Socio-economic viability of public management in the context of European integration processes

Irina KOSACH[1], Anastasiia DUKA[2], Grygoriy STARCHENKO[3], Olena MYHAYLOVSKA[4], Artur ZHAVORONOK[5]

Abstract: *The European Union forms new requirements for the efficiency of public institutions and the gradual transformation of public management. The relationship between the viability of public management to solve internal problems and the dynamics of socio-economic development is obvious. So, the evaluation of the viability of public institutions' actions related to the socio-economic processes in any country has theoretical and practical significance. The purpose of our study is to assess the socio-economic viability of public management in the context of European integration processes. Within the article, a comprehensive study of the public management viability in EU countries is presented. The specificity of the study is to assess the socio-economic viability of public management on the basis of economic and social indicators of EU countries. According to the overview of scientific works it is a need to use a comprehensive indicator of public management viability evaluation. So, the considerable attention is paid to the deepening of methodical aspects of public management effectiveness on the basis of multicriteria methods. The result of the study is the calculation of the Socio-Economic Viability Index of Public Management. The obtained results prove the relationship between the Socio-Economic Viability Index of Public Management and the progress of economic reforms in the EU, with the possibility of appropriate conclusions for countries to identify strengths and weaknesses, justify priorities and means to achieve them in the context of European integration. These conclusions can be used as a starting point to assess the relationship between the level of development of the European country and the quality of its public management. The study confirmed the thesis on the correlation between the Socio-Economic Viability Index of Public Management and Happy Planet Index, The Global*

[1] Professor, D.Sc. (Economics), Chernihiv Polytechnic National University, Chernihiv, Ukraine, irish_kos@ukr.net

[2] Professor, D.Sc. (Economics), Chernihiv Polytechnic National University, Chernihiv, Ukraine, apd@online.ua

[3] Associate Professor, D.Sc. (Economics), Chernihiv Polytechnic National University, Chernihiv, Ukraine, g.v.starchenko@ukr.net

[4] Associate Professor, PhD (Economics), Chernihiv Polytechnic National University, Chernihiv, Ukraine, m-olena@ukr.net

[5] Associate Professor, PhD (Economics), Yuriy Fedkovych Chernivtsi National University, Chernivtsi, Ukraine, artur.zhavoronok@ukr.net

**Socio-economic viability of public management in the context
of European integration processes**

Competitiveness Index, Corruption Perceptions Index, Fragile States Index and confirm the possibility of using this indicator to assess public management quality in EU countries.
Keywords: economic and social indicators, effectiveness, European integration, indexes, multicriteria methods, public management, socio-economic viability.

Introduction

Globalization processes have a significant impact on the architecture of the world political system, affecting domestic and foreign policy, economics and social sphere. At the current stage of globalization, the role of regional structures is increasing. The European Union is one of such structures, it is an organization with a high level of economic cooperation (Grondys et al., 2020), social security and cultural development. EU membership creates new requirements for the efficiency of public authorities and the gradual transformation of public administration into modern models of society, namely the expansion of public management. However, reforms that have been implemented in some countries, for example Ukraine, are not always able to overcome the economic crisis, reduce corruption, contribute to economic development. Under these conditions, the relationship between the ability of public management institutions to solve internal problems of the state and the dynamics of socio-economic development is obvious. At the same time, the effectiveness and viability of public management affects the level of public confidence in public institutions. For example, in Ukraine 9% of the population trust the national government, which is much lower than the regional median for other post-Soviet countries (40%) and the world average (56%) (Bikus, 2019). In this context, the evaluation of the effectiveness and viability of public institutions' actions related to the socio-economic processes in any country has theoretical and practical significance.

Scientific interest in the assessment of public management is growing steadily (Bovaird et al., 2003; Kaufmann et al., 2011; Vasilyeva et al., 2018), which confirms the relevance of verifying the socio-economic consequences of decisions of public authorities' institutions in EU countries. They are very differentiated both in terms of population and size of territory, as well as indicators of socio-economic development. Thus, the purpose of our study is to assess the socio-economic viability of public management in the context of European integration processes.

