arguments put forward is the fact that each situation in which sanctions occur is individual and therefore each of them must also be treated individually. The scholars more or less agree that it is necessary to set limited

goals for the success of sanctions. At the same time, losses should be on the side of the sanctioned state. An important finding is that the impact of sanctions increases when they are combined with other pressure tools on the target state. In my opinion, it is Pape who treats economic sanctions realistically and does not overestimate their role. In particular, sanctions may be appropriate where there is a significant advantage in the asymmetry of the sanctioning party. A typical example would be the sanctions against Libya aimed at the extradition of several terrorists involved in the Lockerbie terrorist attack (Pape 1997).

Proceeding from the not very successful sanctions applied to the whole population through so-called collective guilt, the author of this essay considers it appropriate to apply sanctions in the form of quality targeting – in the form of so-called “smart” sanctions. However, even this tool is only limited. I agree with the authors who try to distinguish phenomena such as trade war, economic sanctions or economic steps associated with armed conflict, even though it is sometimes difficult to do so in retrospect. Perhaps the most apt conclusion is to identify with the WHO’s approach (Köchler 1997), which in the context of economic sanctions against Iraq informs that their real impact on millions of people is rarely documentable. In this context, it is more likely to notice and monitor serious economic difficulties, the spread of diseases, and various psychosocial traumas associated with a very negative outlook for the future. Violations of social norms, various pathological phenomena, and “psychosocial disgust” of the population are more common than real changes within, based on the initiative of the population, especially in authoritarian and totalitarian regimes. Proceeding from the summarized arguments, I consider the role of economic sanctions rather negative. For reasons difficult to understand, states or political elites resort to them, which is probably caused by indecision, non-readiness for action or various strategic inconsistencies.

It is exactly the indecision and discontinuity that are the greatest “buriers” of “effective” sanctions. Based on the above-mentioned definition, it is, therefore, necessary for politicians to estimate realistic, not exaggerated goals and to achieve them on a continuous basis. It is not appropriate to confuse sober estimates with unrealistic ambitions.

With regard to the state of the specialized literature and research related to the problems of the effectiveness of economic sanctions, the author considers the following: Universally valid metrics for measuring effectiveness are hardly achievable due to the inability to compare events across modern history, especially due to the inability to compare different contexts of individual events. At the same time, there is no terminological and semantic agreement among the authors over the basic concepts, which makes the situation rather confusing. Some of the authors do not perceive the difference between “successful”, “effective” and “efficient” sanctions. The overview of the literature showed that this situation is rather confusing and

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6 World Health Organization.

disturbing. The concept of “success” is very abstract, and therefore not suitable for academic research. The dimension of efficiency as a cost/benefit ratio often leads to quantitative and statistical elaborations, which may be interesting, but are extremely unuseful for the comparison since each case study is very specific in time and historic context. Thus, the author tends to interpret effectiveness as an ability to achieve the goals predetermined at the beginning of the sanctioning process (Peksen 2019). Although this definition offers a rather limited perspective and does not allow too many comparisons and general conclusions, it is at least partially in accordance with observed reality, as well as to some extent usable and applicable. For example, three case studies were presented as an example of authors’ perception of the effectiveness definition. Simultaneously, the author encourages an individual approach to individual case reports and warns against attempting to econometrically and statistically capture something that is incommensurable in practice.

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# Effectiveness of Public Support for Business Innovation from EU Funds: Case Study in Slovakia

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## Abstract

Effective public support of innovations, research and development represents one of the priorities of the European Union (EU). The aim of this paper was to examine the effectiveness of one such public programme – public support for business innovation from EU funds in Slovakia – by using selected quasi-experimental design methods on the example of the Operational Programme Competitiveness and Economic Growth for the programming period 2007–2013. The value added of this paper is the fact that we use the method proposed and used by the European Commission and Slovak national authorities. The “difference-in-differences” method is used to compare the changes in value added of supported firms before and after the intervention in comparison to firms that did not receive support. The results suggest that the public support from selected calls of the evaluated operational programme was effective and delivered improvements not only in the field of innovativeness and competitiveness, but also in the area of employment. The evaluated call was much more effective compared to other calls of the programme evaluated by other authors. The responses from the management body suggest that the core success factors were the contents of the call and timing.

## Keywords:

Public support for business innovation; EU funds; operational programme competitiveness and Economic Growth.

## 1. Introduction

There is an increasing emphasis put on innovation and innovation performance at the regional, national, as well as international level. Business innovation stim-

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ulates innovative performance of firms, which in turn helps increase firms' economic growth and competitiveness, which is one of the basic preconditions for a country's competitiveness in an international context. Innovation and innovation performance are therefore important indicators of a country's economic growth. Many experts (e.g. Eggink 2013) agree that the economic entities that generate the largest volume of innovation – the so-called key innovation actors – are business enterprises.

However, firms face various innovation barriers, with one of the main obstacles to developing innovation often being a lack of funding (D'Este et al. 2012). For this reason, firms turn to providers of external funding, such as public support (Spielkamp and Rammer 2009). Businesses use grants, subsidies, tax incentives and other forms of available public support provided by regional, national, or transnational government to develop their innovative activities. The rationale for public support for business innovation is based on both microeconomic and macroeconomic reasons (Arrow 1963; Falk 2007).

The main justification for public support for innovation is the fact that in the absence of public intervention, the private sector would not invest sufficient funds in innovation (Leibowicz 2018). It is therefore not surprising that approximately 1–14% of total business R&D expenditure is funded by government (Eurostat 2020). According to OECD (2019), public support for business innovation is used by 14–47% of innovative businesses in the EU member states, which means that public support is crucial for innovative firms. However, public support does not always have the expected impact and may be spent inefficiently or ineffectively. Although many authors examine the impacts of different types of public support for business innovation, the area of efficiency of public support can generally be considered more explored than the area of effectiveness. For this reason, the paper is focused on the effectiveness of public support provided to business enterprises.

The aim of this paper is to examine the effectiveness of public support for business innovation from EU funds in Slovakia using selected quasi-experimental design methods. The paper aims to contribute to research in the field of public support for business innovation, especially in the context of small and medium enterprises and the ways public support can help these businesses overcome the barriers that hinder the development of innovation.

## **2. Literature overview**

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Public support for business innovation is the focus of many authors. Several studies argue over the rationale and implications of public support for innovation (e.g. Edquist 1997; Edquist and Borrás 2013; Czarnitzki et al. 2007; Czartinski and Bento 2011; Dodgston and Bessant 1996; Dodgston et al. 2005; Dodgston et al. 2011). When assessing the impacts of public support programmes for innovation, it is nec-



essary to distinguish between the evaluation of the effectiveness and the efficiency of public support for innovation.

Most studies deal with efficiency (input-output comparisons); the number of studies researching effectiveness is rather limited. Academically published studies by Slovak authors deal mainly with the use of counterfactual methods in evaluating the effectiveness of public support for business innovations. For example, the study by Šipikal, Pisár and Labudová (2013) examines the use of the DiD method for SME support projects. An evaluation study of the effectiveness of business innovation in lagging regions of Slovakia is known by using the production function for the total capital of companies (Némethová et al. 2019), with special emphasis on companies for wood production (Šipikal et al. 2017). The results of a comparative analysis of the impact of business innovation public support in Slovakia and in the EU countries are documented by a study by Pisár et al. (2020). In her dissertation research, Ďurčeková (2020) dealt with the issue of evaluating the effectiveness of public support for business innovation in Slovakia in a selected programming period. The results of her research are published in co-authorship in this paper. Studies focused on the examination of the impact of public funding on business innovation are frequently published worldwide. There are also published studies of Central European countries, which focus on the problems of implementation of EU funds and evaluation of support for human resources and efficient public administration (e.g. Nyikos and Kondor 2019; Hoffman 2018; Cerar Godec and Benčina 2018). The most frequently used approach in the area of evaluating the impact of public support for innovation and research and development is the use of regression and correlation analysis of panel data at the microeconomic and macroeconomic level. In the international context, several authors (e.g. Marino et al. 2016; Choi and Lee 2017; Hud and Hussinger 2015; Bronzini and Piselli 2009) compare the indicators of supported and non-supported businesses and use specific methods of evaluating efficiency. However, evaluating the effectiveness of public support is a problem area that does not receive sufficient attention, despite the European Commission's emphasis on the need to use counterfactual methods to assess its impact (European Commission 2013).

The evaluation of the effectiveness of public support for business innovation is a specific area that is all the more challenging given that the most significant outputs and results of research and development (R&D) and innovation investments, such as knowledge and abilities are intangible and immeasurable (Mandl et al. 2008). The authors most commonly use two concepts to evaluate the effectiveness of policy interventions. The first approach is the so-called theory-based impact evaluation (White 2009). The second concept (used in our paper), referred to as “counterfactual impact evaluation” (or “CIE”) or “quasi-experimental design”, focuses on whether the intervention produced the required changes – the main question that the counterfactual methods answer is “did the intervention bring about change?”, which can be further extended to “what change did the intervention bring?” (European Com-

mission 2013). The aim of counterfactual impact assessment is to identify the net impact or impact of interventions. The most common methods of this evaluation include pairing methods, regression discontinuity, the instrumental variables method and the difference-in-differences (DiD) method (Šipikal and Sztásiová 2020). According to the foreign literature, it is possible to use structural modelling, randomized control trials (RCT- “randomized control trials”), or so-called pipeline methods (Khandker et al. 2009).

The paper uses the difference-in-differences method (also called double difference or DiD) to evaluate effectiveness. This method is based on the assumption that data on trade outputs (e.g. revenues or value added) are available to supported and unsupported firms for the period before and after the intervention. This method evaluates effectiveness by comparing the increase in outputs of supported and non-supported firms. According to Potluka and Špaček (2013), this method should be used to evaluate effectiveness if the data is available for supported and non-supported firms, panel data is available and it is not possible to carry out an experiment. Due to the fulfilment of all these conditions, the difference-in-differences method is used in the paper. The parallel trend assumption must be met in order to use the DiD method. The most commonly used way to verify this assumption is to extend the time dimension of the method with additional data of supported and non-supported firms in the pre-intervention period. In this case, it is possible to graphically represent the average values of the output indicators of supported and non-supported firms for different time periods before the intervention. Where the lines showing the development of supported and unsupported entities appear to be approximately parallel, compliance can be stated assuming parallel development and the results of the method can be interpreted correctly (Wing et al. 2018). The graphical representation of average values of outcome indicators of supported and non-supported firms in the pre-intervention period is used to test this assumption.

The effectiveness of public spending can be influenced by various institutional or structural factors, or by other country-specific elements. These factors are often not under the control of public authorities. However, institutional factors have a key impact on the level of the efficiency and effectiveness of public spending. Various environmental factors (such as the regulatory-competitive framework, the socio-economic background, climatic conditions, economic development or the functioning of public administration) are therefore key to the analysis of efficiency and effectiveness for two reasons. The first is the fact that neglecting these factors can lead to inaccurate measurements of efficiency and effectiveness. The second reason is that these factors may be suitable tools for increasing efficiency and effectiveness (Mandl et al. 2008).

According to Mihau et al. (2010), the effectiveness of public spending is generally influenced by outputs, results and environmental factors. Factors influencing the effectiveness of public support for innovation can be divided from the com-

pany's point of view into internal and external ones (Albors-Garrigos and Barrera 2011). External factors include environmental factors (such as various socio-economic impacts), the quality and setting of public administration, and corruption, which is strongly linked to environmental factors (Mihau et al. 2010). Herrera and Heijs (2004) include external factors related to the market in which the company operates (e.g. market investment capacity, economic cycle phase, export and import indicators) and technological indicators (e.g. technological cooperation or technology import and export). In general, however, the authors deal mainly with internal factors that relate to company characteristics. For this reason, in our research, emphasis is placed on selected internal factors.

There are few studies examining factors influencing the effectiveness of public support for business innovation. One of these studies, using counterfactual methods of propensity score matching and difference-in-differences, examined the factors influencing the likelihood of a company receiving public support as well as the factors influencing the outcome of a given intervention. These factors included the size of the company (depending on the number of employees and the company's turnover), the company's involvement in research and development activities, industry, ownership (private/state), the region and the age of the company (Department for Business, Energy & Industrial Strategy 2017). In general, the authors agree that the acquisition of support as well as its effectiveness is influenced mainly by technological intensity and various company characteristics (Albors-Garrigos and Barrera 2011; Radicic et al. 2016; Aboal et al. 2018).

The main company characteristics influencing the effectiveness of public support for business innovation according to available studies are shown in Table 1. Although the use of counterfactual methods to assess effectiveness is not currently a widespread approach, authors examining the effectiveness of public support consider various company characteristics to be key factors. The most frequently examined control variables in the mentioned studies are the size and age of the company, the sector in which the company operates and the involvement of the company in research and development activities.

**Table 1**  
Internal factors of effectiveness of public support for business innovation

Factor	Authors
Size (number of employees and/or turnover)	Albors-Garrigos and Barrera (2011), Department for Business, Energy & Industrial Strategy (2017), Radicic et al. (2016), Aboal et al. (2018), Alvarez et al. (2013), Mamede et al. (2015), Czarnitzki et al. (2011), Reinkowski et al. (2011)
Industry	Radicic et al. (2016), Department for Business, Energy & Industrial Strategy (2017), Czarnitzki et al. (2011), Mamede et al. (2015)
Age	Alvarez et al. (2013), Mamede et al. (2015), Reinkowski et al. (2011), Aboal et al. (2018), Department for Business, Energy & Industrial Strategy (2017),
R&D activities	Albors-Garrigos and Barrera (2011), Department for Business, Energy & Industrial Strategy (2017), Aboal et al. (2018)
Region	Department for Business, Energy & Industrial Strategy (2017), Radicic et al. (2016)
Ownership	Department for Business, Energy & Industrial Strategy (2017)
Part of a group	Aboal et al. (2018), Department for Business, Energy & Industrial Strategy (2017), Czarnitzki et al. (2011)
Export	Radicic et al. (2016), Aboal et al. (2018), Czarnitzki et al. (2011)
Type of innovation activity	Aboal et al. (2018), Radicic et al. (2016)

Source: Authors

There are only few studies focused on the effectiveness of public support for business innovation from the EU funds using counterfactual impact evaluation. Bondonio et al. (2015) focused on the sample of Italian firms supported from the programmes funded by EFRD, using the difference-in-differences method in combination with propensity score matching and concluded that subsidies did not stimulate additional private innovation investment in big firms, but were effective to a certain extent in smaller firms. Dvouletý and Blažková (2019) researched public support from EFRD in the Czech Republic and, using counterfactual impact evaluation, found that subsidies from the operational programme under review had a positive impact on the performance of supported firms.

However, several studies regarding the public support for business innovation using CIE methods were conducted by the Slovak Government (Government Office of the Slovak Republic 2015; Ministry of Economy of the Slovak Republic 2014). The effectiveness evaluation was first used in the programming period 2007–2013, when counterfactual methods were used in the strategic evaluation of the Operational Programme Competitiveness and Economic Growth (Ministry of Economy of the Slovak Republic 2014). The Ministry of Economy highlights this type of evaluation as one of the key tools for estimating quantitative changes within the OP, which should contribute to the disclosure of causal relationships, effects and inter-

ventions. The counterfactual impact assessment was also used by the Government Office of the Slovak Republic (2015), which published results based on the use of difference-in-differences and propensity score matching methods in combination with regression analysis. The research analyzed the effectiveness of interventions on the basis of three indicators, while the effectiveness was evaluated positively only on the basis of the increase in added value of supported and non-supported subjects (in the case of other indicators, the impact of the intervention was zero or negative). The only well-known publication is the research by Lešková and Nemethová (2016), which examined the effectiveness of the Operational Programme Competitiveness and Economic Growth in the programming period 2007–2013 on the basis of the difference-in-differences method on a smaller sample of supported and unsupported enterprises. The authors concluded that public support for innovation from EU funds was spent ineffectively in this case.

### **3. Methodology**

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The object of our research about the effectiveness of the support for business innovation from the EU structural funds is the last completed programming period 2007–2013. In the given programming period, public support for business innovation from EU structural funds was redistributed through non-repayable financial contribution (NFC). Based on data from the Ministry of Economy of the Slovak Republic and the Slovak Innovation and Energy Agency (SIEA), sub-measure 1.1.1. (Supporting the take-up of innovation and technology transfers and related challenges to support business innovation) was chosen for further analysis. The analysis is based on data from three sources, namely from the requested database provided by the Ministry of Economy of the Slovak Republic on supported and non-supported projects, from the Finstat database and from the public financial statements of supported and non-supported companies. The evaluation of effectiveness is carried out on a sample of supported and non-supported firms and covers two calls – call CaEG-111DM-1301 and call CaEG-111SP-1201. The calls were chosen on the basis that the necessary data are not available for older calls. The evaluation is applied to two calls due to the inclusion of both types of schemes used – state aid scheme and de minimis aid scheme. Based on the article and the acquired knowledge of the studied subject, we define the research questions as follows:

- R1: What is the effectiveness of public support for business innovation from Operational Programme Competitiveness and Economic Growth in programming period 2007–2013 in Slovakia?
- R2: In which types of businesses does provided public support achieve the highest effectiveness?

