

Volodymyr Voloshin,

*Postgraduate student, Department of Public Management,
National Academy for Public Administration
under the President of Ukraine*

MECHANISMS OF PUBLIC ADMINISTRATION OF INFORMATION AND COMMUNICATION ACTIVITIES OF PUBLIC AUTHORITIES

In many countries, one of the priority areas of information and communication activities of public authorities was the use of information and communication technologies which significantly changes the meaning of the various activities of public authorities, and also greatly improves the efficiency of state administration and maintenance of socio-economic development. The mechanisms effectiveness of (organizational, legal, financial and economic, social and psychological) government information and communication activities of public authorities was carried out by using the method of expert evaluation. Three stages were identified for evaluating of mechanisms effectiveness of government information and communication activities of the state authorities: organizational, conceptual, technological and instrumental and analytical. According to the procedure of evaluating the effectiveness of mechanisms of state control of information and communication activities of the government, experts evaluated following steps. First, the experts estimated the levels of performance efficiency of the three mechanisms (organizational, legal, financial and economic, social and psychological) appropriate quantitative and qualitative characteristics. Secondly, based on mentioned data they evaluated the levels of performance of each of the above mechanisms of state management. Third, using the median as criterion for statistical method data confirmed the reliability of the results. The results of the expert evaluation found that the effectiveness of the organizational and legal mechanism of government information and communication activities of public authorities are following: high - 16%, a satisfactory level - 37%, low - 28%, unsatisfactory - 19%; financial and economic mechanism: high level - 3%, a satisfactory level - 18%, low - 43%, unsatisfactory - 36%; socio-psychological mechanism: high - 9%, the satisfactory level - 17%, low - 39%, unsatisfactory - 36%. 37% experts consider that the most effective mechanism of government information and communication activities of the government are the organizational and legal mechanism, while 43% state that is the least effective are financial and economic mechanism. The lack of statistically significant difference in

effectiveness of the mechanisms of government information and communication activities of public authorities has been proven by using the median criterion.

Keywords: mechanisms of governance, information and communication activity, public authorities, efficiency.

Woloszyn W., Mechanizmy zarządzania publicznego działaniami informacyjnymi i komunikacyjnymi władzy publicznej

W artykule, na podstawie oceny ekspertów, przeprowadzono analizę efektywności mechanizmów (organizacyjnych, prawnych, finansowych, gospodarczych, społecznych i psychologicznych) zarządzania publicznego w sferze działań informacyjnych i komunikacyjnych władzy publicznej. W parciu o ocenę poziomu efektywności każdego z mechanizmów określono poziomy wydajności powyżej wymienionych mechanizmów w zarządzaniu publicznym.

Słowa kluczowe: mechanizmy zarządzania publicznego, działalność informacyjna i komunikacyjna, organy władzy publicznej, efektywność

Волошин В.Г. Механізми державного управління інформаційно-комунікаційною діяльністю органів державної влади

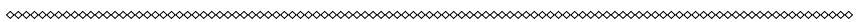
У даній статті автором на основі експертної оцінки проведено аналіз ефективності механізмів (організаційно-правового, фінансово-економічного та соціально-психологічного) державного управління інформаційно-комунікаційної діяльністю органів державної влади. Згідно оцінки рівня ефективності показників кожного з механізмів визначено рівні ефективності вищезазначених механізмів державного управління.

Ключові слова: механізми державного управління, інформаційно-комунікаційна діяльність, органи державної влади, ефективність.

Волошин В.Г. Механизмы государственного управления информационно-коммуникационной деятельностью органов государственной власти

В статье автором на основе экспертной оценки проведен анализ эффективности механизмов (организационно-правового, финансово-экономического и социально-психологического) государственного управления информационно-коммуникационной деятельностью органов государственной власти. Согласно оценке уровня эффективности показателей каждого из механизмов определен уровень вышеуказанных механизмов государственного управления.

Ключевые слова: механизмы государственного управления, информационно-коммуникационная деятельность, органы государственной власти, эффективность.



Introduction

Information and communication technologies are widely used in modern public administration and promote the formation of new effective controls and interaction among government agencies, local governments, commercial entities and citizens.