1. Literature review

At different stages of the life cycle of society, the assessment of public governance viability is considered according different sides, primarily in terms of effectiveness and efficiency (Androniceanu A-M et al., 2020). The formation of

approaches to the assessment of public management begins with D. Keeling who proposes to evaluate this cathegory in terms of "finding the best way to use resources to achieve public policy priorities" (D. Keeling et al., 1972). G. Bouckaert took a similar view in his research (G. Bouckaert et al., 2002). The main criterias and systematization of approaches to public management evaluation have been explored by D. Kaufmann, A. Kraay and M. Mastruzzi (Daniel Kaufmann et al., 2011), models and methods of assessing the quality of public management have been formed by T. Bovaird., E. Lofler. At the same time the neutral quantitative criteria of governance that can be adopted by the reformers have been explored by S. Knack, M. Kugler, N. Manning (Stephen Knack et al., 2003), the development and evaluation of governance indicators have been examined by Rachel M. Gisselquist (Gisselquist Rachel M., 2014). Application of data coverage analysis method in assessing the effectiveness of public administration appears to be an appropriate methodological tool also in case of the quantification of public administration efficiency (Luo, X et al., 2001). Studies on the role of institutions in economic development are widely represented by the World Bank. The methodology of the Worldwide Governance Indicators (WGI) (Kaufmann et al., 2011; Acemoglu, Robinson, 2008) covers over 200 countries and territories, measuring six dimensions of governance: Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption. This methodology has been in use since 1996.

In modern scientific research, the evaluation of public management is suggested in the context of identifying the determinants of the development of society due to the formation of partnerships between social institutions (Androniceanu &Tvaronavičienė, 2019). In particular, S. Pollitt and G. Bouckaert (Pollitt et al., 2004) in the study "Public Management Reform: A Comparative Analysis", reported the problems of assessing the effectiveness of public governance which are associated with a change in the concept from state to public management and emphasize the importance of expanding public administration, the partnership interaction between government structures. Moreover, the issue with the influence of institutional quality on economic growth of resource-oriented and transition economies has become particularly relevant as institutions tend to have a crucial impact in the post-socialist context especially (Pilc, 2017; Androniceanu et al., 2016; Haseeb et al., 2019). The effectiveness of public management in terms of the relationship between government spending and economic and social performance is the field of research of Mihaiu D.M. (2010).

Recent trends in research draw attention to the actions of public governance on the impact of their decisions on the socio-economic parameters of countries' development. Thus, a large number of studies of public management are given to such concepts as "quality of life", "welfare level", "welfare" (J. Micklethwait et al., 2014), which forms the basis of the concept of Good Governance. Therefore, an overview of the work of leading researchers allows us to highlight the following:

1) public management is seen as a means of managing resources to achieve state priorities (D. Keeling, 1972; G. Bouckaert, 2002; T. Bovaird and E. Löffler, 2003; C. Pollitt, 2004);

2) public management is studied from the point of view of coordination of the used resources with the set purpose (D. Mihaiu et al., 2010; Shkarlet et al. 2020);

3) public management is considered in terms of means of forming partnerships and the relationship between economic and social effects (Pilc, 2017; Androniceanu, 2017).

However, the assessment in terms of the ability of public management to influence the development of the economy or society as a whole and the country's readiness for reform in the context of EU membership is not considered by scientists.

According to the information which is mentioned above, there is a need to use a comprehensive indicator of public management evaluation. There are several integrated methods of assessing public management based on different socio-economic parameters that are not related to each other. Let us focus on some indicators that are used to analyze socio-economic development and efficiency of public management:

1) issues of quality of public management are often studied in the context of competitiveness, which is defined as a set of institutions, policies and factors that determine the level of economic productivity (Siekelova et al., 2020). The Global Competitiveness Index methodology (K. Schwab, 2017) covers more than 138 countries. The Global Competitiveness Index (GCI) consists of 113 variables, which in turn are grouped into benchmarks that determine a country's competitiveness such as: innovation potential, labor market efficiency, infrastructure, market and service market efficiency, domestic market size, company competitiveness, level of technological development, macroeconomic stability, financial market development, health, primary education, quality of institutions, higher education, professional training.