The research methodology was based on a combination of deduction methods, induction, comparisons and synthesis. Effectiveness is measured by comparing

the data on value added of supported and non-supported firms before and after intervention (the call) using the difference-in-differences method. We use data on value added 2 years before and 2 years after the call to include changes in firms' outcomes over longer period of time before and after the intervention. Firms with an extreme increase/decrease in value added over the monitored period were excluded from the analysis in order to provide the most eligible results. The statistical significance of the difference between supported and non-supported firms is examined through the use of the nonparametric Mann-Whitney test. The suitability of the difference-in-differences approach is verified using a parallel trend in the pre-intervention period assumption test.

In order to compare the level of effectiveness of public support, the DiD method is applied to different groups of firms based on their size, age and region, based on which we evaluate in which group of firms the highest effectiveness of public support is achieved. In order to examine the benefits of public support from the EU funds, factors influencing the growth of outcome indicators of supported firms (e.g. the amount of provided funds or co-financing) are analyzed employing linear regression analysis using the least squares method. In the research, we did not have certain data available for supported and unsupported enterprises (e.g. data on the number of newly created jobs), so the evaluation focused only on selected indicators of corporate production (increase in sales and value added).

Our evaluation in research also had certain strengths and weaknesses. In the research, we did not have certain data available for supported and non-supported enterprises (e.g. data on the number of newly created jobs), so the evaluation focused only on selected indicators of enterprise output (increase in sales and value added). The research focused on selected challenges due to the availability of data. The advantage of a survey in comparison with other evaluations was the finding that there was a relatively high number of applicants for support, which represented a large sample of companies, compared to the domestic study by Lešková and Némethová (2016). Using the DiD method, the result of the positive effectiveness of the provided support was quantified.

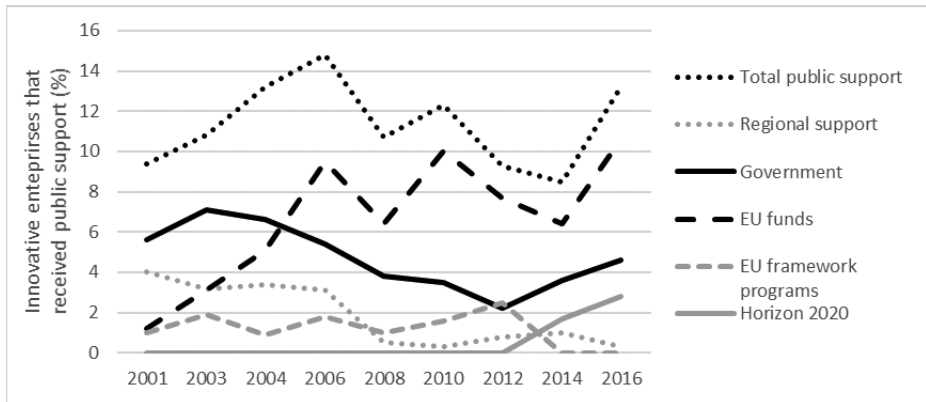
#### **4. Effectiveness of public support for business innovation from OP Competitiveness and Economic Growth in the programming period 2007–2013 in Slovakia**

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Even though business innovation is supported by all levels of government, EU funds are especially important when it comes to supporting business innovation in the EU. According to the Community Innovation Survey 2014 (Eurostat 2017), EU funds are the main public resource used to support business innovation activities in most EU countries, especially those lagging behind the EU average in terms of innovation performance. This statement is also supported available statistical data

at national level, which shows that EU funding has been the main source of public support for business innovation in Slovakia since 2006 (Figure 1). The share of innovative firms using the EU funds to launch innovation projects usually decreases in the beginning of the programming period (years 2008 and 2014) when the calls are announced and increases later in the programming period when the funds from the operational programmes are allocated.

**Figure 1**  
Share of innovative enterprises that received public support according to the source of funding



Source: Authors

Based on these findings the paper is focused on analyzing the public support from the EU structural funds allocated in Slovakia in the programming period 2007–2013 from Operational Programme Competitiveness and Economic Growth – more specifically submeasure 1.1.1. Within this submeasure 779 projects were supported and 1,523 submissions were rejected. The data in the tables inform about the structure of supported and unsupported projects in terms of various aspects, such as, e.g., the region and sector in which the entity operated, the type of scheme from which the entity applied for support, the duration of the project, etc.

We can observe that the support was relatively evenly distributed between all three regions. The most supported projects were in Western Slovakia, where the most entities applied for support. We consider these results to be surprising, as in the Western Slovakian region, according to the KaHR Programme Manual, the aid intensity was the lowest, which means that entities in this region were entitled to a non-repayable financial contribution lower than their eligible expenses in other regions. It should be noted that entities operating in the Bratislava region could not be supported from the operational programme.

**Table 2**

Supported and non-supported projects in terms of the region in which the entity operates

Region	Supported projects	Non-supported projects	Total
Western Slovakia	275 (35.3%)	516 (33.9%)	791 (34.4%)
Middle Slovakia	231 (29.7%)	529 (34.7%)	760 (33.0%)
Eastern Slovakia	273 (35.0%)	478 (31.4%)	751 (32.6%)
Total	779	1,523	2,302

Source: Authors

**Table 3**

Supported and non-supported projects from the perspective of the open calls

Open calls	Supported projects	Non-supported projects	Total
<i>State aid calls</i>			
• 111SP-0801	22	277	299
• 111SP-0902	69	89	158
• 111SP-1001	36	114	150
• 111SP-1101	51	275	326
• 111SP-1201	156	142	298
<b>State aid total</b>	<b>334</b>	<b>897</b>	<b>1,231</b>
<i>Calls de minimis scheme</i>			
• 111DM-0801	64	131	195
• 111DM-0901	65	90	155
• 111DM-1301	316	405	721
<b>De minimis total</b>	<b>445</b>	<b>626</b>	<b>1,071</b>

Source: Authors

In terms of the type of scheme (Table 3), more entities applied for state aid calls than for de minimis aid. However, this was mainly due to the fact that more than one de minimis call was issued for state aid calls. More applicants were supported under de minimis support schemes, while most applicants, supported and unsupported projects, can be observed in scheme 111DM-1301.

Based on the data from the Ministry of Economy Table 4 shows selected critical outcome indicators of firms supported within the sub-measure 1.1.1. of Operational Programme Competitiveness and Economic Growth.



**Table 4**  
Outcome indicators of supported entities by region in Slovakia

Indicator	Western Slovakia	Middle Slovakia	Eastern Slovakia	Total
Revenue growth (€)	5,839,503	4,579,042	5,313,604	5,082,971
Value added growth (€)	1,749,725	1,426,406	1,551,141	1,577,531
Number of created jobs	5.80	4.54	6.34	5.52
Number of innovated production processes	2.34	2.36	2.65	2.44

Source: Authors

The results show that the public support has contributed to value creation in all areas. Revenues of supported firms increased on average by more than 5 million EUR, value added increased on average by more than 1.5 mil. and, on average, 5.52 jobs were created and 2.44 production processes were innovated as a result of the public support beneficiaries received. In the case of revenues and value added, the highest increase in the observed indicators was achieved by firms operating in Western Slovakia. However, in terms of indicators focused on employment and innovation itself, Eastern Slovakia showed the best results. We consider the high average increase in newly created jobs in the Eastern Slovak region to be one of the most significant quantifiable benefits of public support for innovation in this region.

Our research shows that the support from the selected calls was mostly focused on SMEs younger than 20 years that operated in the field of manufacturing (in line with the focus of the operational programme). The applied difference-in-differences method to analyze the impact of provided public support delivers positive results (Table 5).

Table 5 shows that value added grew in both supported and non-supported firms in both periods, before and after the intervention. However, we can see that in the firms that received the financial resources, value added grew faster in the period after intervention, while the opposite happened with non-supported firms. Based on the analysis, we can conclude that value added grew faster by 54 percentage points in supported firms. The results were statistically verified using the Mann-Whitney test, which showed that there is a statistically significant difference between supported and non-supported firms. The model was also verified by testing the parallel trend assumption of supported and non-supported firms in the pre-intervention period (see Figure 2), which shows that the average value added of firms that received the support and the firms whose requests were rejected has a similar trend before the call, meaning that the difference between the value added of supported and non-supported firms can be explained as the impact of the intervention.

**Table 5**

Results of the difference-in-differences method using value added of supported and non-supported firms on a sample of two calls from OP CaEG

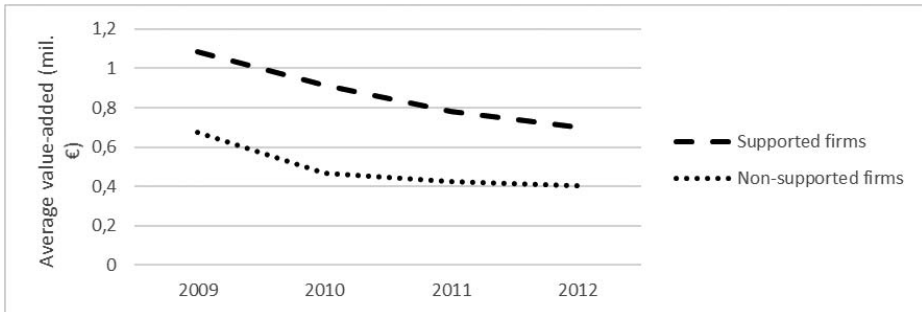
	Change in value added		Difference between periods
	Before intervention	After intervention	
Supported firms	51 %	68 %	17 p.p.
Non-supported firms	86 %	49 %	-37 p.p.
Difference between supported and non-supported firms	-35 p.p.	19 p.p.	<b>54 % p.p.</b> (332+279) [-2.899***]

Note: (.) values show number of supported + non-supported firms included in the analysis; [.] values show z-statistic of Mann-Whitney test and \*/\*\*/\*\* show statistical significance on the 10%/5%/1% significance level.

Source: Authors

**Figure 2**

Graphic representation of the parallel trend assumption



Source: Authors

Based on the results and the applied tests, we can state that the public support from the selected calls was effective. However, we maintain that it is not only important to evaluate the effectiveness of the public support as a whole, but to also examine which groups of firms achieve the highest effectiveness of the provided support and should thus be the main focus of the public support in the future.

## 5. Which businesses achieve the highest effectiveness of public support?

The effectiveness of public support measured by the difference-in-differences method on our sample of supported and non-supported firms significantly differs by three selected characteristics, region, size and age (Table 6).

**Table 6**

Results of the difference-in-differences method based on the region, age and size of a firm

Region		Size		Age	
Middle Slovakia	+109	Micro	+24	0–10 years	+88
Eastern Slovakia	-12	Small	+101	10–20 years	+61
Western Slovakia	+87	Medium	+108	Over 20 years	-65

Note: values show increase (+) or decrease (-) of value added in percentage points of supported firms compared to non-supported firms in the period after the intervention compared to the pre-intervention period; bold values show results that were significant based on the parallel trend assumption test.

Source: Authors

However, not all results of the DiD method are appropriate for interpretation since some samples did not meet the parallel trend assumption. The results show that the support had the desired impact in Middle and Western Slovakia, while support provided to firms in Eastern Slovakia was not effective since the value added (before vs. after intervention) grew faster in the firms that did not receive support. However, the parallel trend assumption was not met in this region, so we cannot confirm this result. The results concerning the size and the age of the firm are especially interesting. Based on our findings, the impact was higher in the bigger firms (although in small and medium firms, the parallel trend assumption was not met). Large firms were not included in the analysis based on the small sample size. The findings related to the age of the firm show that the impact of the support was higher in younger firms, while in firms over the age of 20, the impact was negative.

Research examining the impact of factors in the effectiveness of public support for innovation has focused on selected challenges due to the availability of data. When examining the factors influencing the changes of the four examined indicators for the supported projects under sub-measure 1.1.1., we create two alternative groups of models. The first group of models uses only data from the Ministry of Economy, it examines the supported projects of all entities (corporate/individual), but does not include the impact of company characteristics. The second group of models focuses only on supported projects of legal entities and also includes

company characteristics, about which we obtained information from the Finstat database. In both cases, we use four different dependent variables: an increase in sales (in euros), an increase in value added (in euros), the number of new jobs created and the number of innovated production processes. We also created several regression models aimed at examining if selected characteristics related to receiving public support had an impact on outcome indicators of selected firms. The models examined the impact of type of entity (1 – corporate entity, 0 – individual), amount of provided funds (EUR), level of co-financing (% of provided funds) and length of project duration (years). Table 7 shows results of linear regression models of these variables on outcome indicators of supported firms from sub-measure 1.1.1 in various Slovak regions.

**Table 7**  
Results of regression models examining the impact of firm characteristics on outcome indicators of supported firms

	<b>Value added growth</b>	<b>Revenue growth</b>	<b>Number of innovated innovation processes</b>	<b>Number of created jobs</b>
Constant	-1,580,263*** (-3.4770)	-5,488,627*** (-3.5422)	1.9699*** (2.9134)	-0.9304 (-0.7441)
Type of entity	1,156,043*** (4.2187)	3,918,981*** (4.1948)	-0.566 (-1.3586)	1.1138 (1.4622)
Provided funds	0.6452*** (5.8704)	2.1264*** (5.6748)	7.6E-08 (0.4465)	5.77E-06*** (18.9999)
Co-financing	31,547*** (3.4071)	106,958*** (3.3882)	0.0075 (0.5192)	0.0635** (2.4766)
Project duration	447,168.6*** (2.5977)	1,380,020 (2.3514)	0.7886*** (2.9349)	-0.4536 (-0.9518)
R <sup>2</sup> adjusted	0.1314	0.1241	0.0165	0.3682
Observations	779	779	694	776
F-statistic	30.4126***	28.5474***	3.8999***	112.3666***
Akaike information coefficient	32.2028	34.6259	5.2864	6.5742

Note: (.) values show t-statistics, \*/\*\*/\*\* shows statistical significance at 10%/5%/1% significance level. 85 projects were excluded from the analysis in the “number of innovated innovation processes” model and 3 projects were excluded in the “number of created jobs” models due to unavailability of data.

Source: Authors

All models appear to be statistically significant at all common levels of significance based on F-statistics and associated p-values. However, we can see the differences in the adjusted coefficients of determination – while in the case of value

added and revenues the coefficient of determination was adjusted to a level lower than 0.14, in the model focused on newly created jobs the coefficient was higher. We do not consider the lower values of the coefficient of determination in the case of models examining the increase in revenues and value added to be surprising, as revenues and value added of the firm are affected by many internal and external factors that do not relate to obtaining support (e.g. demand, production costs, market competition, etc.). However, in the case of the model examining the impact on the number of innovated production processes, the adjusted coefficient of determination was very low. In this model, it was also not possible to confirm the statistical significance of the impact of the monitored independent variables (except for the project duration) on the number of innovated processes. Given that the number of innovated processes is a direct output of the introduction of innovations (unlike other monitored output indicators), we consider these results to be surprising, as we assumed that the level of support received will affect innovation in the company. This model was estimated as the optimal in terms of the Akaike information criterion (due to the lowest value of AIC), but due to the low coefficient of determination and statistical insignificance of the indicators, we consider it unsuitable for economic interpretation.

The type of entity (i.e. whether the supported project was carried out by an individual or a corporate entity) was statistically significant only in the case of models examining the impact of variables on the increase in value added and the increase in sales. These results correspond to previous findings, according to which corporate entities achieved on average a higher increase in value added and revenues, while in terms of job creation, self-employed persons had better results. The duration of the project was statistically significant in the case of an increase in added value and the number of innovated production processes. In both cases, the duration of the project had a positive effect, which means that if the project lasted longer, the companies achieved a higher increase in the monitored indicators. This result is probably related to the fact that in the case of a longer-lasting project, the company had more time to generate the monitored outputs (i.e. the increase in the indicator was monitored over a longer period of time). The level of co-financing was statistically significant for all models except innovated processes. We consider it interesting that the level of co-financing had a positive effect on changes in output indicators, which means that the more the entity participated in co-financing the project from its own funds, the higher the increase in output indicators. We assumed that the level of co-financing would have a negative impact on the monitored indicators, as in the case of lower co-financing the company had more internal funds available to expand its business and could invest more funding in achieving higher outputs. However, it seems that a higher level of co-financing has a positive effect on the generation of outputs, so the level of co-financing is unlikely to be an obstacle to the use of public support by firms. From our point of view, the most significant independent variable examined is the amount of provided funds (i.e. the volume of subsidy). This variable, like the

level of co-financing, was statistically significant in all models except the model focused on innovative production processes. The amount of provided funds had a positive effect on revenue growth, added value growth, as well as on the number of created jobs of supported firms. The results show that an increase in the provided grants by 1 EUR resulted on average in:

- an increase in value added by 0.65 EUR,
- an increase in sales by 2.13 EUR,
- an increase in the number of newly created jobs by 0.000006 jobs (we can say that with the increase of the subsidy by 1 million EUR, we could expect on average an increase in jobs created by less than 6 jobs).