Investigation of governance information and communication process of the Ukrainian government leads to the conclusion that these issues are considered in the following ways: defined conceptual approaches to foundation of “electronic government”; set out developmental principles of electronic administrative regulations; government information systems are formed in different areas of management. Analysis of studies and publications shows that information and communication activities interests a wide range of researchers (D. Bella, J. Helbreyt, J. Martina, I. Masuda, F. Polak, O. Toffler, G. Furast and others. A significant contribution to the development of this area are contributed by V. Glushkov, N. Moiseev, A. Rakitova, Sokolov, A. Ursuland others.

Ukrainian researchers are also considered in their works the improvement of information and communication activities of government (S. Bakumenko, A. Dehtyar V. Dzyundzyuk O. Krutiy, V. Martynenko, Yu. Surmin, S. Teleshun).

But there are significant problems with the formation and implementation of effective governance information and communication activities of public authorities.

Participants of parliamentary session noted that, despite the presence significant potential for introduction of modern information and communication technologies in all spheres of the country, significant public demand for a implementation, as evidenced by numerous regional and local initiatives Representatives civil society and the state of development of information society and spheres ICT in Ukraine compared with global trends are inadequate and does not meet the strategic objectives of Ukraine [1].

At the same time, modern state of mechanisms of governance information and communication activities of public authorities are insufficiently analyzed, thereby it causes further research of these scientific issues.

Statement of research objectives

Based on peer review one should analyze the effectiveness of the mechanisms of government information and communication activities of public authorities.

Results

The effectiveness of the mechanisms of government information and communication activities of public authorities is carried out using the method of expert evaluation.

For evaluating the effectiveness of the mechanisms of government information and communication activities of the state authorities one had identified three stages:

The first is organizational and conceptual stage provided for goal-examination, posing the problem; the timing of; implementation of the selection of experts from determining their competence and the formation of expert groups. The selection of experts was based on a questionnaire developed in logic “phased deployment issues” (by G. Gallup). To participate in the peer review of mechanisms of government information and communication activities of the state authorities were invited by 15 experts.

The second is technological and instrumental. This phase involved the development of technology for examination, determination methods and criteria for evaluating the effectiveness of the mechanisms of government information and communication activities of public authorities.

The third is analysis. Stage involved the survey of experts (individual and group, in full-time and part-time, writing), documents (application form, certificate, review, report, etc.) and preparation of expert opinion.

According to the procedure of evaluating the effectiveness of mechanisms of state control of information and communication activities of the government: first, experts have estimated figures for the levels of efficiency of three mechanisms (organizational, legal, financial and economic, social and psychological) of government information and communication activities of public authorities under quantitative and qualitative characteristics; secondly, based on these data the levels of performance of each of the above mechanisms of government; third, using the median as criterion for statistical method data to confirm the reliability of the results.

The results of quantitative and qualitative data on the effectiveness of government information and communication activities of the state authorities consider separately each of the criteria mechanisms.

Organizational and legal, financial and economic, social and psychological mechanisms of government information and communication activities of the state authorities were evaluated due to scale of semantic differentiation according to set parameters. Quantitative data level of efficiency indicators of each of the mechanisms of government information and communication activities of public authorities is granted and summarized in the table (table. 1).

Table 1

Assessment results of efficiency levels and indicators of mechanisms of state management of information and communication activities carried out by public authorities (%)

Indicators of mechanisms efficiency	Assessment results (calculations are made according to the scale of semantic differentiation)			
	High (8–10)	Sufficient (5–7)	Low (2–4)	Insufficient (1 and less)
Organizational and legal mechanism				
sufficiency of legal framework for effective state management of information and communication activities carried out by public authorities	22	58	20	-
conformity of the current legislation of Ukraine in the sphere of public management of information and communication activities carried out by public authorities to the requirements of EU legislation in this sphere and to European practice	-	6	50	44
ergonomics of the structural organization of information and communication activities of public authorities in accordance with its statutory objectives, tasks and functions	27	52	15	6
Financial and economic mechanisms				
sufficiency of funding of information and communication activities carried out by public authorities	4	18	37	41
social and economic impact of information and communication activities carried out by public authorities	5	16	40	39
investment attractiveness of programs, projects, research, activities, communication events and etc., that are implemented at the national, regional and local levels	-	20	52	28