2) the Happy Planet Index (HPI) is an index that reflects the well-being of people and the state of the environment in different countries. The main task of the index is to reflect the real well-being of nations. HPI is based on the general utilitarian principles that most people want to live a long and fulfilling life and countries strive to do their best to achieve the maximum well-being of their citizens (Kinnunen et al., 2019). The effectiveness of public management on the example of this index is considered in terms of the interaction between the government and the happiness of citizens: the actions of the government form a sense of happiness, and in turn the happiness of citizens in most countries determines which governments they support. The 2016-2018 happiness ranking includes both social and economic components and covers more than 156 countries.

3) the Fragile States Index is a comprehensive indicator that characterizes the ability (and inability) of a country's government to control the integrity of its territory, as well as the demographic, political and economic situation in the country. It is assumed that the index should be used by states to analyze

problematic issues in their policies, to warn in advance about conflicts on their territory and can help fragile countries to develop strategies that could reduce the likelihood of conflicts.

4) the Corruption Perceptions Index is an annual ranking of countries around the world, based on the assessments of entrepreneurs and analysts. The rating reflects the perception of corruption on a scale from 100 (no corruption) to 0 (strong corruption). The highest score in the ranking are countries where corruption is considered minimal; the lowest score gets the most corrupt countries.

2. Methodology

As there is currently no single universal criterion for assessing public management, the study of public management viability in the context of European integration progress should be carried out taking into account the conditions of complexity, system and full scale of public management assessment, and this is possible on the basis of many criteria.

It is proposed to use multicriteria methods for quantitative assessment (Vitlinsky, 2003; Tzeng et al., 2011). Multi-Attribute Decision-Making (MADM) methods are widely applied for making the optimal solution, selecting a single option or ranking choices from the most to the least appropriate. Multicriteria methods integrate the values of the criteria describing a particular process and their weighting factors into a single value. Approaching the study of the problem of assessing the viability of public management on the basis of multi-criteria methods, it is necessary to develop a sequence of actions that will formalize and solve the problem. Ideally, the method of calculating the socio-economic viability of public management in the context of European integration should meet the following requirements:

- adequacy is compliance of the calculation method with the goals and objectives;
- versatility is the ability to repeatedly calculate the index for any country and get results that can be used to identify trends;
- availability of index interpretation is suitability of final and intermediate results of calculations for conclusions;
- information security: the initial data for calculations should be easily accessible or calculated using simple mathematical operations.

Therefore, the rating appraisal of the socio-economic viability of public management (Rsev) was used a modified weighted average geometric (multiplicative approach):

$$R_{SEV_j} = \prod_{i=1}^{n}(1+\widetilde{p}_{ij})^{w_i}, R_{SEV_j} \geq 0, j=1,\ldots,m$$

(1)

where wi is the weight of the i-th criterion, $\widetilde{p}_{ij}$ is the normalized i-th criterion's value for j-th country.

Multi-criteria methods are based on the matrix $R = \left| p_{ij} \right|$ of the criteria, explaining the objects (countries) c_j (j = 1, …, m) compared, statistical data and the criteria weights w_j (j = 1, …, n), where is the number of criteria and is the number of objects (countries) compared.

The next important step in calculating the Socio-Economic Viability Index of Public Management is to determine the weight of each indicator. This implies the possibility of using weighting factors that reflect the degree of influence of each component, which indicates the ability of public governance to achieve the main goals of the country as an EU member. To solve this problem statistical analysis, mathematical modeling or ranking can be used. Assigning certain weights to the components of an integrated indicator is a difficult task for experts, so there is often a subjective approach. To exclude certain subjectivity in the evaluation, we assume that the indicators are only indicators of certain existing properties and have the same value in the evaluation system of the phenomenon which is being studied. The last point, in our opinion, will allow us to consider more fully the complexity and multidimensionality of public management, to determine the strength of the influence of factors on the socio-economic viability of public management.