## **6. Conslusions**

The type of entity (i.e. whether the supported project was carried out by an individual or a corporate entity) was statistically significant only in the case of models examining the impact of variables on the increase in value added and the increase in sales. These results correspond to previous findings, according to which corporate entities achieved on average a higher increase in value added and revenues, while in terms of job creation, self-employed persons had better results.

Our results confirm the positive impact of the amount of financial resources provided from sub-measure 1.1.1 aimed at supporting innovation in firms on the increase of output indicators of supported firms – effectiveness of this public programme. According to our results, the level of public support is the most critical factor delivering an increase of the competitiveness of firms (in the form of increasing revenues and added value), but also in creating jobs and increasing employment of Slovak regions. By this the key conclusion of the paper is that value added in supported firms grew faster than in firms that did not receive funding from the operational programme. On this basis, we can say that businesses that launched innovation projects as a result of obtaining support from the EU funds have increased their competitiveness to a certain extent. Given that the increase of supported firms' competitiveness is one of the objectives of the Operational Programme Competitiveness and Economic Growth, based on our results, we can state that this goal was met.

Not only did value added grow faster in the supported firms, public support also led to the creation of new jobs and an increase of other outcome indicators. Creating new jobs and innovating production processes in the firms is among the main goals of supported projects. Projects supported under sub-measure 1.1.1. contributed to the innovation of 1,691 production processes and to the creation of 4,283 jobs in the supported firms. Of this, almost 1,500 jobs were created in Eastern Slovakia, where we have been facing high unemployment for a long time. Therefore, we can state the benefits of support from the Operational Programme

Competitiveness and Economic Growth not only in the development of business competitiveness, but also in overcoming economic and social disparities between the regions of Slovakia.

Such really positive results are a bit surprising, because other similar evaluations are much less positive (especially Lešková and Némethová 2016). To try to establish factors of success we interviewed a top administrator from the implementation agency. His response is interesting: “I feel that the explanation is very prosaic – your research evaluated one of the last calls with a really high level of interest – the number of submitted proposals. The higher level of competition and the transparent selection process directed the public support to the best applicants. Moreover, both calls were very simple from the point of their focus – they covered purchases of new technologies.”

Our research also shows that the effectiveness of provided funds was highest in the youngest firms, and in firms that have been established over 20 years ago, the impact was negative. We believe that these conclusions stem from the market position of younger and older firms. Firms that have been operating on the market for a longer period of time can be considered more economically stable. These firms have had a longer time to build a market position and obtain sufficient financial and administrative resources needed to handle innovative projects on their own. Therefore, we assume that not being able to qualify for public support for a firm that has been operating on the market for a longer period of time does not have the same consequences as if it were a younger company. Younger businesses often do not have a sufficient amount of their own resources, which makes the public support crucial for them.

We are aware that there are several weaknesses of the evaluation of effectiveness presented in the paper, e.g. the fact that we did not have certain data available for supported and non-supported enterprises (e.g. data on the number of newly created jobs), so the evaluation focused only on selected indicator of enterprise output (increase in value added). Also, the analysis focused only on selected calls due to the availability of data. However, we feel that these limits do not impact the findings on a significant scale.

There are also certain barriers connected with using the counterfactual impact evaluation in the conditions of Slovakia and other EU countries. In our case the outcome indicators used in the paper are most commonly used to monitor and evaluate public support from the EU funds. Two questions arise in this connection – whether these indicators provide a sufficient basis for assessing the effectiveness of the public support and whether the indicators are reported correctly. The first question is addressed in the evaluation report of the Government Office of the Slovak Republic (2015), which states that the currently used indicators could be more informative if additional indicators were used that would indicate not only the effectiveness but also the efficiency and productivity of support. According to this

publication, it would be appropriate to consider the inclusion of other indicators, such as labour productivity or capital productivity. At present, we encounter the most frequent use of value added and revenue indicators due to the relatively simple availability of data on these indicators, which means that especially in academia, these evaluations can be carried out on the basis of publicly available data. However, the inclusion of other indicators that would provide a more comprehensive view of the firm's impact would certainly be beneficial in terms of assessing the effectiveness of interventions.

It is also possible to argue about whether the data used by the Ministry of Economy reflect the real state of supported firms. Data on output indicators used in the official evaluation of the Operational Programme Competitiveness and Economic Growth and the Operational Programme Research & Development are obtained from the central information system ITMS, where the data are entered by the applicants and beneficiaries themselves. Applicants declare the baseline and planned values of measurable indicators, but it is not clear from the available documents whether the data reported by the applicants are verified in any way. As a result, the results of the effectiveness evaluation may be skewed when using the indicators obtained from the ITMS. Based on these findings, we believe that it is most appropriate to perform the efficiency analysis on the basis of publicly available data and use the data from project monitoring only as an additional source of data, as was the case in the translated dissertation.

The policy recommendation delivered by our paper is obvious – we propose to use counterfactual methods in assessing the effectiveness of public support for business innovation as one of the critical evaluation tools, because we believe that these methods are key to analyzing the impact of support on competitiveness, employment and innovation performance, which helps policy makers assess its benefits. However, it is necessary to remember that these methods have certain limitations and their application must use data that are correctly reported and collected to achieve correct results and conclusions.

## **Acknowledgement**

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# The Potential of Design Thinking and Total Quality Management in Creating Public Value

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## Abstract

One of the most fashionable management concepts currently is Design Thinking (DT). DT is sometimes advertised as *the* creative and innovative method for handling wicked problems. The explosion of DT in the public sector resembles the fast adoption of Total Quality Management (TQM) a few decades ago. At first sight, DT and TQM appear mutually exclusive – the former emphasizes inventiveness, which is cherished in modern governance, while the latter stresses mechanistic solutions and seems obsolete. Yet, public managers need a clearer understanding of DT and TQM and how they relate to each other. The main aim of this paper is two analyze when public managers should employ DT and when they should use TQM in creating public value. The article compares DT and TQM and finds that they are surprisingly similar. For example, they share core values like user-centeredness, stakeholder commitment, cooperation, etc. That is not to say that DT and TQM are the same, for instance their tools are different. Still, the paper argues that the two management models could well be combined – e.g. DT could assist public managers in finding new solutions to known problems and TQM could be used to institutionalize change. This insight helps managers to make informed decisions when choosing a mix of management methods that fits their purpose best.

## Keywords:

Design thinking; total quality management; public management; public value.

## 1. Introduction

Public administrators are under endless pressure to achieve more with fewer resources (Bason 2014). This potential conflict of goals appears to be a permanent

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state for many public managers. Dealing with the tensions that stem from this volatile, uncertain, complex, and ambiguous (VUCA) environment requires openness, flexibility, and adaptivity (van der Wal 2017). Design Thinking (DT) can be regarded as the answer to the pressures of the “VUCA world” because design has the potential to support change. DT has expanded beyond creating tangible artifacts into constructing complex systems, turning designers into facilitators and co-creators of new systems and services (Buehring and Bishop 2020). Within the managerial realm, DT has been labeled as *the* best way to be creative and innovate (Johansson-Sköldberg et al. 2013). It is often described as a subjective and emotional alternative to the structured, bureaucratic logic characterizing many large organizations (Carlgren et al. 2016). DT is currently heavily advertised in the public sector as a response to the difficulties of providing public services (Allio 2014). Furthermore, it is now used to shape and influence intricate human systems by focusing on innovation as a social process (Liedtka et al. 2018) and engender a “new spirit” of policy making (Kimbell and Bailey 2017).

DT arguably offers managers advanced tools and techniques. Several design thinkers have gone so far as to advocate for the overthrow of traditional modes of policy and governance in favor of this purportedly new and superior approach to social problem solving (Clarke and Craft 2019). Bason (2014) says that there appears to be an inherent clash between the logic of administrative organization and the sensibilities of designers: government is analytical, rational, logical, and uses deductive thinking, while design is about synthesis, emotions, intuition, and uses inductive thinking. Some proponents of DT elaborate that designers balance aspects such as feasibility and viability, creativity and constraints, analytical and intuitive thinking (Carlgren et al. 2016). This praise calls for an analysis of DT in the public sector.

The first research question of this article is whether DT is indeed conceptually exceptional. To answer that, DT and TQM are juxtaposed. The rhetoric of the supremacy of DT and its invasion into the public sector resembles the fast adoption of Total Quality Management (TQM) more than two decades ago (see Madsen 2020). At first sight, the two management philosophies seem totally distinct. DT is often associated with creative arts (Di Russo 2016) and TQM with bureaucracy and machine work (Hazlett and Hill 2000). Yet, both concepts originate from manufacturing and have roots in the rational problem-solving approach to management. This paper argues that the principles of DT are not that original, DT and TQM share several core values. This is far from saying that DT and TQM are the same; for example, their tools and techniques differ. However, DT and TQM could be used together. Public managers seeking to embed DT into their organization do not have to entirely replace “old tools of governance”, despite the claims of some “true believers” of DT that this is necessary.

The second research question addresses the potential of DT in delivering public value compared to TQM. As Barzelay (2019) argues, public management is for creating public value, and effectuating public value involves firstly performing a public organization's enterprise functions, including program-delivery and management, and secondly problem-solving in organizations. The latter is about doing the former better than would otherwise be the case. For Barzelay, public management is a design-oriented professional discipline (ibid.).

On the other hand, DT could also be regarded as an "artsy" private sector management fad that does not fit the realities of the public sector. This article claims that notwithstanding its boundaries (e.g. simple approaches do not always help with solving complex issues), DT has several virtues that are fresh to public organizations (e.g. tools of empathy, creativity, iteration, and experimentation) and match the realities of the "VUCA world". The challenge for public managers is how to find the most suitable tools to do the job at hand. The paper argues that when there is a need for creative and innovative solutions or when empathy and collaboration is needed to achieve social outcomes, DT could be the manager's first option. Also, when choice, personalization, and flexibility is essential, DT should be the primary managerial approach. If the operating environment is more stable and predictable, then planning, control, clear accountability, and transparency are key to delivering public value. In this case, TQM has a lot to offer.

The paper is divided into six parts. Section 1 is the introduction. The following two sections provide a literature review of the evolution, essence, methods, and critique of DT and TQM. This systematic overview is used as an input for comparing the two management ideas in the fourth part of the paper. The resemblances and variances are analyzed using general evaluation criteria established by the author. Section 5 addresses the question of how DT and TQM influence the creation of public value. The competing public values framework (CPVF) by Talbot (2008) is used to examine the issue because the model is a practical display of public values. CPVF contains the idea that managing public value is about elucidating paradoxes, which is also an intrinsic aspiration of DT. The article concludes with insights for public managers on using DT and TQM in public organizations in section 6.

## **2. Overview of design thinking**

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### **2.1 Evolution of the concept**

There is no universally agreed definition of DT, but a short excursion into the history of DT may shed some light on the nature of the concept. Design theory and practice has for a long time dealt with objects. Management scholars first showed an interest in links between business and design in the mid-1980s (Johansson-Sköldberg et al. 2013). This phase is sometimes referred to as design management (DM), that is the ongoing management – and leadership – of design organizations, design



processes, and designed outcomes (Cooper et al. 2009). The development of DM and DT could be presented in three stages (Table 1).

**Table 1**  
The progression of DM and DT (the author, based on Cooper et al. 2009)

Stage	Drive	Approach to design
1. DM in the context of manufacturing	DM deals with management issues that are directly related to the product development process with the aim of succeeding in a competitive market.	Design adds value, which poses questions such as: What value and at what development stage does design add to a manufactured good? What is the role of the designer in a product development team? How can this value be measured?
2. DM in the context of marketing and branding	The product continues to be mostly viewed as a good for sale, and its purpose is still to succeed in a competitive market.	The focus is on a tangible product together with its accompanying services. Here the concept of service design took shape initially. Design's role is merely to offer a service to the process of manufacturing goods for sale.
3. DM in the context of organizations and society	Design activities are established parts of an organization, either in manufacturing or in marketing and branding.	DM changed its course from one of designing as managing to one of managing as designing. Design <i>thinking</i> emerged as a practice independent of the product. DT focused on the characteristics of a problem.

In short, the approach, once used in production, is now infusing corporate culture (Kolko 2015) and can be applied to strategies, organizations, systems, services, and policies (Bason 2010). Sanders and Stappers (2008) go on by saying that design is about designing for the future experiences of people, communities and cultures. Le Masson et al. (2013) propose no less than a new paradigm for contemporary societies – the design paradigm.

## 2.2 Ways of describing DT

DT involves the implementation of a design philosophy; it is a precursor to design action (Chen 2019). Put otherwise, the essence of DT can be further clarified by examining its principles and features, which are explained in Table 2.

**Table 2**  
The features of DT based on two literature reviews

<b>Principal attributes of DT (Micheli et al. 2018)</b>	<b>Commonly cited characteristics of DT (Di Russo 2016)</b>
Creativity and innovation	Optimistic, inventive, and innovative
User-centeredness and involvement	Empathy, human-centered
Problem solving	Wicked problems
Iteration and experimentation	Iterative
Interdisciplinary collaboration	Collaborative, multidisciplinary
Ability to visualize	Visualization
Gestalt view*	Ethnographic
Abductive reasoning**	Abductive, intuitive, problem-solution framing
Tolerance of ambiguity and failure	Fuzzy front end, rapid, prototyping
Blending rationality and intuition	System thinking

\*Gestalt view is an integrative approach that enables both the development of a deeper understanding of the problem context and the identification of relevant insights (Micheli et al. 2018).

\*\*Abductive reasoning is the opposite of deductive thinking (from the general to the specific) and inductive reasoning (from the specific to the general); it is the imagination of what *might* be, rather than the analysis of what *is*; the abductive approach to problem solving is about either relying on an existing frame or reframing and challenging existing practices and assumptions (Micheli et al. 2018).

**Table 3**  
Different ways of describing DT (Kimbell 2011)

	<b>DT as a cognitive style</b>	<b>DT as a general theory of design</b>	<b>DT as an organizational resource</b>
<i>Focus</i>	Individual designers, especially experts	Design as a field or discipline	Businesses and other organizations in need of innovation
<i>Design's purpose</i>	Problem solving	Taming wicked problems	Innovation
<i>Key concepts</i>	Design ability as a form of intelligence; reflection-in-action, abductive thinking	Design has no special subject matter of its own	Visualization, prototyping, empathy, integrative thinking, abductive thinking
<i>Nature of design problems</i>	Design problems are ill-structured, the problem and the solution co-evolve	Design problems are wicked problems	Organizational problems are design problems
<i>Sites of design expertise and activity</i>	Traditional design discipline	Four orders of design (signs, things, actions, and thoughts)	Any context from healthcare to access to clean water

Johansson-Sköldberg et al. (2013) identified multiple approaches with different meanings given to the concept of DT. According to them there are five “designerly” ways of DT: (1) creation of artefacts, (2) reflexive practice, (3) problem-solving activity, (4) way of reasoning/making sense of things, (5) creation of meaning. In addition, there are three approaches that fall under DT as a management discourse: (1) the design company IDEO’s way of working with design and innovation, (2) a way to approach indeterminate organizational problems, and a necessary skill for practicing managers, (3) part of management theory. Kimbell (2011) summarizes three main ways of describing DT that are summarized in Table 3.

The abundance of design interpretations demands further explanations of how DT is put into practice and how it is employed in the public sector. These topics are covered in the next sections.

### 2.3 Methods and tools of DT

Key elements of the DT methodology include early and frequent interaction with customers, fast iterations, decision-making, optimization, agile process design with less hierarchy, evaluation, and a learning-by-doing approach that involves building prototypes of any kind as early as possible in the process (Le Masson et al. 2013; Kupp et al. 2017).

Lindberg et al. (2010) say that there are two kinds of design process models: (1) explanatory-theoretical representation of design activities (an abstract model); (2) prescriptive statements on how to solve design problems (a practical model). A typical abstract DT model consists of these steps: discover (understanding the current situation), reframe (deep study of the current situation to understand it in non-obvious ways), envision (exploring potential solutions), and create (designing the future) (Mendel 2012). Practical models follow a similar logic. For example, a renowned model of the “double diamond” developed by the British Design Council (2015) consists of four stages:

- 1) Discover: insight into the solution;
- 2) Define: the area to focus upon;
- 3) Develop: potential solutions;
- 4) Deliver: solutions that work.

DT embraces a lot of hands-on techniques and tools that help designers to get through the design process. Micheli et al. (2018) mapped the essential tools of DT. These are ethnographic methods, personas, brainstorming, mind maps, visualization, prototypes, journey maps, and field experiments. Additionally, Mulgan (2014) brings out systems thinking because DT highlights the importance of seeing correlations between different parts of the system and asking the right questions. Mintrom and Luetjens (2016) use the term “DT strategies” and present a list of methods to use

in the context of public policies – environmental scanning, participant observation, open-to-learning conversations, mapping, sensemaking – which can be combined to strengthen the targeting, development, and implementation of policies.