Social and psychological mechanisms				
planning of information and communication activities carried out by public authorities considering the degree of development of information sphere in the society, segmentation and developmental trends at the information market	9	15	52	24
degree of application of media-communication technologies in the information and communication activities carried out by public authorities	11	23	32	34
conformity and competence of actions of state authorities under the conditions of information and psychological operations and wars	2	13	49	36
motivation of civil servants to comply with ethical standards in information and communication activities carried out by public authorities	15	16	21	48

Now let us interpret the data. Ukraine has a sufficient legal framework for effective governance of information and communication activities that are carried out by public authorities. According to the data in Table 1, 22% of the experts claim that the figure for this indicator is high and 58% of the experts find it sufficient. Indeed, Ukraine created legal principles for building of the information society and formed a large amount of regulations that directly or indirectly regulate the information and communication activities carried out by public authorities, whose legal basis includes the Constitution of Ukraine and relevant laws.

When comparing the national practice to foreign experience in terms of conformity of current legislation of Ukraine in the field of management of public information and communication activities carried out by public authorities to the requirements of EU legislation and European practices, it appears that Ukraine yields to many countries. Thus, in the international ratings for the development of e-government in 2014 Ukraine takes 87th place among 193 UN member countries. [1] According to the conducted research - 50% of experts rated this figure to be low, 44% - found it insufficient and no expert defined this indicator as high.

Experts unanimously claim that one of the major problems of information and communication activities carried out by public authorities is insufficient funding (according to the research, the majority of experts (41% and 37%) identify funding of information and communication activities carried out by public authorities as insufficient and low, respectively). They noted that in Ukraine funding of the information and communications technologies is based on a residual principle. The State Budget allocates little money on the development of these technologies. This is also confirmed by the Ministry of Economic Development and Trade of Ukraine – only 140 out of 208 tasks and activities of state programs on informatization of Ukrainian society approved by the relevant legal documents were financed. [2, p. 10].

At present, experts say, Ukraine has not established adequate foundations for automation of the state management system: unified infrastructure and mechanism for interdepartmental informational interaction between the state bodies. As a result, the information environment of public authorities is not stabilized, uncontrollably duplicated, developed according to departmental needs and abilities without any specific requirements for interaction, which leads to low economic effect of government activities (the majority of experts (40% and 39%) identify social and economic effect of information and communication activities carried out by public authorities as low and insufficient, whereas only 5% identified it as high).

As to the investment appeal of programs, projects, scientific research, communication activities etc., that are implemented at the national, regional and local levels, none of the experts consider it as being at a high level and 52% of the experts identify it as low. In most countries the government supports the information and communication sector, in order to provide an additional boost to the development of the field and make it attractive to potential customers and investors, and companies are given social tax benefits. Hence, one of the problems that the IT market in Ukraine faces is lack of the state support.

According to the data in Table 1, other experts believe that planning of information and communication activities that are carried out by public authorities considering the degree of development of information sphere in the society, segmentation and developmental trends at the information market is low (52% of the experts) or insufficient (24% of the experts). The main reasons for the inefficient planning of information and communication activities carried out by public authorities considering the degree of development of information sphere in the society, segmentation and developmental trends at the information market are:

- The imbalance of economic, social and ecological indicators of activities carried out by public authorities in the context of sustainable development;

- The lack of technical, organizational, scientific and methodological support for analysis of social, economic and ecological developmental indicators in each region and managerial decision-making on the basis of this analysis;
- The need to operate on a scale of each region an integrated information system of forecasting and evaluation of administrative decisions made by public authorities;
- Lack of managerial experience in governmental workers that is necessary for making sustainable decisions in strategic planning of their information and communication activities.