Thus

$$w_i = \frac{1}{n}; i = 1,...,m; \sum_{i=1}^{n} w_i = 1 \tag{2}$$

The first stage of assessment is the unification of indicators in accordance with the principles recommended in the scientific literature (Vitlinsky, 2003; Voloshchuk et al., 2014). Different units and scale of the original data can distort the results. Consequently, a normalization approach is needed to unify indicators. The following equations are used to convert indicators:

a) when the highest quality indicator corresponds to its maximum value:

$$\widetilde{p}_{ij} = \frac{p_i^{\max} - p_{ij}}{p_i^{\max} - p_i^{\min}}, \tag{3}$$

b) when the highest quality indicator corresponds to its minimum value:

$$\widetilde{p}_{ij} = \frac{p_{ij} - p_i^{\min}}{p_i^{\max} - p_i^{\min}}, \tag{4}$$

c) when the highest quality indicator corresponds to its specific value:

$$\widetilde{p}_{ij} = \begin{cases} \dfrac{p_i^{norm} - p_{ij}}{p_i^{max} - p_i^{min}}, p_{ij} \leq p_i^{norm}, \\ 1, p_{ij} > p_i^{norm} \end{cases}$$

(5)

d) when the lowest quality indicator corresponds to its specific value:

$$\widetilde{p}_{ij} = \begin{cases} \dfrac{p_{ij} - p_i^{norm}}{p_i^{max} - p_i^{min}}, p_{ij} \geq p_i^{norm} \\ 1, p_{ij} < p_i^{norm} \end{cases}$$

(6)

Where $\widetilde{p}_{ij}$ is the normalized i-th criterion's value for j-th country (unified data), p_{ij} – the i-th criterion's value for j-th country (primary data), p_i^{max} – the maximum value of primary data; p_i^{min} – the minimum value of primary data, p_i^{norm} – the optimal value of primary data. Due to these changes, we obtain normalized data, the values of which will be in the range from 0 to 1. The best value of the indicator corresponds to one and the worst corresponds to zero.

Then Socio-Economic Viability Index of Public Management can be defined as a relative value calculated on the basis of aggregation of unit indicators that reflect the ability of public administration to achieve the main development goals of countries in the context of European integration processes.

3. Results

An important characteristic of the socio-economic effectiveness of public management is the ability of institutions to change and the speed of their adaptation and response to adverse conditions We propose to consider the socio-economic viability of public management as the ability to change in accordance with changes in quality standards of life of EU member states and the needs of socio-economic development. So, the need arises to study the relationship between the Socio-Economic Viability Index of Public Management and the progress of economic reforms in the EU, with the possibility of appropriate conclusions for Ukraine and other countries in the context of European integration to identify strengths and weaknesses, justify priorities and means to achieve them. The main tool of this study should perform the following tasks:

- to assess the current state and in the future the relative effectiveness of the dynamics of socio-economic development and reforms;

- to study the relationship between the proposed Socio-Economic Viability Index of Public Management (R_{SEV}) and Happy Planet Index, The Global CompetitivenessIndex, Corruption Perceptions Index, Fragile States Index.

The specificity of our study is to assess the socio-economic viability of public management on the basis of economic and social indicators of EU countries with different levels of socio-economic development and periods of stay in the EU. The assessment is proposed to be carried out using a system of indicators that are defining descriptive features of the socio-economic condition of the country and comparable with international statistical information. Thus, we proposed to include 45 indicators in the calculations and split them into three groups (economic development, social support and security, macroeconomic situation). This approach allows us to rank countries by estimates. It is more efficient and reduces errors in measuring the socio-economic efficiency of public management. Therefore, to build the index, we chose indicators that meet the objectives mentioned above. They allow the most stable and transparent assessment of the quality of the public sector, forming the primary array of information support for state regulation of institutional change. These tasks identified key criteria for selecting primary indicators. First of all, they should be formed from open public sources. This will ensure the transparency of calculations, the possibility of their reproduction, taking into account the growth of time series and prospects for further improvement of the index. So, to calculate the index, a list of indicators for calculating the socio-economic viability of public management is proposed (Table 1).