### 2.4 DT in the public sector

Until recently, most of the professional advice on the designers’ part focused on the micro- and meso-levels of governance: on developing physical artefacts (e.g. buildings, public space) and later (digital) public services. Today, the scope of DT in the public sector has been extended to cover policy-making on the macro-level of governance (Mintrom and Luetjens 2016). Part of the attraction of employing DT in the public sector is the hope that design will advance public innovation (Mulgan 2014) and offer a different way of understanding policy problems, which comes from its hybrid blend of research methods from other disciplines, such as anthropology, systems thinking, and data science, thereby engendering collaboration between different parties and making policy tangible and graspable (Bason 2014; Kimbell and Bailey 2017). The assumed benefits of DT compared to “traditional” public administration are outlined in Table 4.

**Table 4**

The benefits of DT compared to traditional public administration (the author, based on Allio 2014; Kimbell and Bailey 2017; Clarke and Craft 2019)

<b>“Traditional” public administration</b>	<b>Advantages of DT</b>
“Closed” design processes, led by government actors, with little attention to real needs of users, absence of engagement	Designing for the fundamental needs of users and engaging citizens; “co”-modes of doing, such as co-production and co-delivery
Policy of program specific “silos”, lack of joined-up thinking	Joined-up innovation process, multidisciplinary teams; a comprehensive problem perspective; integrated and better-targeted solutions; reduced duplicated efforts, policy inconsistencies or overlaps
Long-term pre-implementation planning processes	Creativity and risk taking; regular iteration and experimentation; low risk prototypes that lead to innovative and inclusive solutions; reducing the distance between policy and implementation
Ambiguous and complex goals	Better understanding of the “architecture” of a problem; generating new ideas
Lack of tangibility	Making problems tangible through direct observation, visualization and prototypes; enhanced synergies and better addressed trade-offs

The positive impact of DT is of course not as straightforward as Table 4 might imply. As Kimbell and Bailey (2017) suggest, the adoption of design practices into

policy settings has received mixed assessments. For example, design’s traditional focus on experiences and serendipitous creativity might neglect a deep understanding of government systems and may be at odds with prevailing organizational cultures and practices. These tensions lead us to the critique of DT in the next part.

### 2.5 The critique of DT

DT contains a fundamental paradox where, on the one hand, DT is supposed to address wicked issues using out-of-the-box thinking, but on the other hand, design thinkers and implementers apply a rational process of manageable stages in order to reach a solution (see Dorst 2006). While there is no doubt that each design problem-solving consists of a certain sequence of process steps, the question would be how predictable, and thus, how determinable those sequences are (Lindberg et al. 2010).

**Table 5**  
Main problems with using DT in the public sector

<b>DT</b>	<b>“Traditional” public administration</b>	<b>Barriers of DT in the public sector</b>
Design synthesizes the emotional and the intuitive using inductive reasoning and thinking from multiple disciplines to create value (Bason 2014).	Relies on rational and logical analysis and uses deductive and thorough thinking to come up with elegant solutions, often influenced by a single discipline like law or economics (Bason 2014).	Values and culture of DT and “traditional” public administration are in conflict.
	Political context complicates simplistic applications of strict “user centrism” as derived from private sector experiences (Clarke and Craft 2019).	Design’s traditional focus on experiences and serendipitous creativity neglects a deep understanding of government systems and practices (Kimbell and Bailey 2017).
The ability to give shape to abstract concepts and ideas is a core design skill (Bason 2014). Yet, as the complexity of the design process increases, a new hurdle arises: the acceptance of “the designed artifact” – whether product, user experience, strategy, or complex system – by stakeholders (Brown and Martin 2015).	The political, ideological, and sometimes abstract nature of public policies makes them unfit for design practices which are concerned with that which is attractive, functional, and meaningful to people in practice (Bason 2014).	It is questionable whether designers can be equal partners in policy-making and vice versa – it is sometimes argued that civil servants lack the skills and values necessary to think and act as designers.

Further arguments against DT are not surprising. Opponents say that DT is poorly defined, and this creates confusion; the case for its use relies more on anecdotes than data; it is little more than basic common sense, repackaged and then marketed for a hefty consulting fee (Iskander 2018). Kupp et al. (2017) state that the typical process of DT hardly ever works the way it is supposed to because of the following challenges: organizations whose success is built on predictable operations instinctively resist fuzzy and messy innovation processes; many established companies punish failure, which discourages the risk-taking that DT requires; DT teams need a lot of autonomy to function well. If these difficulties persist in the private sector, they could be even more grave in public organizations. Table 5 summarizes barriers to using DT in the public sector.

One can respond to the critique by saying that managing tensions is an intrinsic part of DT. For example, Dorst (2015) suggests that DT contains a process of thinking around the paradox rather than confronting it head-on. The solution is not within the core paradox itself, but in the broad area of contextual values and themes surrounding the paradox. So, the core activity of a designer is to create frames, i.e. standpoints from which a problem can be solved, and then concentrate on understanding what is at play in the broadened problem arena (Dorst 2015). Then again, there is no assurance that the creation of alternative frames helps to redefine a problem and find a solution that works.

### **3. Overview of total quality management**

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#### **3.1 Evolution of the concept**

Like design, quality is a vague concept that lies in the eye of the beholder (van Kemenade and Hardjono 2019). It could be viewed as something excellent; it could represent value to somebody; it could be defined as conformance to specifications; or it could be regarded as a bargain that meets or exceeds customer's expectations (Reeves and Bednar 1994). Four fairly discrete stages can be identified in the evolution of quality management (QM): inspection, quality control, quality assurance, and TQM. The first two stages are based on detection and treatment, while the latter two are based on problem prevention (van der Wiele et al. 1997).

Although many management scholars consider TQM to be a management fad of the 1980s and 1990s that has now passed, there are those who think that TQM is still alive (see Sabet et al. 2016; Madsen 2020) and now at a more mature stage where focuses have shifted from being initially on TQM to the tools, techniques, and core values which are needed to implement QM and build a quality and business excellence culture (Dahlgaard-Park et al. 2013). Efforts for the further development of QM encompass "perceived quality", "human-focused QM", and "intelligent QM" (Weckenmann et al. 2015). Some experts even argue that TQM is approaching, if

not merging, innovation management (Lilja et al. 2017). In this paper, the term “TQM” is used throughout because it is widely used as a roof concept to denote various QM principles and practice.

### 3.2 Ways of describing TQM

As there is no universally agreed definition of TQM, numerous lists of its key elements have been proposed. Three examples are provided in Table 6.

**Table 6**  
The features of TQM based on literature reviews

<b>Top ten TQM critical success factors (Aquilani et al. 2017)</b>	<b>TQM core principles (Dahlggaard-Park 2011)</b>	<b>Quality 4.0: eight key ingredients of managing quality in the Industry 4.0 era (Sony et al. 2020)</b>
Leadership/top management commitment/role of top management	Strong management commitment/leadership/strategically based	Top management support for Quality 4.0
Customer focus/satisfaction	Focus on customers/customer-driven organization	Leadership in quality
Training and education	Focus on learning & innovation/training and education	Training in Quality 4.0
Measurement or metric systems/data information and analysis/quality data and reporting	Actions based on facts/scientific approach	Handling big data Improving prescriptive analytics
Supplier collaboration/management/supplier quality (management)	Building partnerships between suppliers, customers, and society	Using Quality 4.0 for effective vertical, horizontal and end-to-end integration
Process quality management	Focus on processes	
Continuous improvement	Continuous improvement	
TQM as a strategic issue/planning/role of quality department	Total involvement/total commitment/total responsibilities	Using Quality 4.0 for strategic advantage
Employee commitment and attitude/involvement	Focus on employees/teamwork/motivation/empowerment	
Organizational culture/quality culture/organizational climate/learning	Systematic approach/building a TQM culture	Organizational culture for Quality 4.0

Another way to rationalize TQM is to say that a range of “soft”, “hard”, and “mixed” approaches to TQM can be differentiated (Hill 1995). “Soft” TQM emphasizes customer awareness and the duty of employees to take responsibility for qual-

ity. Employee motivation is crucial for successful customer care because employees are empowered to deliver quality to internal and external customers. “Hard” TQM uses the traditional techniques of quality control and assurance and corresponds to the “management by fact”. “Mixed” forms combine the two approaches (ibid.). Table 7 divides different forms of TQM to these three broad categories.

**Table 7**  
Different ways of describing TQM

Approach	Form of TQM
“Hard” TQM	<p><b>TQM as quality management</b> is about managing quality in mass production settings using statistical tools (e.g. control charts, flowcharts, Statistical Process Control, etc.) for improving processes, although it goes beyond mere tools by incorporating issues of quality control to managerial functions, e.g. strategic planning and involving workforce (Yong and Wilkinson 2001).</p>
	<p><b>TQM as systems management</b> is based on the use of systems and procedures for controlling quality. Quality systems entail having the organizational structure, responsibilities, documented procedures and work instructions, processes, and resources for implementing QM so that there is a guiding framework to ensure that every time a process is performed the same information, methods, skills, and controls are used and practiced in a consistent manner (Yong and Wilkinson 2001).</p>
“Soft” TQM	<p><b>TQM as people management</b> is focused on the more qualitative aspects, such as greater customer orientation, employee involvement, team-working, and generally better management of employees. Much significance is placed on education and training, communication, and involvement of all employees in the decision-making process that should lead to the mind shift that quality is everybody’s responsibility (Yong and Wilkinson 2001).</p>
“Mixed” TQM	<p><b>TQM as re-engineering</b> is about building “discontinuity” into the system by radically rethinking and redesigning processes to achieve improvements (Yong and Wilkinson 2001). Rather than taking processes as given, they should be overturned, taking the customer’s rather than management control perspective.</p>
	<p><b>TQM as a new management paradigm</b> states that it is the overall quality of management that leads to better performance. There are several ways to achieve higher quality of management, among which national quality awards represent one option (Yong and Wilkinson 2001).</p>

### 3.3 Methods and tools of TQM

Hellsten and Klefsjo (2000) argued that TQM contains the three interdependent components of core values, tools, and techniques. Examples of TQM’s techniques are quality circles, quality function deployment, benchmarking, employee development, supplier partnership, process management, self-assessment, design of experiment (ibid.). Tools of TQM are, for instance, relation diagrams, factorial design, Ishikawa diagrams, control charts, ISO 9000, process maps, tree diagrams, criteria of quality awards (although the latter are often treated separately as frameworks or



models) (Dahlgaard-Park et al. 2013). Van Kemenade and Hardjono (2019) add instruments that are more in line with current understandings of TQM, e.g. reflexive tools (like second opinion, intervision, time-out, discussion stories, inner conversations, shadowing, modeling, peer review, Six Sigma) and systems management methods that help to make sense of chaos (for instance, context analysis, quality circles, Lean, appreciative inquiry, Socratic café). The extensive catalogue of methods demonstrates that the TQM toolbox has been expanding over time. It almost seems that every popular management instrument could be treated a part of TQM.

### 3.4 TQM in the public sector

It is argued that adopting quality principles might resolve difficulties that public organizations face easier and allow them to operate with lower cost and less effort (Tomažević et al. 2014). Even so, Swiss (1992) argues that the orthodox (i.e. hard) TQM is strikingly ill-suited to the government environment, the major problems being its insufficient modification for services since service provision is usually more difficult to manage than manufacturing products, difficulties with defining customers, inappropriate emphasis on inputs and processes, which creates problems of measurement. Hazlett and Hill's (2000) study showed that the characteristics obstructing TQM in the public sector are the following: public sector culture, lack of clear customer focus, too many procedures, people working in divisional "silos", too many targets, lack of awareness of a strategic direction, the general belief that staff are overworked and underpaid, domination by stakeholders. Therefore Swiss (1992) proposed that a "reformed" TQM that emphasizes client feedback, performance monitoring, continuous improvement, and worker participation could be suited to public organizations. Fryer et al. (2007) elaborate that the most important success factor of TQM in the public sector is the management commitment.

Various QM methods and tools are now widespread in public organizations, e.g. service standards, management systems based on ISO 9000 series standards, "excellence" or benchmarking models, such as Common Assessment Frameworks (CAF), quality award programs and so on (see, for instance, how QM developed in Czechia in Špaček 2018 and examples of QM instruments in use in Špalková et al. 2015). A widening from quality of products and processes to quality of services, quality of life, and quality of the environment has taken place, and the challenge is to adjust and modify the QM framework while endlessly developing better tools and techniques in order to fit with the needs of new service and knowledge intensified organizations (Dahlgaard-Park et al. 2013). Raja Sreedharan, Raju, and Srivatsa Srinivas (2017) say that there is a need for process improvements in new governance settings, though quality principles need to be properly modified in different government departments like education, administration, etc. depending on the environment of each of these divisions to ensure that multiple, contradicting factors are taken into account as this area is somewhat sensitive.

### **3.5 The critique of TQM**

Apart from the discussion on TQM's suitability for public agencies, there has been a lively discussion about the downsides of TQM as such. One of the most serious objections to TQM is that it creates mechanistic solutions (Godfroij 1995) and increases bureaucracy (Hill and Wilkinson 1995). Dahlgard-Park (2011) brings out three lines of criticism. First, the failure rate of TQM implementation is high, although it is frequently not clear whether the organizations which experienced failure really adopted TQM or not. The second criticized aspect of TQM concerns its position as a general management theory: there is no consensus on TQM terminology and definitions and its main tenets are not all unique to TQM, but they are also part of other organizational change initiatives or generally accepted "good" management practices; organizational contingencies are not recognized, organizational informal aspects, such as power and politics, are either completely forgotten or viewed as having little importance. Third, TQM is strong on the implementation aspect but weak on content (ibid.)

## **4. Comparison of DT and TQM**

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The rhetoric of the proponents of TQM back in the 1980s and 1990s is comparable to the practitioner-advocates of DT in that the adoption of the respective management methods allegedly provides a quick fix to the problems (public) managers are facing. But the sales stories are not the only features DT and TQM share. The parallels and variances of these management concepts are discussed in Table 8.

The comparison shows that there are no fundamental differences in the scope, core principles and role of the main participants of DT and TQM. Divergences appear in practice. Designers use various tools that are (or used to be) unfamiliar to other disciplines. But as Dorst (2011) suggests, many of the activities that designers do are universal, and thus, it would be inappropriate to claim that these are exclusive to design. That is, there are no barriers to using methods of DT (e.g. personas or user journeys, etc.) in organizations that rely on TQM, and vice versa – DT can use tools (for example data analysis) inherent in TQM. This is possible because the core philosophy of the two management ideologies is wide-ranging and analogous, even more so because both TQM and DT are developing towards becoming general management concepts.

This is not to say that DT and TQM are the same. Obviously, DT does not resemble the "hard" version of TQM, which sees QM as the use of statistical tools to control processes and standardize end products. DT also differs from a conception of TQM as a systems management that relies on a control framework through documented processes and work instructions, clear structure and responsibilities, etc. In brief, it is apparent that "soft" versions of TQM are more related to DT and "hard" versions of TQM have less in common with DT. But in which situations could DT and/or TQM be most valuable?

**Table 8**  
A comparison of DT and TQM

<b>Criteria for comparison</b>	<b>DT</b>	<b>TQM</b>
Evolution	From manufacturing via service development and general management to public management and policy making.	Similar path of development.
Scope of application	DT applies to micro-, meso- and macro-levels of governance much in the same way as TQM. However, the effect of DT on macro-level governance is more direct compared to TQM, as DT is increasingly used in policy making.	TQM concerns all levels of governance. Micro-quality applies to the relationships within an organization. The purpose is to improve the organization's performance. Meso-quality deals with the relationship between supply and demand, or provider and user. The aim is to increase the external quality of the service paying more attention to those on the demand side. Macro-quality applies to the relationship between a public service and the citizenry. The concern is the improvement of the quality of life in society. Yet, the impact that TQM has on macro-quality is indirect in the form of reinforcing effects upon the relationship between people and government (Vinni 2007).
	DT relies on the general understanding of the problem, including customers' needs, the end-user's environment, social factors, market adjacencies, and emerging trends (Micheli et al. 2018). Despite the claim that it takes the "gestalt view" (i.e. the whole is more than the mere sum of its individual parts), DT often remains a project- or problem-based approach to solving specific problems.	TQM states that quality is "strategic". Quality is a result of managing systems, not just discrete products, services, or organizational units. Hence, the word "total".