According to the results of an expert survey, one can state that the degree of application of information and media-communication technologies in information and communication activities carried out by public authorities is either at the low or insufficient level - 32% and 34% respectively. Experts believe that one of the difficulties faced by the Ukrainian authorities during implementation of information and communication technologies, is a situation where officials are often unfamiliar with new technologies that they use in their work. Today there exists a real contradiction between the urgent need for specialists with a high level of information culture and an insufficient number of specialists ready for different activities in the field of processing professionally significant information by the latest standards.

The efficiency levels of each mechanism of state information and communication activities of public authorities were calculated by determining the arithmetic mean value of each of the identified indicators, where B_c is an average indicator for the high level of efficiency of organizational and legal mechanism of state management of information and communication activities carried out by public authorities; B_1 – high result according to the first indicator – sufficiency of legal framework for effective state management of information and communication activities carried out by public authorities; B_2 – high level according to another indicator – conformity of the current legislation of Ukraine in the sphere of public management of information and communication activities carried out by public authorities to the requirements of EU legislation in this sphere and to European practice; B_3 – high result according to the third indicator – ergonomics of the structural organization of information and communication activities of public authorities in accordance with its statutory objectives, tasks and functions. The mean values for sufficient, low and insufficient levels of efficiency and financial and economic and social and psychological mechanisms were defined in a similar way.

Mean value assessment results of the levels efficiency of each of the mechanisms of state management of information and communication activities carried out by public authorities is provided in Table 2.

Assessment results of efficiency levels of mechanisms of state management of information and communication activities carried out by public authorities (%)

Mechanisms of state management of information and communication activities carried out by public authorities	Results of levels assessment			
	High (8–10)	Sufficient (5–7)	Low (2–4)	Insufficient (1 and less)
Organizational and legal mechanism	16	39	28	17
Financial and economic mechanism	3	18	43	36
Social and psychological mechanism	9	17	39	35

The study allows us to establish the following consequences of the efficiency of the mechanisms of state management of information and communication activities that are carried out public authorities:

- High level of efficiency of the mechanisms of state management of information and communication activities carried out by state authorities was observed in: organizational and legal mechanism (16%); financial and economic mechanism (3%); social and psychological mechanism (9%);
- Sufficient level of efficiency of the mechanisms of state management of information and communication activities carried out by state authorities was observed in: organizational and legal mechanism (37%); financial and economic mechanism (18%); social and psychological mechanism (17%);
- Low level of efficiency of the mechanisms of state management of information and communication activities carried out by state authorities was observed in: organizational and legal mechanism (28%); financial and economic mechanism (43%); social and psychological mechanism (39%);
- Insufficient level of efficiency of the mechanisms of state management of information and communication activities carried out by state authorities was observed in: organizational and legal mechanism (19%); financial and economic mechanism (36%); social and psychological mechanism (36%).

According to the experts' conclusions (see. Table 2.), the most effective mechanism of state management of information and communication activities carried out by public authorities is the organizational and legal mechanism – this is confirmed by 37% of experts. At the same time 43% of experts state that financial and economic mechanism is the least effective.

If we calculate the average indicators of efficiency levels of state management mechanism of information and communication activities carried out by

public authorities, we will see that 30% of experts believe that the efficiency of the mechanism of state management of information and communication activities carried out by public authorities is insufficient, 37% of experts find it to be low, 25% rated it as sufficient and only 9% identify it as high (Fig. 1).

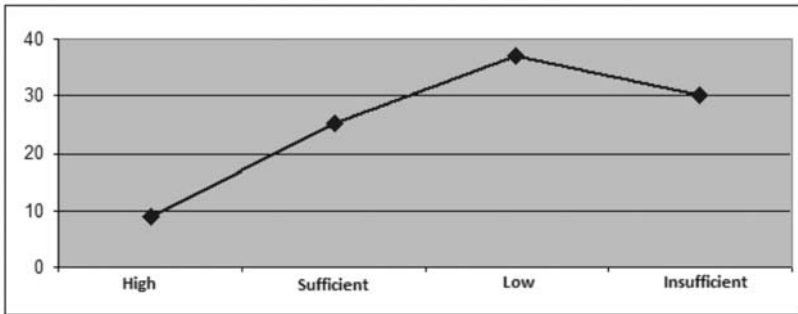


Figure 1. Assessment of efficiency levels of state management mechanisms of information and communication activities carried out by public authorities