**Table 1. List of indicators included in the calculation of socio-economic
viability of public management**

Economic transformation and capacity	
Access to electricity (% of population)	Imports of goods and services (% of GDP)
Agriculture, forestry, and fishing, value added (% of GDP)	Individuals using the Internet (% of population)
Exports of goods and services (% of GDP)	Industry (including construction), value added (% of GDP)
Food exports (% of merchandise exports)	Manufactures imports (% of merchandise imports)
Food imports (% of merchandise imports)	Manufactures exports (% of merchandise exports)
Foreign direct investment, net inflows (% of GDP)	Manufacturing, value added (% of GDP)
High-technology exports (% of manufactured exports)	Medium and high-tech Industry (including construction) (% manufacturing value added)
	Services, value added (% of GDP)
Social support and security	
Adolescent fertility rate (births per 1,000 women ages 15-19)	Government expenditure on education, total (% of GDP)
Birth rate, crude (per 1,000 people)	Hospital beds (per 1,000 people)

Current health expenditure (% of GDP)	Incidence of tuberculosis (per 100,000 people)
Death rate, crude (per 1,000 people)	Intentional homicides (per 100,000 people)
Domestic general government health expenditure (% of GDP)	International migrant stock (% of population)
GDP per capita, PPP (constant 2011 international $)	Life expectancy at birth, total (years)
Military expenditure (% of GDP)	Mortality rate, infant (per 1,000 live births)
Mortality rate, neonatal (per 1,000 live births)	Population growth (annual %)
	Poverty headcount ratio at $1.90 a day (2011 PPP) (% of population)
Macroeconomic context and employment stability	
Age dependency ratio (% of working-age population)	Self-employed, total (% of total employment) (modeled ILO estimate)
Central government debt, total (% of GDP)	Total tax rate (% of commercial profits)
Gross capital formation (% of GDP)	Unemployment, total (% of total labor force) (modeled ILO estimate)
Gross domestic savings (% of GDP)	Unemployment, youth total (% of total labor force ages 15-24) (modeled ILO estimate)
Gross fixed capital formation (% of GDP)	Urban population (% of total)
Inflation, consumer prices (annual %)	Mortality rate, adult, female (per 1,000 female adults)
	Mortality rate, adult, male (per 1,000 male adults)

(*Source:* Own study based on: The official site of the Worldbank database)

Some of the relevant indicators are not included in the proposed list due to their under-representation by countries. These are indicators of the adequacy and effectiveness of social protection programs, the labor market and health care, some indicators of the economy and the environment. We hope that in the future these indicators can be added to the proposed list as soon as they become more complete in terms of data availability.

To calculate the Socio-Economic Viability Index of Public Management we formed a database covering 28 EU countries, the choice of which was determined by the need to take into account the impact of differences in economic development, history of institutional change, socio-political model of public governance, specifics of social protection programs and social development sphere as a whole. We consider it appropriate to use the time period of 2014-2018, as the period of 2000-2013 characterized by the active inclusion of countries in the EU

(for example, in 2004 – 10 countries were accepted, in 2007 – 3 countries, in 2013 – 1 country).

Thus, table 2 presents the analytical results of the calculation of the R_{SEV}.