Core principles	Human-centeredness is the starting point of DT.	User-orientation is central to managerial efforts in TQM, the needs of clients are at the core of most quality definitions. Prevention is deeply rooted in TQM, which is akin to prototyping in DT. TQM relies more on step-by-step improvements throughout the product or service cycle. It should be noted, however, that TQM as re-engineering applauds radical change.
	DT popularizes the idea of experimenting and the technique of prototyping. DT takes a step further from TQM's continuous improvement and states that out-of-the-box thinking, risk-taking, and radical solutions are often needed instead of incremental change.	Learning from errors to detect root causes of problems is at the heart of TQM as well. This needs a culture that avoids punishment for making mistakes.
	Iteration is essential to DT. It is vital to allow mistakes, which in turn assumes a culture that is tolerant of failure.	Although some experts try to combine modern TQM and innovation management, creativity is not among the main characteristics of TQM, at least not in the "hard" versions of it.
Role of top management	DT specifically emphasizes creativity but agrees that intuition should be blended with rationality.	TQM is explicit in emphasizing the need for clear leadership and top management commitment (e.g. by providing resources necessary for employees to do their jobs well) to drive TQM values and practices.
Role of employees	Modern DT is about managing as designing. Yet, DT does not overtly state that top managers must be part of design teams, although it is common sense that leaders support innovation (see Bason and Austin 2019).	TQM clearly stresses employee commitment and involvement across organizational functions. TQM underlines that "culture of quality" must be built into processes and rooted in values of an organization by means of training and education of all personnel.
Relationships with stakeholders	In DT, there are two schools of thought: the first believes that everybody can design and the other stresses that "true" design is a domain of professional designers who take the lead in design projects. The latter understanding differs from TQM.	Quality emerges from collaboration with stakeholders – customers, suppliers, and even society at large (e.g. quality award models contain the criteria related to social responsibility).
Importance of measurement	DT stresses co-design which is about "deep" collaboration with various participants throughout a design project. DT prioritizes interdisciplinary teams to encourage creativity and ensure that the outcome is sustainable thanks to having various views present from the start.	Measurement and feedback in TQM are a precondition for learning and continuous improvement, both quantitative and qualitative analysis methods are used.
Toolbox	DT values gathering/analyzing both qualitative and quantitative data to run iterations and develop improved solutions.	The TQM toolbox is full of "hard" tools of management, but "soft" tools are also appreciated. Many concrete models (e.g. quality award models, ISO 9000 series management systems), techniques (Six Sigma or Lean), and tools (seven "old" and seven "new" tools of QM) are different from DT's instruments.

## 5. The contribution of TQM and DT in creating public value

Junginger (2018) argues that DT’s focus on human interaction promotes innovation, integrates public organizations in a new way, and directly contributes to the creation of public value. But exactly how does DT, compared to TQM, influence public value creation? This could be analyzed using the competing public values framework (CPVF) by Talbot (2008). CPVF covers diverse goals that a public manager must consider and harmonizes five competing dimensions of public value: (1) trust and legitimacy; (2) collectivity; (3) security; (4) personal utility; and (5) autonomy (Talbot 2008) (see Table 9).

**Table 9**  
Competing public values in relation to DT and TQM

<b>Competing public values and their key elements (Talbot 2008)</b>	<b>How does DT influence public values?</b>	<b>How does TQM influence public values?</b>	<b>Which management idea works better for public managers?</b>
<p><b>COLLECTIVITY:</b></p> <ul style="list-style-type: none"> <li>• Social outcomes</li> <li>• Co-production</li> <li>• Social capital and cohesion</li> <li>• Partnerships</li> </ul> <p>Collaboration is at the core of managerial efforts in this value area.</p>	<p>DT values collectivity, its characteristics include co-design, empathy, optimism, collaboration, multidisciplinary, ethnographic methods, etc. Yet, the direct user is the focal point of design activities while concerns of other stakeholders are subsidiary. Then again, many DT experts stress that nowadays design’s most important task is to contribute to social issues.</p>	<p>TQM is a universal concept that does not differentiate between (groups of) stakeholders. TQM values partnerships and co-production since quality is a result of everyone working together. TQM does not aim at maximizing social outcomes because often the idea is to determine acceptable or even minimum standards and concentrate on staying within defined parameters at a minimal cost (although supporters of modern TQM might argue that it values social outcomes as manifested, for example, in the criteria of quality award models).</p>	<p>If collectivity and collaboration is the primary concern for public managers, DT could be the answer due to in-built methods and tools of cooperation.</p> <p>While TQM also stresses collaboration, it might guide executives too much into the direction of minimum standards, which is fine when in search of stability, but not when there is a need to come up with disruptive ideas.</p>

<p><b>AUTONOMY:</b></p> <ul style="list-style-type: none"> <li>• Transparency</li> <li>• Accountability</li> <li>• Consultation and participation</li> <li>• Innovation</li> </ul> <p>Creativity is central to managerial strategy in this area of public value.</p>	<p>DT emphasizes consultation and participation. DT could provide public managers with fresh methods of ideation and creativity (Mulgan 2014) that support innovation.</p> <p>However, the word "accountability" is not in designers' everyday vocabulary (here accountability to the public is meant, not to the profession) and the messy design process is not always clear and transparent.</p>	<p>TQM values accountability (responsibilities must be precisely in place) and consultation with customers, as well as transparency since procedures must be clear and understandable to everyone.</p> <p>Although proponents of modern TQM try to bind TQM and innovation together, creativity is not the primary concern of quality managers.</p>	<p>Taking TQM only as a mechanistic approach that is the opposite of innovation might point us in the wrong direction (e.g. visualization, creativity-boosting, and problem-solving tools are in the arsenal of quality managers). Nevertheless, creativity is more deeply rooted in DT than in TQM, and in need of creative and novel solutions, DT may be the preferred approach. TQM is beneficial in situations where clear and transparent action is needed.</p>
<p><b>SECURITY:</b></p> <ul style="list-style-type: none"> <li>• Reliability and resilience</li> <li>• Service standards</li> <li>• Equity and due process</li> <li>• Costs and efficiency</li> </ul> <p>Control is the central feature of managerial efforts in this value area.</p>	<p>DT could be useful in creating sustainable results, which is in line with reliability and resilience since DT values developing robust applications via experimenting and involvement of stakeholders from the start. Costs and efficiency are not the first concern of DT, although in the longer term the idea is to offer value for money through working out lasting solutions.</p>	<p>TQM, especially the "hard" versions of it, is to a great extent about institutionalizing the processes at optimum levels of quality and cost to maintain control.</p>	<p>TQM has more to offer to public managers in securing services that are reliable and meet the required standards (whether it be equity or efficiency) that apply to all groups in the same way. In other words, TQM works well in internal operations, stable environments, and uniform interactions, while DT could be useful in developing a working solution in the first place.</p>

**Table 9**  
(continuation)

<p><b>PERSONAL UTILITY:</b></p> <ul style="list-style-type: none"> <li>• Choice</li> <li>• Personalization and flexibility</li> <li>• Accessibility</li> <li>• Relative quality</li> </ul> <p>Competition is at the heart of managerial strategy in this value area.</p>	<p>Personalization, flexibility, and choice are deeply rooted in DT, because it aims at maximizing the outcome for a specific user group. Individual needs of users are more important than social cohesion (although many design thinkers would probably disagree with this argument).</p>	<p>One definition of quality is that it is what the users define it to be, and hence, TQM stresses customer orientation. Therefore, in some contexts, relative quality is tolerated in TQM and personalization is allowed. Despite that, TQM works better in providing standardized products and services.</p>	<p>When public managers need to maximize competition, personalization, and flexibility, DT is a better option – DT experts have developed practical tools (e.g. empathy and/or experience maps, etc.) that could be of help to public managers in coping with the trend of growing individuality in society. However, in situations where relative quality is unavoidable, TQM does not rule out endeavors of flexibility and competition.</p>
<p><b>TRUST AND LEGITIMACY</b> result from other values and stress the need to balance all dimensions of CPVF to uphold trust and legitimacy of governance.</p>	<p>Both DT and TQM contribute to building trust and legitimacy as shown in the public value areas above. Furthermore, since trust and legitimacy are ultimately assessed by the public (individually or collectively) and the principle of human- or user-centricity is central in both management concepts, it follows that confidence towards the state should be a key concern for public managers in search of delivering public value applying either DT or TQM.</p>		

Public managers must be acquainted with the ideas and methods of DT and TQM if they want to succeed in the practice of public policy or management. It is helpful to have a general understanding of which management concept is better suited to which circumstances. Table 9 illustrates that in some instances (e.g. where there is a need to get to the bottom of complex phenomena and/or develop new services or revolutionary solutions to policy problems), DT could be of more use. In some conditions (e.g. when there is a need to ensure that new solutions will be institutionalized into steady routines to guarantee uniform outcomes), TQM works well. But the key insight is that in many cases DT and TQM could be combined to achieve public goals, i.e. they are not mutually exclusive.

Surely there are situations where contradictions emerge when applying DT and TQM together – e.g. despite the similarities in basic principles, the strife for

efficiency and workflow standardization can be counterproductive to the DT-led problem solving that aims to re-frame wicked problems and adapt to the ambiguity. Yet, this paper argues that the tension could be alleviated. Gaim and Wählén (2016) propose that it is possible to solve paradoxes in management by using design that stresses finding creative solutions that reconcile dilemmas, instead of just being forced to choose between option A or B. Dorst (2015) offers another practical point for managers – DT techniques and methods should be adapted, not adopted. Adaptation means that core principles are transposed to other fields by practitioners abstracting from everyday design practices and connecting these fundamentals with the corresponding needs in the target field. Adoption is used when methods are chosen and applied without substantial change or much thought (*ibid.*).

## **6. Conclusions**

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This paper maintains that DT is not a silver bullet in addressing problems of public policy and management. DT is essentially a structured decision-making method which is relatively similar to the ideas of TQM, particularly to the “soft” and contemporary versions of it (e.g. TQM as a management paradigm). This may be good news for public management theorists and practitioners alike, because public sector organizations that have experience with QM may find that DT principles are not at odds with TQM. This could also help overcome the disadvantage of DT that it is often associated with arts and fashion, giving rise to skepticism in applying “artsy” ways to serious matters like health or education or social services. The article claims that DT promotes ideas that are valuable to modern public organizations, e.g. empathy, creativity, iteration, and experimentation. In a “VUCA world”, the guiding role of (organizational) values is even greater than before. Since the core principles of DT and TQM are similar, public managers can apply them in parallel to achieve better outcomes in delivering public value.

For the enthusiasts of using DT in the public sector, a reminder that DT has its limits is appropriate. The key promise of advocates of DT is that it provides actual help in dealing with the wicked issues of public policy. However, the main critique of DT is that design itself is ill-equipped for solving the paradoxical situations where opposing views have to be unified. In other words, there is no guarantee that DT can yield solutions to complex problems – design is often reduced to simple recipes of innovation, but unpretentious methods often cannot unravel multifaceted social matters. Indeed, design thinkers suggest that creative solutions that draw on multiple perspectives can help to reconcile this inconsistency (see Gaim and Wählén 2016), but some tensions will probably remain. On the other hand, managing paradoxes in delivering results is a normal state of affairs for public managers, as established in the concept of CPVF (Talbot 2008).



For practitioners, DT's value for public management might lie in putting people, not experts, at the center of development. Additionally, public managers might be attracted by the promise of DT that it could be used to develop ideas into solutions faster than public organizations are accustomed to. DT asks managers to look at the subject through various lenses, e.g. using knowledge from various fields affecting the problem. Therefore, engagement of various stakeholders, not just relying on professional designers, is essential in design projects (see also Mulgan 2014). TQM could prove useful in institutionalizing the (innovative) solutions that were created using DT approaches. In brief, when choosing the managerial method that fits the problem at hand, public managers should bear the following in mind:

- when there is a need for creative and innovative solutions and when empathy and collaboration are needed to achieve social outcomes, DT could be the manager's first choice;
- where detailed planning, control, clear accountability, and transparency is the key to delivering public value, TQM has more to offer;
- when competition is required to spur choice, personalization, and flexibility, DT should be the primary managerial option;
- when issues of trust and legitimacy are the main concern, both managerial approaches are helpful. DT and TQM could be applied jointly to create public value in a balanced manner.

This article dealt with the issue of contextualizing the utilization of management methods, taking into consideration the value proposition that a public organization pursues. Yet, variables beyond the purpose of public managers may influence the "right" mix of management instruments. For example, the degree of organizational publicness (see Antonsen and Jorgensen 1997) might be of importance. Publicness is organizational attachment to public sector values: for example, due process, accountability, and welfare provision. Organizations with a high degree of publicness are characterized by complex tasks, professional orientation, many external stakeholders, conflicting environmental demands, and low managerial autonomy. The latter are the opposite (*ibid.*). It follows that organizations with a low degree of publicness lend themselves more readily to managerial ideas. Organizations with a high degree of publicness find it harder to accommodate managerial interventions (Vinni 2007). In short, publicness is an example of a concept that presents opportunities for further research on how to contextualize the use of DT and TQM in CEE public management.

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# Decentralization Policy in Ukraine: How Voluntary Amalgamation, Inter-Municipal Cooperation and Fiscal Incentives Impacted the Local Government System

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## Abstract

This paper examines the progress of implementing a comprehensive decentralization program in Ukraine. Ukraine was practically the last country of the former Soviet bloc to undertake a comprehensive decentralization program. The decentralization program was based on three pillars: (1) a reliance on voluntary amalgamation of the local government units, (2) the use of inter-municipal cooperation, and (3) enhanced financial incentives. The authors examine how these policies were implemented as well as the impact on local governments service delivery and fiscal capacity. The analyses are based on available data and the application of statistical tests measuring fiscal resources to the population size and other variables of the local government. The study has revealed some significant flaws in Ukrainian decentralization policy implementation. The voluntary approach eventually had to be abandoned for a mandatory approach. The weak progress in inter-municipal cooperation did not establish improved service delivery across a large number of local government units. The financial incentives with greater sharing of taxes did not provide sufficient additional resources to make the units financially sustainable. Finally, the results of the local government elections held in the amalgamated units did not reveal widespread support for the new units and the decentralization reforms. These issues create significant risks for the final success of the decentralization reform.

## Keywords:

Voluntary and forced amalgamation; administrative and fiscal decentralization; inter-municipal cooperation; amalgamated territorial community (ATC).

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## 1. Introduction: Ukraine five years after starting decentralization

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The decentralization reform in Ukraine, long delayed and overdue, rose to the top of the political agenda in 2014–2015. It would be expected that after so much study and recommendations over the previous two decades and the lessons that could have been learned from other countries in the region, Ukraine would have been well positioned to implement an extensive and successful decentralization reform. It is a paradox that decentralization reform in Ukraine started in the harsh times when the nation had to stand against Russia's attempts to return Ukraine to its domain through a range of military, political and economic efforts. It seemed that such a situation called for a centralization of resources. The Ukrainian political leaders saw this as an opportunity to make the state more effective and closer to the citizens.

The intended impact of the decentralization efforts is straightforward. The small size of the great majority of local units did not allow them to even support their own executive offices and maintain budget institutions. Nearly half of the local governments were supported by state transfers of 70% and created a very heavy burden for the public finance system. The overwhelming number of fiscally non-viable units led to a decreasing quality of local public services and hampered the equal access to them by every citizen regardless of their place of residence.

The reform objective was to amalgamate over 10,000 territorial units into 1441 amalgamated territorial communities (ATC) by the end of 2020. The Ukrainian territories in the Donetsk and Luhansk regions and the Crimean Autonomous Republic that were occupied in 2014 by Russia were understandably not included in the respective decentralization efforts. By the end of 2019, the creation of 1,029 ATCs was accomplished. There have also been 530 inter-municipal cooperation agreements covering some 1,188 local government units, primarily in the area of communal services, infrastructure rehabilitation, fire safety, and education, health and social protection. The local government revenues increased by nearly fourfold (from UAH billion 68.6 in 2014 up to 267.0 in 2019) and the amount of state support to local economic development rose by a factor of five (from UAH billion 3.7 in 2015 to 20.8 in 2019).

Given these accomplishments and after five years of decentralization support provided by the international donor community<sup>3</sup>, it is reasonable to recognize that sufficient time has passed to assess what has been accomplished and what the level of success of the reform has been. This timeframe seems to be sufficient to determine if it has met its main goals and objectives of a comprehensive decentralization reform.

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3 According to the website [www.decentralization.gov.ua](http://www.decentralization.gov.ua) the top five donor supported decentralization projects over the past five years provided between 150 and 200 million USD in funding.



This paper focuses on an examination of the impact of the decentralization policies on the amalgamated territorial communities. There are adequate data and information to make some conclusions as to whether their size and fiscal resources are sufficient to be sustainable and financially viable communities.

The main research questions are the following:

- Did the voluntary amalgamation approach succeed in achieving the desired change in the number and size of local government units?
- To what extent was the amalgamation process supported by expanding the service delivery responsibilities through inter-municipal cooperation within the subnational sector of Ukraine?
- Did the change in size of local governments improve their fiscal position?

## **2. Literature review**

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There is arguably no more researched area of local government and fiscal decentralization than the process of amalgamating small local government units into larger units, both in population and area. The extent of the research literature has been detailed by Tavares (2018). Whether amalgamation is the solution to the problems of fiscal capacity and service delivery is yet to be fully determined. There are significant research studies that tend to support counter points of view on this issue.

In a study published in 2019 that addressed this conflict between service delivery performance and citizen participation, the conclusion pointed in both directions (Ebinger et al. 2019). The research indicated that amalgamation did improve service delivery, but improvements in citizens participation and integration of the amalgamated communities was not definitively demonstrated.