Proving the absence of no statistically significant difference in mechanisms efficiency of state management of information and communication activities carried out by public authorities was performed according to the median test for several samples of different sizes [3]. The selection of the indicated non-parametric statistical criterion was predetermined by the fact that the law of distribution of the selected data was not normal. In addition, the selection had data that differed dramatically from the sample mean; therefore, the sample median was more like a fixed estimate of the central tendency than the sample average. The critical values of statistical criteria were found with the help of statistical tables. [4]

Thus, received data allowed to form three unified selections (according to three criteria). A median was calculated for each selection

The median test was calculated according to the formula:
$$\chi^2 = \sum_{i=1}^k \frac{(L_i - K_i)^2}{K_i}$$

Where L_i stands for the amount of values that are larger than the median values of observed set of data in the power of I ; K_i is the amount of values that are larger than the median values of expected set of data in the power of I .

The calculated value of the median test was compared with the critical distribution value $\chi^2_{\text{магн}}$, which was taken with the significance level 0.05 and the degree of freedom $(k-1)$.

The calculations have shown that for the results of diagnostics of efficiency levels of according to the first indicator (organizational and legal mechanism)

the value of the median test was $x^2 = 0,48$; according to the second indicator (financial and economic mechanism) it was $x^2 = 0,28$; according to the third indicator (social and psychological mechanism) it was $x^2 = 0,98$. Since $x^2_{\text{мабл}} = 3,84$, then the difference between the diagnostic data of the efficiency of state management of information and communication activities carried out by public authorities at the significance level $\alpha = 0,05$ is not statistically significant, hence the acquired data can be regarded as valid.

Conclusions

According to the results of expert assessment it was established that the efficiency of the organizational and legal mechanism of state management of information and communication activities carried out by public authorities is characterized by the following indicators: high level – 16%, sufficient level – 37%, low level – 28%, insufficient level – 19%; financial and economic mechanism: high level – 3%, sufficient level – 18%, low level – 43%, insufficient level – 36%; social and psychological mechanism: high level – 9%, sufficient level – 17%, low level – 39%, insufficient level – 36%.

According to the experts' conclusions, the most effective mechanism of state management of information and communication activities carried out by public authorities is the organizational and legal mechanism. This is confirmed by 37% of experts, whereas 43% claim that the financial and economical mechanism is the least effective.

The average indicators of expert assessment demonstrate the low and insufficient levels (37% and 30% respectively) of the efficiency of mechanism of state management of information and communication activities carried out by public authorities.

Absence of statistically significant difference between the efficiency levels of mechanisms of state management of information and communication activities of public authorities has been proved with the help of the median test.

References

1. Pro Rekomendatsiyi parlament-s'kykh slukhan' na temu: Zakonodavche zabezpechennya rozvytku informatsiynoho suspil'stva v Ukraini (Legislative support the development of information society in Ukraine): Postanova Verkhovnoyi Rady Ukrainy vid 31 bereznya 2016 roku № 1073-VIII // Vidomosti Verkhovnoyi Rady (VVR), 2016, № 17, st.191
2. Semenchenko, A. I. Elektronne uryaduvannya v Ukraini: problemy ta shlyakhy vyrishennya (E-government in Ukraine: Problems and Solutions) // Elektronne uryaduvannya: mizhnarodnyy naukovyy fakhovyy zhurnal. – 2010. – №1. – P. 6-17.

3. Metodolohiya ekspertnoho otsynuyvannya (Methodology expert assessment): konspekt leksiy / uklad. : V. P. Novosad, R. H. Seliverstov. — Kyiv,: NADU, 2008. — 48p.

4. Myn'ko A.A. Statystycheskyy analiz v MS Excel (Statistics of analysis in MS Excel) - M.: Yzdatel'skyy dom «Vyl'yams», 2004. — 448 p.

5. Lapach S.N., Chubenko A.V., Babych P.N. Statystyka v nauke y byznese (Statistics in science and business). — Kyiv,: MORYON, 2002, - 640 p.