Table 2. Analytical results of the R_{SEV} calculation

№	Country	2014	2015	2016	2017	2018
1	Austria	0,654	0,630	0,632	0,678	0,660
2	Belgium	0,612	0,614	0,641	0,616	0,796
3	Bulgaria	0,487	0,510	0,472	0,472	0,474
4	Croatia	0,524	0,500	0,509	0,507	0,536
5	Cyprus	0,518	0,541	0,545	0,547	0,556
6	Czech Republic	0,639	0,643	0,670	0,646	0,651
7	Denmark	0,563	0,564	0,565	0,564	0,617
8	Estonia	0,584	0,563	0,562	0,614	0,549
9	Finland	0,584	0,560	0,560	0,608	0,611
10	France	0,579	0,578	0,579	0,579	0,581
11	Germany	0,614	0,616	0,617	0,590	0,641
12	Greece	0,463	0,469	0,474	0,474	0,476
13	Hungary	0,623	0,575	0,607	0,608	0,636
14	Ireland	0,601	0,587	0,639	0,614	0,640
15	Italy	0,496	0,494	0,499	0,501	0,505
16	Latvia	0,529	0,523	0,5036	0,504	0,553
17	Lithuania	0,483	0,484	0,5107	0,513	0,513
18	Luxembourg	0,544	0,552	0,552	0,555	0,528
19	Malta	0,536	0,603	0,623	0,623	0,538
20	Netherlands	0,591	0,591	0,592	0,594	0,572
21	Poland	0,502	0,504	0,510	0,510	0,510
22	Portugal	0,526	0,505	0,510	0,512	0,512
23	Romania	0,546	0,523	0,526	0,529	0,508
24	Slovak Republic	0,558	0,610	0,639	0,640	0,591
25	Slovenia	0,547	0,548	0,551	0,553	0,576
26	Spain	0,478	0,482	0,487	0,489	0,490
27	Sweden	0,611	0,612	0,613	0,639	0,614
28	Ukraine	0,444	0,446	0,448	0,445	0,446

(*Source:* Own study based on: The official site of the Worldbank database, The official site of IndexMundi Database)

The analysis allowed to determine the affiliation of countries to certain groups. Thus, the highest value of SEV is observed in Belgium – 0,7968. High values are also observed in Austria (0,6608), the Czech Republic (0,6516), Germany (0,6419). The lowest values are Greece (0,4767), Bulgaria (0,4742) and Ukraine (0,4466). Thus, most EU countries have formed a system of public administration with a high level of efficiency. However, according to the calculated

index, the efficiency of public administration is unequal, there are significant inequalities between the "old" and "new" EU members. Overcoming these inequalities is a priority for modern public administration policy in the EU, and the gained experience is useful forpreparing for EU membership countries, such as Ukraine. This opens opportunities for further cooperation with EU member states and will bring it closer to the European level of public management.

To support the hypothesis of the relationship between the R_{SEV} and Happy Planet,The Global Competitiveness, Corruption Perceptions, Fragile States Indexes and to understand better the impact of public management on the level of socio-economic development we propose to examine the effectiveness of public management in countries with the highest and lowest values of R_{SEV}. For a more detailed justification we will take the countries with a moderate efficiency of public administration: France, Poland, Romania, Italy (Table 3).

Table 3. Analytical results for the Socio-Economic Viability Index of Public Management, Happy Planet Index, The Global Competitiveness Index, Corruption Perceptions Index, Fragile States Index (2018)

Country	SEV-Index		Happy Planet Index		The Global Competitiveness Index		Corruption Perceptions Index		Fragile States Index	
	Ran king	Value	Ran king	Value	Ran king	Value	Ran king	Value	Ran king	Value
Belgium	1	0,796	16	6,9	19	76,6	75	90,38	163	29,7
Austria	2	0,660	10	7,1	22	76,3	76	91,35	165	26,2
Czech Republic	3	0,651	20	6,7	29	71,2	59	69,23	153	39,0
Germany	4	0,641	17	7,5	3	82,8	80	95,19	167	25,8
France	11	0,581	24	6,6	17	78	71	87,98	160	32,2
Poland	22	0,510	42	7,1	37	68,2	60	74,52	148	41,5
Romania	23	0,508	52	5,9	52	63,5	47	52,40	137	49,4
Italy	24	0,505	47	6	31	70,8	52	62,02	143	43,8
Bulgaria	27	0,474	100	4,9	51	63,2	42	50,96	133	51,7
Ukraine	28	0,446	138	4,1	83	57	32	18,27	86	72,6

(*Source:* Own study based on: The official site of Worldbank database, The official site of IndexMundi Database, The Humanitarian Portal Website)

Obviously, the countries with the highest socio-economic values are characterized by the highest indicators of Happy Planet rating, the Global Competitiveness Index and have leading positions in the rankings of Corruption Perceptions Index and Fragile States Index. Moreover, the analysis revealed such a pattern: these countries are highly developed according to the methodology of the World Bank. Thus, Belgium, Austria, Germany, France are one of the most developed countries in the EU. The Czech Republic is characterized by successful reforms in of public management and has one of the lowest unemployment rates and a steady improvement in the socio-economic situation.