Numerous studies have examined the impact of amalgamation in Europe from the early 2000s and have analyzed the experiences of the various countries that have undertaken amalgamation, even in several waves of territorial reform. The more comprehensive analyses of territorial reform include those by Swianiewicz (2010), Klimovský and Swianiewicz (2010), Centre of Expertise for Local Government Reforms of the Council of Europe and Swianiewicz (2017). All of these studies have presented variations in the design and implementation of territorial reforms with mixed results in most instances.

If amalgamation was not a definitive solution to territorial reform, the use of inter-municipal cooperation seemed to offer an alternative solution. There is widespread use of inter-municipal cooperation agreements with various functions and services being provided through these arrangements. There is a rich level of research and analysis on their use in the European context, much as for amalgamation.

A study by Hulst and van Montfort (2007) examining the use of inter-municipal cooperation in 8 European countries provided excellent examples of the variations and purposes of these arrangements. Bel and Sebo (2019) examined the issue of whether inter-municipal cooperation really produced the improvements in terms of economies of scale, reduction of administrative costs, and improved governance. Their conclusion was that there are cost advantages to the small local government units in joining in these agreements.

Applying statistical analysis methods to provide a more definitive and objective assessment of the impact of territorial reforms and amalgamation has been utilized in a number of studies. One of the more significant studies measuring the statistical relationship among a number of factors to financial performance was accomplished with Brazilian municipalities in the early 2000s. The study by Gomes, Alfinito, and Albuquerque (2013) utilized statistical data from 830 local government units from 2005 to 2008. Their conclusion was that larger units are more likely to (1) manage fiscal resources better than smaller units, and (2) reduce costs. They noted a strong causal relationship between population size and the fiscal capacity and financial performance among these local government units.

Further research by Zafra-Gomez and others (2009) using regression analysis demonstrated these statistical methods to be effective in relating the financial conditions of local governments to a number of social and economic factors.

Other studies that applied statistical techniques to measure fiscal capacity and financial performance include Jones and Walker (2007), Carmeli (2002), and Ramsey (2013). Perrin (2017) made a statistics-based analysis of the effects of grants and transfers from central and state governments on the levels of local government expenditures. This research measured the results of a decrease in state aid on the reduction of local government expenditures.

Unfortunately, there is not a substantial number of similar research studies on the process of amalgamation, inter-municipal cooperation and statistical analysis for Ukraine. As one of the first studies on post-socialist decentralization processes emphasized, the crucial issue of supporting functions in the public finance sector must be the creation of fiscally and economically viable local units (Bird et al. 1995).

Ukraine has been very reluctant to undertake a real decentralization process, even though it has been discussed over the past 20 years. The first steps in this direction were related to fiscal decentralization issues that started at the beginning of the 2000s. There have been several studies which paid attention to these early approaches and which emphasized, firstly, the reassignment of revenues and expenditures, the introduction of modern fiscal equalization mechanisms and increasing local revenues (Martinez-Vasquez and Thirsk 2010; Slukhai 2002; Луніна 2000).

The ideas of amalgamating local territorial units, the use of inter-municipal cooperation and enhanced fiscal incentives are not new policy ideas for Ukraine. In

a paper titled “Policy Options for Local Government Decision-Making Capacity” delivered at a conference in Kyiv these ideas were first identified in 1995 (Wright 1995). The UNDP Report (UNDP 2003) identified the need to merge these units and functional assignments in 2003. A WB study accomplished in 2010 (Romanyuk, et al. 2010) advocated the merging of units with incentives for merging and simplifying the intergovernmental transfer formulas. It was only in 2014–2015 that these ideas were adopted by the government for decentralization reform.

Since the reform started there have been very few comprehensive studies of the overall impact or accomplishments of the current decentralization efforts in Ukraine, even though there has been a substantial level of international donor support. Some notable research papers that have addressed the situation and progress of the decentralization effort in Ukraine include Umland and Romanova (2019), among others.

While there have been some studies related to fiscal aspects of the decentralization, these have tended to focus mostly on the aggregate and macroeconomic level and not down to some analysis of the trends within the population size of these newly formed units (Newmaier et al. 2019; Umland and Romanova 2019; Solodky et al. 2020).

There is some literature by Ukrainian experts that sheds light on the achievements and issues of the on-going decentralization process. One of the first studies published was a report prepared by the Institute of Economy and Forecasting (Луїна 2016) that emphasized the crucial need of securing local autonomy and clear vertical allocation of functions during the reform implementation. The most extensive country-wide studies carried out to the present date is by the National Institute for Strategic Studies (NISS) in 2018 and 2019 (Жаліло та інші 2018, 2019). These studies highlighted the key achievements and problems in the implementation of the decentralization reform. One of the important indicators of the reform success was the irreversibility of the amalgamation process and the increase in local government own revenues.

Some recent studies attempted to assess the general impact of amalgamation on local revenues. The research by Hamaniuk and Palchuk (2020) found that amalgamation led to an increase in local governments *per capita* own revenues (unified small business tax). However, this study indicated that this increase was larger in the smallest ATCs (less than 5,000 inhabitants) than in the larger ATCs. This was explained by the so-called “social ties effect”. This research was contradicted by a study of a sample of 15 ATCs of various population sizes and sponsored by U-LEAD. This study showed a positive correlation between ATC size and the amount of revenues received (Zubenko et al. 2020). The larger the ATC population the greater the correlation with increased revenues.

The study by Storonianska (Сторонянська 2018) offered a set of criteria to assess the impact of decentralization on local government finance and concluded that

the overall effect is positive with regard to public capital investments, own revenues and transfer dependency.

Some researchers foresee that these early positive results of decentralization efforts could expire rather quickly and result in increasing fiscal deficits of rural ATCs; as well as an increase of horizontal inequality concerning resource endowment (Дяконенко 2018).

### **3. Methodology of policy and data analysis**

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In order to present the results of the decentralization policy applied in Ukraine since 2014, we firstly reviewed the existing legislation that enabled the implementation of the policy and supported the approaches to its implementation. In the next step, we assessed the current progress in the decentralization process by focusing on voluntary rural amalgamation, changes in ATCs' fiscal resources, and the development of inter-municipal cooperation. After that we analyzed the changes in the financial situation of the ATCs and tried to determine which factors were significant, i.e. whether the change in the administrative-territorial landscape really contributed to making local governments more fiscally viable and autonomous.

It is often difficult to obtain sufficient and accurate data to analyze the impact of decentralization on local government units. In the case of Ukraine, a significant amount of data on the amalgamated communities is available due to the support provided by the EC and other donor countries through the Ukraine-Local Empowerment, Accountability and Development Programme (U-LEAD).

The U-LEAD project produced a report on the performance of 806 of the ATCs in 2019, which included 79.9% of ATCs at that time. The report examined 8 indicators of ATCs' budget performance, which were segmented into population categories as follows: (1) 95 ATCs with more than 15,000 residents, (2) 128 ATCs with 10–15,000 residents, (3) 268 ATCs with 5–10,000 residents, (4) 288 ATCs with fewer than 5,000 residents, and (5) 27 towns of oblast significance (U-LEAD 2019).

The detailed data from this report are utilized to analyze the change in the number of local government units into amalgamated units to determine the strength of correlations of ATC size to the fiscal indicators. This allows to test the hypothesis that voluntary amalgamation contributed to making local government units more fiscally viable. The statistical test was performed by applying ordinary least squares (OLS) to the data with regard to population segments.

To assess the changes in the overall financial situation of the ATC, the annual budget statistics of the Ministry of Finance of Ukraine was analyzed as well as the data of the national decentralization portal ([decentralization.gov.ua](http://decentralization.gov.ua)) and the Ministry for Communities and Territories Development of Ukraine.

Understanding the limitations of these data that do not provide for more comprehensive data assessment, we believe that this data does give sufficient information on the impact of the policies and the situation in the ATCs and to see some issues arising from the current stage of decentralization policy implementation.

#### 4. Decentralization reform strategy

The decentralization reform is considered one of the most important pillars of Ukrainian public administration system modernization (Khadzhyradeva et al. 2020). It has been considered by some national and international experts to be the most successful reform out of the many launched since 2014. Ukraine started the decentralization process from 2015 with an emphasis on territorial amalgamation of the over 10,000 local government units, which runs counter to two of the main rules of fiscal decentralization. First, Ukraine's decentralization has been based on voluntary amalgamation as opposed to the mandatory merging that has been typical in the other CEE and EU countries. Second, early on it has focused on the process of increasing the fiscal resources even before it began to fully devolve functions. The key question is whether a bottom-up voluntary approach as well as appropriate financial incentives and enhancements are key factors to succeeding in fiscal decentralization reform.

In general, the decentralization strategy of Ukraine involved important components that could support its success if implemented steadily and systematically. These include: (1) changes in administrative-territorial composition; (2) a voluntary approach to amalgamation that allows considering the interests of involved communities; (3) a reassignment of functions among the levels of government, (4) inter-municipal cooperation to provide accessibility and higher quality of public services; and (5) expanding ATC revenues sources.

However, the Ukrainian decentralization reform has some inherent flaws, i.e. it still lacks clarity in intergovernmental relations, which diminishes the overall positive outcomes of the reform implementation and creates further uncertainty. So, as Levitas (2020) indicated, Ukraine lacks a clear legal assignment of functions between the levels of government, which has strict implications on ATC finance. The so-called "own revenues" that comprise a key component of the local government revenues actually embrace the shared revenues (first of all PIT) which cannot be controlled by the local governments themselves. It must also be noted here that the vertical delineation of public functions is also not explicitly defined, which creates a significant "shared" expenditures assignment. This gives the upper hand to the national government that is empowered to redistribute revenues and expenditures among the levels of government on an *ad-hoc* basis, creating a situation of unfunded expenditure mandates.

#### 4.1 Legal policy design

The legal framework on decentralization included several legal and regulatory acts passed beginning in 2014–2015. These involve the Concept of Reform of the administrative-territorial units, changes to the Budget and Tax Codes, laws concerning inter-municipal cooperation, voluntary amalgamation of communities and regional policy. These created a legal and institutional background that enabled the implementation of the policy to reach its goals.

At the heart of the reform is local government amalgamation, and it is essential to precisely understand the basic criteria which were formulated in order to achieve a more effective composition of the local government sector.

The Methodology of Formation of Capable Territorial Communities adopted by the Cabinet of Ministers, as of 8 April 2015, provided the factors, criteria and evaluation methods for determining on what basis the amalgamated units could be formed. It specified that the “able-bodied territory” should be able to provide services in areas of education, culture, health care, social protection, housing and communal services through adequate human resources, financial support and infrastructure development.

The methodology further specified a particular sequence beginning with (1) the identification of potential administrative centers and their accessibility, (2) the determination of a list of territorial communities that could be formed as part of the able-bodied territorial community, and (3) an assessment of the level of capacity that would be formed through the evaluation criteria. Annex 2 of the Methodology specified certain factors and provided for a point system to be applied to determine whether the community would be classified as able-bodied. The factors included (1) population permanently residing in the community, (2) number of students in secondary education, (3) area of the territory, (4) index of tax capacity, and (5) share of local taxes and fees in the budget. A point scale was developed and then accumulated with the designation of 1.5–2.1 points for low level, 2.2–3.8 for an average level, and 3.9–5 for a high level.

Even though these evaluation criteria were developed, they did not provide a minimum level of factors, such as number of units to be merged, or per capita service and fiscal resources, or population density factors that could have enabled a more precise definition of able-bodied communities. The criteria did not set a minimum point level that the amalgamated units had to achieve in order to amalgamate. Consequently, local government units were allowed to amalgamate if they agreed to do so.

The Law “On Fundamental Principles of the State Regional Policy” as of 5 February 2015 granted extensive governmental support for the development of infrastructure in amalgamated communities through a specially designed fund. The sources of the State Fund of Regional Development would be allocated according

to the priorities of the State Program of Regional Development. This would be on a competitive basis with regard to the fiscal ability of receivers to maintain the objects of infrastructure, co-fund their creation, and take into consideration the differences in socio-economic development of the territorial units.

There were also some legal acts passed that extended the authority of local self-government bodies and contributed to the optimization of public service provision through delegating administrative powers to ATCs (such as registration at the place of residence, issuance of national identity documents, state registration of legal entities and individuals, civil registration, registration of proprietary rights, land issues, etc.).

It must be mentioned that a full implementation of the Concept of Decentralization is preconditioned by respective amendments to the Constitution of Ukraine. These amendments concern the establishment of executive bodies of regional and district councils, functions of the local state administrations and defining the community. However, these amendments are still not passed.

#### **4.2 Policy Implementation: Did progress in amalgamation and inter-municipal cooperation bring sufficient results?**

Territorial reform and/or amalgamation has been an ongoing process over several decades in Europe (Swianiewicz et al. 2017). These have come and gone in several waves and with considerable variation in the reasons and justification for changing the number and size of the territorial units at the subnational level.

The main goal of the decentralization process in many of the EU and CEE countries has been to create more viable fiscal and service delivery units through merging the small local governments into larger units. This process has occurred in most of the countries of the region and has resulted in fewer local government units that can provide services on a more economical and efficient scale as well as enhance the fiscal base of the merged units. It has been estimated that local governments with a population of less than 5,000 are not economically viable and increase the cost of services on a per capita basis. Plato estimated that a population of 5,040 would be the minimum necessary population level that would allow a city to perform its social, economic, political and war functions (Charbit 2002).

##### *Voluntary Amalgamation*

In Ukraine, the key feature of the decentralization process from the initial stage was to rely on a voluntary amalgamation of the units. This bottom-up approach provided for more local government officials and citizen input as the basis for the merging of the units and would rise from the perceived interests of the existing local governments and their citizens.

However, as most experts in the field understand and the experience from European countries indicates, voluntary merging has never been successful in achiev-

ing the level of consolidation of local government units to a manageable number. Most countries, at some point, have had to resort to forced merging of the local government units. This was true for most CEE countries which launched decentralization reforms in the late 1990s (Swianiewicz 2002).

Ukraine is a large country in both population and area. It ranks as the 32<sup>nd</sup> most populous country in the world with an area of 603,628 sq. km and a population density of 80 per sq. km. It is the largest country in Europe with regard to territory. It is divided into 25 regions and two cities of national importance (Kyiv City and Sevastopol), 490 districts, 460 cities and more than 10,000 rural councils. The average population for these small units was approximately 1,500.

From 2015 on, these small local units have been able to merge or amalgamate into larger units on a voluntary basis. This process is unique in that it is a bottom-up amalgamation process initiated by the local towns and villages, rather than a top-down mandatory approach. It could be initiated by the mayor, one-third of the local council or by the citizens themselves under certain circumstances.

The capacity of the amalgamated territorial communities has also been increased with additional staffing of experts in the areas of education, medicine, economics, physical education, social workers and other staff in addition to the traditional managers in these units.

The voluntary bottom-up initiative and the provision for inter-municipal cooperation and appropriate financial incentives are the key factors in the amalgamation process in Ukraine. However, the sustainability of these units in terms of size and fiscal capacity is yet to be determined.

The issue here is whether the amalgamation process in Ukraine has had a significant impact on reducing the number of local government units. The growth of the number of ATCs according to U-LEAD Programme data was as follows: 2015–159 units, 2016 – 366 units, 2017 – 665 units, 2018 – 874 units, July 2019 – 925 units, July 2020 – 982 units. As is evident from this data there has been a rather slow and steady increase in the number of ATCs, but they have not reached a sufficient level to encompass the majority of the local government units.

The data from the U-LEAD study of 806 amalgamated units also relates to the percentages of the number of units in each of these population categories and the percentage of the total population. Out of the 806 units, there are 288, or 35%, that are under the 5,000-resident population. This accounts for only 11.8% of the total population of the amalgamated units. Additionally, there are 268 units in the 5–10,000 population group representing 33% of the units and 22.5% of the population. Taken together these two groupings account for approximately two-thirds of the units and only one-third of the population. This is not particularly encouraging data that would ensure amalgamated units of sufficient population size to be viable.



Table 1 presents the results of the voluntary amalgamation process based on the data as of June 2020. It is broken down by the population categories that were defined by the U-LEAD project for analysis.

**Table 1**  
Regional cross-cut of amalgamated local governments with regard to size, as of 2019

Region	<5,000	5–10,000	10–15,000	>15,000	Average number of merged units
Vynnytsia	19	15	5	7	3.4
Volyn	18	27	5	4	4.4
Dnipropetrovsk	30	15	13	13	3.2
Donetsk	4	2	2	5	5.7
Zhytomyr	21	19	6	10	7.4
Transcarpathian	1	8	5	3	3.6
Zaporizhzhia	29	14	4	9	3.6
Ivano-Frankvisk	6	17	8	8	4.5
Kyiv	6	5	3	10	5.9
Kirovohrad	14	7	5	1	3.0
Luhansk	11	2	4	1	4.2
Lviv	11	18	7	5	4.2
Mykolaiv	18	15	5	4	3.5
Odessa	8	14	10	5	4.3
Poltava	26	13	10	4	3.7
Rivne	13	21	6	5	3.3
Sumy	14	11	4	9	4.9
Ternopil	25	13	7	9	5.8
Kharkiv	1	11	4	7	5.0
Kherson	17	8	4	4	3.5
Khmelnitsky	15	20	5	11	7.3
Cherkasy	31	18	4	4	3.9
Chernivtsi	8	13	13	3	3.6
Chernihiv	20	11	8	11	7.5
Total	366	317	147	152	4.6

Source: [www.decentralization.gov.ua](http://www.decentralization.gov.ua).

This table reveals that there were 982 merged units from 4,487 with average of 4.6 units per merged unit. 366 of these 982 units have a population of less than 5,000, or 37 percent. 317 of the 982 units have populations between 5 and 10,000,

or 32 percent. Therefore, 69 percent of the 982 units have populations of less than 10,000. Of the remaining units, 147 of the 982 have populations between 10 and 15,000, or 15 percent and 152 of the 982 have populations over 15,000, or 15 percent.

The distribution of the average merged units for the 24 regions is presented in Table 2.

**Table 2**  
Distribution of ATCs according to the average number of merged governmental units

Average number of merged units	Number of regions
3 Units Merged	11
4 Units Merged	6
5 Units Merged	4
6 Units Merged	0
7 Units Merged	3

Source: authors' calculations based on data in Table 1.

Table 2 indicates that there are a small number of units that are merged in most of the regions. On average 3 units were merged in 11 of the 24 regions. This again lessens the potential of the merged units to be viable and have a broad-based economic base to be fiscally sustainable. This fact was indicated by some Ukrainian researchers showing that voluntary amalgamation in these Ukrainian conditions could not allow forming ATCs that are large enough to be fiscally viable (Сторонянська 2018, 12).

Overall, there was still a predominance of local government units with populations of less than 5,000. If we project this same ratio of local government merged units further, we can see in the final analysis that there will still be a large number of units that would not be considered viable. With still approximately 6,000 units that could be merged, there would be roughly another 1,000 merged units. Unless these can be merged on the basis of larger number of merged units and greater populations, the percentage break-downs of the population categories will likely remain the same. This might mean there will be too many small units with too little fiscal resources to be a viable economic and service delivery unit.

The voluntary approach reached a plateau and largely stalled at these levels. To some extent these results could be attributed to resistance from the larger and wealthier urban communities to merging with poorer and more rural areas (Udovychenko et al. 2017). In addition, the resistance from the existing district level officials was also substantial as they could see that their territorial area and functions would be made redundant by the amalgamated communities. In some instances,

the district boundary and the amalgamated territorial community were identical. Therefore, there were two governments encompassing the same area and functions.

As is evident from the above, the number of amalgamated units did not achieve the level the government had initially targeted. At one point, the target was to reduce the 10,000 units to 1,200, this was later modified to 1,600–1,800 in 2018, and then in 2020 the target was again set to be 1,470, although it is not clear how this number was determined.

It was declared in 2020 that the remaining units not yet merged will be forced into “administratively initiated mergers.” This was done in order for all of the merged local government units to be formed prior to the scheduled local government elections in October 2020. However, this merging and forming of the units into political and electoral boundaries seems unclear.

It seems clear that the voluntary approach to amalgamation applied in Ukraine was not sufficient to create the number and size of local government units that would have made this effort a success. The experiences of the European countries that had gone through this process was not fully appreciated by the Ukrainian authorities and they persisted on this voluntary approach for too long. Eventually, they realized that they would have to resort to a mandatory amalgamation of the local government units to achieve the reform that was envisioned.

Some public opinion surveys indicate that the amalgamation has had a positive impact on the citizens’ views of their local governments and the services that they are receiving under the new arrangements. According to a tracking survey from 2015 onwards, 19 % of those surveyed indicated that budgetary decentralization had been positive; in 2018 this rose to 39.5 % (KMIC 2019a).

Other public opinion surveys carried out in 2019 demonstrated that people generally support the amalgamation approach implemented by the state. However, the increasing share of citizens also has begun to understand the limitations of the voluntary amalgamation. In the survey, 75 % of ATC inhabitants assumed that ATCs were formed on the basis of the amalgamation process. Fifty-four percent supported the amalgamation action. Another 71.5 % think that amalgamation must be voluntary. Interestingly, the percentage of supporters for voluntary amalgamation has decreased quite significantly (by one-third) after three years of the amalgamation process (KMIC 2019b).

### *Inter-municipal cooperation*

One of the key features of the decentralization reform has been the use of inter-municipal cooperation agreements among these units to provide more service delivery in certain service sectors, such as in areas of local social service access for pensioners and the opening of administrative service centers to obtain passports and register children for schools. Previously, citizens would have to go to a larger local government unit or several offices in order to access these services. This required

inconvenient travel arrangements and long waits once they arrived at the proper office.

The use of inter-municipal cooperation was a strategic feature of the decentralization process. It was hoped that this would allow for the economy of scale and cost efficiency for the delivery of the functions assigned to the new ATCs. This is one of the key actions that those local governments with limited fiscal resources could employ to ensure that the additional services that they are required to provide could be effectively delivered. However, the inter-municipal cooperation approach seems to be a concept that is not familiar or well developed in the service culture of Ukraine. A report described the view toward inter-municipal cooperation as follows, “this kind of cooperation is some theoretical toy of Europeans, and had no sense in our hard life” (Proshko 2015).

Nevertheless, with governmental and international support, there have been 530 agreements covering 1,188 territorial units, approximately 10% of the total number of units. The areas of communal services, education, health, and social protection, and the “other” category have the largest number of inter-municipal cooperation agreements projects. There is great variation on a regional basis in the use of the inter-municipal cooperation agreements.

There is little evidence at present that the inter-municipal cooperation agreements have achieved some economies of scale in the services where these arrangements were made. Further analysis will be needed to determine whether this is the case.

The main improvements in local government services appears to have come from the U-LEAD program to support the creation of Administrative Service Centers (ASC) in many communities. These provide a number of services in one location that is more convenient for citizens to access. More than 500 ASCs have been established in various local government units where citizens can get important documents (birth and marriage certificates, residence permits, registration of business, among others) in one location.

A study of the use of inter-municipal cooperation among communities found that these arrangements had not achieved a significant level of use (Dzupin and Kolesnikov 2019). According to the study, the potential of cooperation in areas of education and healthcare were underutilized. There was a very limited use across the regions with half of the regions with ATCs not having any cooperation at all, and where there was cooperation it was of the most basic form. The study indicated that the reasons for this low use of inter-municipal cooperation was due to a low level of awareness among community leaders and a high degree of mistrust among the communities.

It could be concluded that the level of inter-municipal cooperation has not reached a critical level or mass to ensure that local government services will be

substantially improved through the use of inter-municipal agreements. There is not the widespread use, either geographically or by sector, that would indicate these cooperation agreements will reach the level of at least 50 % of the amalgamated units to be considered even moderately successful. Without further support or incentives for inter-municipal cooperation, many of the small units that have amalgamated will be left in situations where government services could deteriorate over time.

### 4.3 Expanding local fiscal resources

The amalgamation was incentivized by the central government through increasing the PIT share allocated to the local governments, greater transfers for social sector functions, and with access to investment grants from the State Regional Development Fund. Also a more simplified, transparent and objective-based grant transfer formula was introduced.

According to the amended Budget Code and Tax Code, ATCs were to receive the following state levies: 60 % PIT share, 25 % of ecological levy, 5 % of excise, 100 % of unified small business tax, 100 % of CIT of communal enterprises, and 100 % of the property tax. They were also receiving some local taxes and state administrative levies, among other minor sources. With the additional resources coming from different types of transfers to support decentralization, the ATCs seemed positioned to receive a much higher revenues base in comparison to the situation before amalgamation.

There have been substantial increases in the local government revenues among the amalgamated units as evidenced by the data from the Ministry of Finance. However, this data is highly aggregated for these units and does not reveal what may be significant variations across these units based on the population categories that are examined in this paper. Overall, the revenues of the general fund of local budgets have increased significantly in absolute terms since 2014, as indicated in Table 3.

**Table 3**

Nominal increase in revenues of general fund of the local budgets in the course of decentralization policy implementation (2014–2019)

	2014	2015	2016	2017	2018	2019
Nominal increase (UAH billion)	68.6	98.2	146.6	192.7	234.1	275.0
Year to year increase (percentage)	n.a.	43.1	49.3	31.4	21.5	17.5

Source: Solodkyy et al. (2020, 11).

The data above illustrate the great revenue increases in the early years of the amalgamation process, but as is evident from 2017, the percentage increases are

leveling off and may have effectively reached their limit based on present revenue sources. This may indicate that additional revenue sources will be needed to meet the increasing expenditure needs of the local governments from the new functions assigned to them and for the maintenance of the infrastructure that has been financed by state budget transfers.

The sharing of the PIT was considered to be one of the main fiscal incentives for the amalgamation of the units. According to sociological surveys, from 60 to 75% of ATC inhabitants of units created in 2015–2016 admit that they feel an increase in ATC revenues after amalgamation (KMIC 2019b). While this source of revenue for the ATCs is substantial on an aggregate basis, there are wide variations in the PIT for the ATCs. This has been demonstrated in a report prepared by the U-LEAD program titled *Assessment of the Public Finance Management System of Amalgamated Hromadas*, which examined 10 amalgamated units in 5 oblasts (Newmaier et al. 2019).

The main findings of this report with regard to the PIT as a revenue source for the amalgamated units reveal some significant problems with its use. These findings were as follows among the 10 ATCs examined:

- The share of PIT in general fund revenues varies from 41 % to 60 %,
- On average, up to 20 % of the PIT is paid by local public sector employees,
- The PIT per capita varies greatly among the ATCs ranging from 1.3 to 2.5 thousand UAH,
- In 8 of the ATCs, transfers provide more than 50 % of the total revenue,
- A common problem identified in the use of PIT is that the administration is divided among separate state offices and they do not conform to the legal requirements for sharing the PIT.

The main conclusion that can be drawn from the examination of the PIT is that it is not a dependable source of revenue for many of the ATCs and cannot be considered an “own” source of revenue, which is common in Ukraine. The reasons are the following: the main Ukrainian PIT components (tax base, tax rates, tax deductions etc.) are defined by the national legislation, and the administration is highly centralized by being performed by the local branches of the State Tax Office. As the study by Newmaier et al. (2019) showed the additional revenues received by the ATC are still not sufficient for granting higher fiscal autonomy as most ATCs have been subsidized by more than half of their fiscal resources.

In order to better understand what affected the ATC revenues we performed a statistical analysis that could reveal the main factors involved.

## 5. Analyzing the allocation of fiscal resources of the ATCs

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### 5.1 Does size matter?

The study by U-LEAD (2019) provides some interesting data on the revenue and expenditure levels among the ATCs grouped by population size. These fiscal indicators involve per capita general budget fund revenues and general budget fund expenditures. According to the Budget Code, the general budget fund comprises revenues and expenditures that are designated for the general government functions. The special budget fund includes targeted revenues and respective expenditures (the revenues and expenditures of the budgetary institutions), budget loans and allocations to the special fund from the general budget fund. The special budget fund is slightly less than 1/10 of the total budget revenues and expenditures.

The per capita revenue data for ATCs does not provide much encouragement for the fiscal viability of these units. For the units under 5,000 residents, there were only 108 units, or 13 %, that have per capita general budget fund revenues (further referred to as GBFR) above the average of all the 806 amalgamated units. Within the units with 5–10,000 residents, only 81, or 10 %, have GBFR above the average of all the 806 amalgamated units. Therefore, only a small percentage of these units with small populations have reached per capita GBFR above the average.

What is more concerning is that the difference between the highest and lowest amounts of per capita GBFR is very substantial within these groupings. For the group under 5,000 residents, there is a difference of 47 times from the lowest to the highest. For the 5–10,000 resident grouping, the difference from lowest to highest is by a factor of 26.

A similar pattern emerges with the indicators looking at the expenses of the per capita general fund budget (further referred as GBFE) in these groupings. For the units under 5,000 residents, there were only 97 out of the 806, or 12 %, that had per capita GBFE above the average of all the amalgamated units. For the units in the 5–10,000 bracket, there were only 55, or 6 %, that had per capita GBFE above the average.

The data for the other indicators tends to follow the same relationships among the groupings with substantial disparities among the groupings and with the weakest relationships in the lowest population groupings. If these trends continue for the amalgamated units, Ukraine will only have a modest improvement in the decentralization effort, or an even more dependent and weaker level of fiscal capacity and service delivery of the amalgamated units.

### 5.2 Factors affecting the fiscal measures

How to measure the fiscal condition of local governments resulting from the impact of a fiscal decentralization process has been an ongoing area of concern in the field

(Martinez-Vazquez and Timofeev 2010). It might be assumed that amalgamation into larger units of local government would increase the fiscal resources of those units. Otherwise, there would seem to be little reason to undertake this merging effort. It might be further assumed that the larger the unit the greater would be the amount of fiscal resources that would be available. A rational assumption is that there should be some correlation of the ATC size to this level of increased financial resources. The larger the territorial unit, the stronger the correlation should be. If there is little correlation or even a negative correlation, then it would seem that the units have not been properly sized to achieve greater fiscal sustainability.

To see if this might be the case, the 2019 data for the ATCs were utilized and a calculation of the population density as the independent variable to the per capita dependent variables, GBFR, GBFE, government expenditures, and capital expenditure were made. The correlations are shown in Table 4 for the ATC segments of various population sizes.

**Table 4**  
Correlations between population density and fiscal measures for different ATC groups, 2019

<b>Per capita measures</b>	<b>Less than 5,000 residents</b>	<b>5–10,000 residents</b>	<b>10–15,000 residents</b>	<b>15,000+ residents</b>	<b>Cities of region significance</b>
GBFR	-0.1373	-0.0117	0.1164	0.1057	0.4569
GBFE	-0.2102	-0.1605	-0.0558	-0.2601	0.3332
Governance expenditures	-0.1487	-0.1236	-0.1315	-0.2229	-0.3073
Capital expenditures	-0.0938	0.0618	0.2770	0.2478	0.0972

Source: Authors’ calculations based on U-LEAD (2019).

As can be seen from Table 4, for those units with less than 5,000 residents and the units with between 5 and 10,000 residents, almost all the correlations are not very high and negative. For ATCs of a size between 10 and 15,000 residents and 15,000+ residents the correlations are slightly stronger; with GBFR being positive and GBFE negative correlations. Interestingly, the cities of regional significance (which of course have much higher population density) have the stronger and positive correlations for the dependent variables. These are larger population units, with only 5 of the 27 in this group having populations below 20,000. So, it might be concluded that the larger the population the greater the correlation to the fiscal measures. Actually, these simple correlations could mean that size really matters.

As a further test of the relationship between various dependent variables a regression analysis was run to test the variations and strengths of the relationships.



These are presented below over several dependent variables. The  $R^2$  gives an estimation of the strength of these relationships. While there are limitations on the use of regression analysis to make predictive or definite statements about the relationships, it is being used here to test the consistency of the statistical methods used in this assessment.

The regression tested how the ATC size measured in population and territory would affect such measures as per capita GBFR and capital expenditures.

This is done to test the following hypotheses which are very common in the fiscal federalism literature:

- (1) GBFR should increase with growing ATC size;
- (2) The amount of capital expenditures should increase with growing ATC size.

If the two hypotheses tested positive, then it should be assumed that the Ukrainian decentralization reform has effectively achieved its primary goal – to have fiscally viable local governments at the basic public administration level. If not, then the reason for such a situation should be discussed and some policy measures considered that could improve the situation. In order to determine this situation, the data was disaggregated across the whole sample into clusters of similar size according to the U-LEAD approach.

Based on this methodology, two model types were constructed:

- (1) Models which explain the change in per capita revenues of the general fund:

$$GBFR = b_1N + b_2A + C$$

- (2) Models which explain the change in per capita capital expenditures of an ATC:

$$CE = b_1N + b_2A + C$$

where GBFR denotes per capita revenues of the general budget fund, N denotes population size in a respective ATC, A – area of the respective territorial unit, CE – per capita amount of capital expenditures of an ATC.

The descriptive statistics is presented in Tables 1–6 in the Appendix.

Tables 5–6 present the results of the regression analysis and indications of the variability of the relationship to the dependent variables.

The models presented in Table 5 demonstrate quite low significance with the exception of group 5, which serves as a reference group. It means that the exogenous size factors play an almost negligible role in determining an ATC fiscal endowment at this stage of the decentralization process. Moreover, the coefficients by the N variable for all groups except group 2 are negative. This fact could mean that bigger ATCs are disadvantaged in terms of population size, which calls for stronger central government interventions. On the opposite end, the area generally has a positive

(however very small) impact on revenues, which could be unexpected. This is because merging of rural locations which have much larger area, but do not provide many productive resources per unit area to increase revenues. Data in Table 5 may mean that our hypothesis # 1 (the greater the size of local government, the greater is its per capita revenue) is not sustained.