Countries with developing economies are characterized by lower Rsev. Thus, the countries of Southern and Eastern Europe have problems in socio-

economic development, need more financial support, although Romania and Poland have significantly reduced the gap with developed countries in recent years. Instead, Greece has significantly worsened its socio-economic situation. The modern development of these countries and its regions in the context of the European integration process requires a detailed study of public management experience in countries with a high index value. It is important to use the positive examples and trends that have contributed the economic growth and improved welfare of the population. As for Ukraine, it has the aim to integrate into the European Community, so a low R_{SEV} will stimulate the formation and implementation of its own public administration policy, in accordance with the best European principles of organization and reforms.

The results of the conducted study confirmed the hypothesis of a significant impact of public management on the level of socio-economic development of countries.

4. Conclusions

The result of this study was the calculation of the Socio-Economic Viability Index of Public Management. In the presented method of calculation of this indicator the adequate measure of an integrated rating indicator was constructed, which is called modified average weighted geometric multiplicative approach. The calculation includes 45 indicators that provide a quantitative measurement of the country's capabilities and reflect the results of socio-economic developmen as well as the institutional capacity of public authorities in the field of socio-economic policy.

The system of public management of the EU is aimed to solving the problems of territorial development, reducing the existing imbalances in the social and economic development of regions and preventing the emergence of imbalances in the European Union. The identification of the main characteristic features of the asymmetry of public management efficiency allows to assess the actions of the government for eliminating the problems and imbalances in socio-economic development. Thus, the socio-economic viability of public management can ensure the level of development and the place that the country occupies in the rankings of the Global Competitiveness Index, the Happy Planet Index, the Corruption Perceptions Index and the Fragile States Index. Our results also indicate the relevance of the proposed Socio-Economic Viability Index of Public Management when assessing the quality of public management.

The results of the study can be used as a starting point to assess the relationship between the level of development of the country and the quality of its public management. As a consequence, public management policy makers can obtain information to assess the effectiveness of public authorities and the effectiveness of decisions which have been made.

Authors Contributions

Conceptualization, Iryna Kosach; Data curation, Anastasiia Duka and Grygoriy Starchenko; Formal analysis, Artur Zhavoronok and Olena Myhaylovska; Methodology, Iryna Kosach and Artur Zhavoronok; Writing – original draft, Anastasiia Duka, Grygoriy Starchenko.

Conflict of Interest Statement

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

References

Acemoglu, D., Robinson, J. (2008). The role of institutions in growth and development. *Commission on Growth and Development Working Paper*, No. 10. World World Bank, Washington, DC. Advance online publication. Retrieved from https://openknowledge.worldbank.org/handle/10986/28045

Alonso, D., Androniceanu, A., Georgescu, I. (2016). Sensitivity and vulnerability of European countries in time of crisis based on a new approach to data clustering and curvilinear analysis. *Administratie si Management Public*, 27, 46-62.

Androniceanu, A-M., Georgescu, I., Tvaronavičiene, M., Androniceanu, A. (2020). Canonical Correlation Analysis and a New Composite Index on Digitalization and Labor Force in the Context of the Industrial Revolution 4.0. *Sustainability*, 12(17), 6812; https://doi.org/10.3390/su12176812

Androniceanu, A., Tvaronavičienė, M. (2019). Developing a holistic system for social assistance services based on effective and sustainable partnerships. *Administratie si Management Public*, 33, 103-118. Doi: 10.24818/amp/2019.33-06.

Bikus, Z. (2019). World-Low 9% of Ukrainians Confident in Government. Advance online publication. Retrieved from https://news.gallup.com/poll/247976/world-low-ukrainians-confident-government.aspx

Bouckaert, G. (2002). Modernizing the Rechtsstaat: Paradoxes of the Management Agenda. Berlin: Duncker & Humblot, p. 26.

Bovaird, T., Löffler, E. (2003). Evaluating the quality of public governance: indicators, models and methodologies. *International Review of Administrative Sciences*, 69(3), 313-328.

Gisselquist, R. M. (2014). Developing and evaluating governance indexes: 10 questions. *Policy Studies*, 35(5), 513-531. DOI: https://doi.org/10.1080/01442872.2014.946484

Grondys, K., Androniceanu, A. & Dacko-Pikiewicz, Z.(2020). Energy management in the operation of enterprises in the light of the applicable provisions of the energy efficiency directive (2012/27/EU). *Energies*, 13(17), August, Article no. 4338; https://doi.org/10.3390/en13174338

Haseeb, M., Hussai, H. I., Kot, S., Androniceanu, A., Jermsittiparsert, K. (2019). Role of social and technological challenges in achieving a sustainable competitive advantage and sustainable business performance. *Sustainability*, 11(14), Article Number: 3811

Humanitarian Portal Website (2018). URL: https://gtmarket.ru/ratings

IndexMundi Database (2018). URL: https://www.indexmundi.com

Kaufmann, D., Kraay, A., Mastruzzi, M. (2011). The worldwide governance indicators: methodology and analytical issues. *Hague Journal on the Rule of Law*, 3(2), 220-246.

Keeling, D. (1972). Management in Government. London: Allen & Unwin, p. 15.

Kinnunen, J., Androniceanu, A, Georgescu, I. (2019). The role of economic and political features in classification of countries in transition by Human Development Index. *Informatica Economică*, 23(4), 26-40.

Knack, S., Kugler, M., Manning, N. (2003). Second-generation governance indicators. *International Review of Administrative Sciences*, 69(3), 345-364.

Luo, X., Donthu, N. (2001). Benchmarking advertising efficiency, *Journal of Advertising Research*, 6, 7-18.

Micklethwait, J., Wooldridge, A. (2014). The State of the State. The Global Contest for the Future of Government. *Foreign Affairs.* Retrieved from https://www.foreign affairs.com/articles/united-states/2014-05-29/state-state

Mihaiu, D. M. et al. (2010). Efficiency, effectiveness and performance of the public sector. *Romanian Journal of Economic Forecasting*, 4(1), 132-147.

Pilc, M. (2017). Cultural, political and economic roots of the labor market institutional framework in the OECD and post-socialist countries. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 12(4), 713-731. DOI: https://doi.org/10.24136/eq.v12i4.37

Pollitt, C., Bouckaert, G. (2004). Public Management Reform: A Comparative Analysis. Oxford: University Press, 240 p.

Schwab K. (2017). The Global Competitiveness Report 2016-2017. Retrieved from http://www3.weforum.org/docs/GCR20162017/05FullReport/TheGlobalCompetitiv enessReport2016-2017_FINAL.pdf

Shkarlet, S., Tkachuk, V., Reznik, N., Naumko, Yu., Prokopenko, V. (2020). Methodology of Managerial Innovations In Governmental Management. *International Journal of Advanced Science and Technology*, 29(8s), 2538 – 2543.

Siekelova, A., Androniceanu, A., Durana, P. , Michalikova Frajtova, K. (2020). Earnings Management (EM), initiatives and company size: an empirical study. *Acta Polytechnica Hungarica*, 17(9), 41-56.

Tzeng Gwo-Hshiung, Huang Jih-Jeng (2011). Multiple Attribute Decision Making Methods and applications. 2011 by Taylor & Francis Group, LLC.

Vasilyeva, T., Lyeonov, S., Adamičková, I., Bagmet, K. (2018). Institutional quality of social sector: the essence and measurements. *Economics & Sociology*, 11(2), 248-262. DOI: https://doi.org/10.14254/2071-789X.2018/11-2/17

Vitlinskyi, V. V. (2003). Modeling Economics: Educ. manual. KNEU, 408 p.

Voloshchuk, R. V., Stepashko, V. S. (2014). Nonlinear normalization of statistical indicators for the problem of building integral indices. *Inductive Modeling of Complex Systems*, 6, 47-54.

Worldbank Database (2018). URL: https://data.worldbank.org/country