**Table 5**  
Factors explaining GBFR

	<b>Sample size</b>	<b>N</b>	<b>A</b>	<b>C</b>	<b>R<sup>2</sup></b>
Group 1 (15,000+)	95	-38.00 (-0.76)	-0.29 (-0.76)	5149.24 (9.82)	0.04
Group 2 (10-15,000)	128	384.52 (2.09)	0.22** (0.17)	-425.21 (-0.19)	0.04
Group 3 (5-10,000)	268	-177.35 (-1.24)	3.47** (2.53)	4961.89 (4.78)	0.03
Group 4 (less than 5,000)	288	-876.41* (-3.54)	8.51* (3.69)	6499.09 (7.68)	0.07
Whole ATC sample	779	-74.22* (-3.29)	1.62** (2.49)	4787.68 (23.90)	0.014
Group 5 (cities of regional significance)	27	7.32** (2.23)	-0.05 (-0.05)	4750.41 (11.51)	0.17

Notes: Confidence intervals denoted by stars: \*\*\* p < 0.001, \*\* p < 0.05, \* p < 0.01. The numbers in parentheses denote t-statistics.

As the main source of ATC revenues is PIT, the amalgamation would be followed by growing budget revenues. However, this does not appear to have occurred. Generally, the size of the ATC area does not affect GBFR as its growth reflects the dispersion of productive factors.

The model for the reference group (# 5) that includes a sample of quite large cities shows size matters to some extent for urban communities: the larger (in terms of population) cities attract more productive factors that generate a larger inflow of budget revenues; the negative effect of area size is very insignificant.

Models with per capita capital expenditures (Table 6) provide a test of the financial capacity of the local government units to supply the infrastructure services that are economically important to the area of their jurisdiction.

**Table 6**  
Capital expenditures factors

	Sample size	N	A	C	R <sup>2</sup>
Group 1 (15,000+)	95	-8.34 (-0.55)	0.11 (0.49)	1376.90 (4.43)	0.004
Group 2 (10–15,000)	128	54.39 (0.68)	-0.83 (-1.50)	1026.58 (1.07)	0.02
Group 3 (5–10,000)	268	-50.02 (-0.73)	0.76 (1.16)	1846.84 (3.74)	0.007
Group 4 (less than 5,000)	288	-361.01** (-2.68)	3.54 (2.82)	2452.78 (5.33)	0.04
Whole ATC group	779	-38.63* (-3.41)	0.41 (1.27)	1847.10 (18.34)	0.015
Group 5 (cities of region significance)	27	5.13* (4.42)	0.68** (2.17)	728.87 (728.87)	0.49

Notes: Confidence intervals denoted by stars: \*\*\*  $p < 0.001$ , \*\*  $p < 0.05$ , \*  $p < 0.01$ . The numbers in parentheses denote t-statistics.

Most models in Table 6 demonstrate that exogenous size factors cannot explain the variance in per capita capital expenditures, except for that for group 5. There is no evidence of a strong relationship of the dependent variable to the ATC size by the regression test. This may tend to indicate that the allocation of the infrastructure grants provided by the national government to the amalgamated units did not take into consideration their real needs in infrastructure objects that must be higher in the larger units. Moreover, the larger units in terms of population would have much less per capita capital expenditures, which could mean that from the point of view of the current decentralization approach the sparse rural territorial units have an advantage over the highly concentrated urban ones. And it is predicted by the positive sign of coefficients by the area variable in most cases. Our reference group (# 5) demonstrates that in urban localities both size indicators are statistically relevant; both are positive, which could mean that a larger urban unit will generally attract more capital that would be invested into different projects in comparison to the smaller unit.

## 6. Citizens perspective on the impact of the decentralization reforms

The above analysis has focused on the more quantitative and objective data related to fiscal analysis and changes in the structure of the local governments in Ukraine. While there is a dearth of reliable and available data that measures these features, there is a significant level of sociological and public opinion data about the citizens' perspectives and expectations concerning the decentralization reforms. Many of

the experts and the academic literature indicate that decentralization has been a major success in Ukraine. What has not necessarily been incorporated into these analyses are the broader citizen level views of the reforms. To complete this perspective a sampling of this public opinion data is presented to further detail the assessment of decentralization in Ukraine.

The finale of the decentralization process was the holding of local government elections in the amalgamated units across Ukraine in October 2020. This was the end of the decentralization process and was the first real opportunity for citizens to demonstrate their level of commitment to the changed local government system. The impact of amalgamating local government units on voters has been relatively under researched, but some research indicates negative impacts on voter participation after amalgamation occurs (Rodrigues and Tavares 2020).

The local government elections in Ukraine were hastily organized and there was not a sufficient amount of time for many citizens to get accustomed to the new territorial boundaries and know the parties and candidates well. In the first round of voting on 25 October, only 39% of voters turned out to vote. This was an even lower turnout level than in previous elections. In the second round held in 7 cities on 15 November, the voter turnout was only 24%. Another second round held in 11 cities on 22 November resulted in voter turnout of 29%. This low turnout may be explained by the fact that in a survey prior to the election, 52% indicated they expected nothing to change from the local government elections (Sociological Group Rating 2020).

While participation in the election is one measure of the commitment of the citizens to decentralization reforms, there are other surveys that indicate a lack of real conviction that decentralization reforms will improve the level of local government services.

In assessing the decentralization reform overall and over the past several years of implementation, citizen surveys demonstrate skepticism about the impact of the reforms. According to the survey conducted by the USAID project ENGAGE, 46% of the respondents said they had not seen any consequences of the reforms in Ukraine in 2020, 25% felt negative consequences, with only 2% identifying positive results of the reforms (USAID 2020). However, this relates to overall governmental reform activities since 2019, but there is little doubt that there is also disappointment with the decentralization reform.

On the basis of the change in public opinion over the years of the decentralization reforms, the public opinion survey revealed some negative opinions, especially from August 2018 to August 2020. This is demonstrated in Table 7.

**Table 7**

How the delegation of governmental functions to local authorities has impacted citizens (in percent to total numbers of answers)

	<b>August 2016</b>	<b>June 2017</b>	<b>August 2018</b>	<b>August 2020</b>
New opportunities for citizens to engage with the governmental decision-making emerged	20.6	24.0	22.8	15.3
The process of internal migration from villages and certain cities has accelerated	14.7	15.9	21.7	22.2
The quality of governmental services has improved	21.0	17.7	12.1	13.4
Local clans took over	26.8	28.7	22.7	29.7
Other	2.4	4.4	1.2	6.7
No opinion	34	24.8	31.6	28.1

Source: Ilko Kucheriv Democratic Initiatives Foundation (2020).

The data above reveal some significant declines in the perception of the citizens of the impact of decentralization on their lives; particularly in areas of citizen engagement and quality of local government services, which should be the areas that decentralization is designed to most improve.

## 7. Conclusions

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Ukraine did try some new approaches to implementing decentralization rather than follow the old discredited approaches that most countries have followed (Wright 2017). This, in particular, was the development of a concept of decentralization, the bottom-up approach of forming amalgamated units on a voluntary basis, attention to defining fiscal resources at the early stages of the process, enhanced fiscal incentives, and the use of inter-municipal cooperation.

Perhaps the best that can be said about the progress and impact of the long-awaited decentralization reform in Ukraine is that it appears to be **no better or no worse** than other decentralization efforts in the region and internationally. However, given that other countries in the region undertook decentralization much earlier, it is regrettable that Ukraine seems not to have learned and applied those experiences. This is probably the greatest failure of the Ukrainian implementation of decentralization.

The decentralization process lacked the necessary development of the appropriate legal framework from the beginning, and many aspects are still not appropriately addressed in legislation. This is the primary issue that was noted in an NISS

decentralization study (Жаліло et al. 2018) and by international experts (Levitas 2020). This is only beginning to be addressed after five years of decentralization.

Many of the policy flaws identified in this paper and other studies were observed early in the reform process. In 2017, the problems associated with the voluntary amalgamation approach, the failures of the PIT as a shared resource, and the distortion of the allocation of fiscal resources that favored a small segment of the amalgamated units, particularly the cities of oblast significance, were enumerated (Levitas and Djikic 2017). Even though these flaws were identified, there were no major changes in the overall approach to continuing the amalgamation process.

This assessment shows that amalgamation implemented in Ukraine brought some mixed and ambiguous results. The main problem is that most newly formed territorial units do not fulfill the criteria of being self-reliant and fiscally viable. This conclusion is supported by information published by the Association of Amalgamated Territorial Communities at the end 2019, in which approximately 50% of ATCs formed through voluntary amalgamation did not meet the criterion of self-reliance in terms of economic development. This could be illustrated by the fact that only 50% of inter-municipal projects supported by the state have been implemented (Мельничук 2020). These facts mean that voluntary amalgamation in many cases did not bring about the expected results and may have been administratively inspired by regional authorities aiming to report on successful reform implementation. The question of increasing ATCs by merging with communities that are still unwilling to amalgamate is still quite open to debate. Consequently, it seems that the time of forced merging had to come.

The emphasis on voluntary amalgamation as an approach to administrative-territorial reform was a strategic mistake and highlights that Ukraine did not learn from the experiences in other countries that tried voluntary merging and eventually had to go to mandatory amalgamation. The failure was further compounded when Ukraine did not have an alternative plan to overcome this and in the final phase reverted to a forced and unpopular amalgamation of the remaining units.

While there was a criteria and evaluation process developed for assessing the amalgamated units, it failed to provide for a minimum standard that local government units would have to achieve to be amalgamated. It appears that a number of local units that wanted to amalgamate without regard to their population size or capacity was allowed to amalgamate. This has led to the situation where the number of local governments amalgamated with populations under 5,000 is nearly one-third of the units. Another third are in the population range of 5–10,000 and are marginal at best.

Even though the number of amalgamated units with populations of less than 5,000 or less than 10,000 may have been reduced, the majority of the amalgamated units are still of too small a population size to be able to deliver services effectively.

The use of inter-municipal cooperation agreements was intended to overcome the weakness of this voluntary approach and overcome these service delivery weaknesses.

However, as is evident from the data on the number of inter-municipal cooperation agreements, this has not yielded the level or scale of agreements that would demonstrate they would be critical to overcoming service delivery deficiencies. There are still a substantial number of small local governments that are not of sufficient population size which have not joined into inter-municipal cooperation agreements to indicate this approach will be successful.

Our findings supported by modeling shows that an increase in ATC size could not make them more sustainable from the fiscal point of view. The larger an ATC, the less per capita revenues it will generate. This observation supports conclusions by Hamaniuk and Palchuk (2020) who claimed that an increase in ATC size will cause a drop in local revenues. The recent study of ATC finance sponsored by U-LEAD (Zubenko et al. 2020) delivers the opposite conclusions as this study: a positive correlation of the size of the unit to the increase in fiscal capacity is evident. However, the latter study analyzed data of merely 10 ACUs from different regions that could not be compared with our sample which includes more than 800 units.

The fiscal resources of the units were considered from the beginning, and the attention to this was commendable. However, the sharing of PIT and the basis on which the sharing takes place has proven insufficient to provide a robust fiscal base for many of the amalgamated units. The strategic mistake here was not to expand the revenue sources to a broader base. It is unlikely that the local revenue sources, as presently constituted, will be sufficient to provide the fiscal sustainability that is needed. Consequently, it is likely that these units will come to depend more and more on the fiscal transfers from the central level. This will be particularly true when the maintenance of the infrastructure projects supported by the government grants will be assumed by the local government units in the future.

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## Appendix.

### The samples' characteristics

**Table 1**  
Group 1 ATCs

	<b>GBFR</b>	<b>CE</b>	<b>N (1,000s)</b>	<b>A_(km<sup>2</sup>)_</b>
Mean	4199.615	1257.883	21.06316	507.0368
Median	4028.900	1024.200	19.30000	440.3000
Maximum	7695.000	3906.400	38.70000	2010.900
Minimum	1108.600	210.9000	15.20000	22.00000
Std. Dev.	1268.932	738.6847	5.371755	356.0981
Skewness	0.388676	1.530090	1.306298	1.329575
Kurtosis	3.277202	5.155273	4.216953	5.650919
Jarque-Bera	2.696090	55.45588	32.88042	55.80638
Probability	0.259748	0.000000	0.000000	0.000000
Sum	398963.4	119498.9	2001.000	48168.50
Sum Sq. Dev.	1.51E+08	51291577	2712.441	11919749
Observations	95	95	95	95

**Table 2**  
Group 2 ATCs

	<b>GBFR</b>	<b>CE</b>	<b>N (1000s)</b>	<b>A (km<sup>2</sup>)</b>
Mean	4326.074	1456.236	12.19766	281.5969
Median	4073.100	1092.900	12.20000	232.9000
Maximum	23702.40	8487.000	15.00000	1004.100
Minimum	905.2000	278.3000	10.10000	20.00000
Std. Dev.	2879.504	1236.538	1.398563	201.4807
Skewness	3.041063	3.250326	0.228216	1.101487
Kurtosis	18.75493	16.20535	1.851823	4.025436
Jarque-Bera	1521.120	1155.413	8.142087	31.49129
Probability	0.000000	0.000000	0.017060	0.000000
Sum	553737.5	186398.2	1561.300	36044.40
Sum Sq. Dev.	1.05E+09	1.94E+08	248.4093	5155497.
Observations	128	128	128	128

**Table 3**  
Group 3 ATCs

	<b>GBFR</b>	<b>CE</b>	<b>N (1000s)</b>	<b>A (km<sup>2</sup>)</b>
Mean	4902.717	1801.049	3.398958	162.5462
Median	4219.350	1291.600	3.500000	136.2500
Maximum	35748.00	15398.10	5.000000	600.5000
Minimum	760.6000	242.7000	1.400000	17.60000
Std. Dev.	3686.795	1977.776	0.887838	95.43492
Skewness	4.175112	4.220713	-0.260810	1.233061
Kurtosis	28.40511	24.00832	2.131512	5.139679
Jarque-Bera	8581.752	6151.287	12.31630	127.9199
Probability	0.000000	0.000000	0.002116	0.000000
Sum	1411982.	518702.1	978.9000	46813.30
Sum Sq. Dev.	3.90E+09	1.12E+09	226.2297	2613946.
Observations	288	288	288	288

**Table 4**  
Group 4 ATCs

	<b>GBFR</b>	<b>CE</b>	<b>N (1000s)</b>	<b>A (km<sup>2</sup>)</b>
Mean	4902.717	1801.049	3.398958	162.5462
Median	4219.350	1291.600	3.500000	136.2500
Maximum	35748.00	15398.10	5.000000	600.5000
Minimum	760.6000	242.7000	1.400000	17.60000
Std. Dev.	3686.795	1977.776	0.887838	95.43492
Skewness	4.175112	4.220713	-0.260810	1.233061
Kurtosis	28.40511	24.00832	2.131512	5.139679
Jarque-Bera	8581.752	6151.287	12.31630	127.9199
Probability	0.000000	0.000000	0.002116	0.000000
Sum	1411982.	518702.1	978.9000	46813.30
Sum Sq. Dev.	3.90E+09	1.12E+09	226.2297	2613946.
Observations	288	288	288	288

**Table 5**  
Group 5 ATCs

	<b>GFBR</b>	<b>CE</b>	<b>N (1000s)</b>	<b>A (km<sup>2</sup>)</b>
Mean	5252.474	1239.207	70.03704	221.9259
Median	4777.900	1139.600	42.30000	113.8000
Maximum	9813.000	3438.300	371.1000	1209.800
Minimum	3098.800	215.5000	10.20000	33.50000
Std. Dev.	1494.649	675.6054	84.75440	314.0660
Skewness	1.091351	1.186269	2.394744	2.421539
Kurtosis	4.477250	5.314198	8.022300	7.300015
Jarque-Bera	7.814764	12.35751	54.18303	47.18871
Probability	0.020093	0.002073	0.000000	0.000000
Sum	141816.8	33458.60	1891.000	5992.000
Sum Sq. Dev.	58083338	11867509	186766.0	2564573.
Observations	27	27	27	27

**Table 6**  
Whole sample

	<b>GFBR</b>	<b>CE</b>	<b>N (1000s)</b>	<b>A (km<sup>2</sup>)</b>
Mean	4566.807	1628.619	8.236842	240.6078
Median	3992.000	1206.600	6.200000	181.3000
Maximum	35748.00	16626.40	38.70000	2010.900
Minimum	760.6000	175.9000	1.400000	17.60000
Std. Dev.	3201.072	1610.131	6.050759	209.5021
Skewness	3.690302	4.674117	1.722632	2.773606
Kurtosis	25.10414	33.18470	6.529325	15.25287
Jarque-Bera	17627.03	32409.83	789.5806	5871.856
Probability	0.000000	0.000000	0.000000	0.000000
Sum	3557543.	1268694.	6416.500	187433.5
Sum Sq. Dev.	7.97E+09	2.02E+09	28483.89	34147302
Observations	779	779	779	779