

The Monitoring of the E-government Projects Realization in the South of Russia

Kalinina Alla Edyardovna, Borisova Anna Sergeevna
Volgograd State University
Russian Federation



ABSTRACT: *The methodology of the e-government projects' evaluation, that takes into account the specifics of its implementation in the regions of Russia, is offered. The information and analytical system of complex regional e-Government projects' monitoring is constructed on the basis of the given system of indicators. The methodology approbation is carried out on the regions of the South of Russia with the construction of the regions rating by the index of the e-government development.*

Keywords: E-Government, Methodology of Evaluation, Information and Analytical System, Monitoring of Projects, Index of the e-Government Development, Rating of Regions

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1. Introduction

Nowadays the information technologies are developing rapidly and penetrating into the various spheres of the society [2, 5, 6, 10]. The expansion of the population access to the electronic means of communications and the development of the economy information sector has caused the necessity of carrying out work, relating to the creation of the e-Government in Russia.

The results of the federal target program implementation “*E-Russia (2002 — 2010)*” [8], which tasks had been accomplished not comprehensively, showed the necessity of working-out and approval to the new State program “*The information society (2011-2020)*” [7]. The introduction of the e-Government concept at the mesolevel is one of the priority directions of this state program along with the reduction of the digital inequality of regions, the safety in the information society, the improvement of the life quality of citizens and the conditions for business development.

The implementation of the regional level programs providing public services in electronic form started in the regions of Russia that demands the assessment of realized projects efficiency in this area. Monitoring and assessment of the reached result present the tool, allowing to carry out the spatial and temporal estimates and to map out the directions of the regulating influence. There is no standard methodology of efficiency evaluation of these projects' implementation today. The author has carried out the comparative analysis of the existing approaches to the assessment of the e-Government in the foreign and Russian science and practice, namely the UN e-Government Readiness Index) [2, 4, 11, 12], the systems of indicators for measurement of the e-Government level of the development in the countries of the European Union (Capgemini) [10], the index of Russian regions' readiness to the e-Government (Institute of the Information Society) [3]. The application of the mentioned assessment's methods is complicated in the Russian conditions with the inaccessibility of data and the necessity to involve the large number of experts.

The methodology offered by the author is based on the quantitative and qualitative characteristics of the e-Government development, it is also relied on the objective static information that permits to realize the complex monitoring of studied process.

A number of requirements is made to develop the methodologies of assessment [2, 10, 9]: the created system of indicators must have the complex character, it is necessary to integrate the maximum number of factors in it and conditions which the development of projects depends on; the indicators of this system have to be transparent and available to carrying out the calculations and receiving the estimates; the complete compatibility and comparability of indicators have to be provided for the different conditions of their measurements and also for using these indicators to the various level's objects of research.

Four blocks of the interconnected indicators are in the base of assessment. The first subsystem of indicators describes the state of the information and communication infrastructure of the region and reflects the level of population access to the Internet, i.e. the possibility of population to use the electronic state services. This subsystem defines a type of interaction G2C (Government-to-Citizen).

The second subsystem contains the indicators of the information sector condition of the region's economy. It defines a type of interaction G2B (Government-to-Business).

The third subsystem of indicators reflects the human development index, shows the readiness of population for the consumption of the state services in electronic form and the existence of the work skills in the electronic environment.

The fourth subsystem of indicators describes the level of online presence of the regional authorities, contains the indicators of the regional e-Government projects' condition. This subsystem defines a type of interaction G2G (Government-to-Government).

The hierarchical decomposition of the indicators assessment system permits to carry out the calculation of the index of the e-government development by the indicators integration of each decomposition's level [1]. The rating method is used for the construction of the integral measure. All subindexes used include the indicators with units of measure, and also carry both quantitative, and qualitative character, therefore the normalization of data blocks in the range of their limit measurements (minimum and maximum) is necessary to receive the reliable information about the data distribution and ranging.

The basic data are normalized as follows:

$$J = (R_x - R_{min}) / (R_{max} - R_{min}),$$

where J – the normalized value,

R_x – the indicator's value for the region,

R_{min} – the minimum value for the indicator,

R_{max} – the maximum value for the indicator.

Then the normalized indicators are aggregated according to the subindexes. The subindexes are counted as the average weighed value of the estimates of indicators characterizing the relating subject field.

The author supposes that the e-Government development is caused by the improvement not only the subsystems of the information and communication infrastructure and the information sector of the region's economy, but also the subsystem of online regional authorities presence. The high efficiency of the e-Government implementation projects equally depends on both the improvement of the objects of management, and the ability of the agent of management to respond to these changes positively. It is rational to calculate the integral measure according to the additive scheme in this regard:

$$l_{eg} = a_1 * l_1 + a_2 * l_2 + a_3 * l_3 + a_4 * l_4,$$

l_{eg} - The index of the e-government development,

l_1, l_2, l_3, l_4 – The subindexes,

a_1, a_2, a_3, a_4 – The weight coefficients.

The presented methodology is developed within the existing federal and regional legislation, the regulatory and methodical base and takes into account the best practice and approaches in the foreign countries and the positive examples of the assessment organization in the Russian regions.

The offered system of the estimates is transparent and available to carrying out the calculations, assumes the indicators' integration, provides the compatibility of the indicators for the different conditions of their measurement, i.e. it is invariant to the estimated objects and conditions of the assessment implementation.

The offered methodology has been tested on the example of the Southern Federal District regions and the North Caucasian Federal District with the data analysis for 2007-2010.

The regions ranking and ratings are constructed on the basis of the general index. The ratings' data are output in the form of the analytical reports. The reports' data allow to detect the regions' development levels and the zones of their lag by the marked subsystems, to develop the recommendations and the correcting arrangements.

The information and analytical system of complex monitoring of the regional e-Government projects is constructed on the basis of the given system of indicators.

This system possesses the following functionality:

1. It gives the short characteristic of the specified subject field;
2. It contains the references to the state services portals (or the sites replacing them) of the Southern Federal District regions and the North Caucasian Federal District;
3. It describes the methodology of the e-government projects evaluation of the Russian regions on the basis of which the monitoring of these projects is made;
4. The results of the data analysis by the years of research are output in the tabular form by the subindexes and the general index of the e-government development;
5. The results of the data analysis by years of research are output in the form of diagrams, imaging the rating of the Southern Federal District regions and the North Caucasian Federal District according to the values of the subindexes and the general index for each region;
6. The dynamics analysis results of the index changes of the e-government development are output in the forms of tables and graphs for each region;
7. There is the interactive operating mode of the system: the information output, describing the state of the e-government projects, depending on the user request, is provided.

The data analysis for 2007 shows the following results. Rostov Oblast is the region with the maximum level of the e-Government development. This result was reached due to the high rates of the region by the index of the condition of the information sector of the region's economy (the 1st place among the regions of the Southern Federal District), the human development index (the 2nd place among the regions of the Southern Federal District) and the index of the online presence of the regional authorities (the 1st place among regions of the Southern Federal District). Volgograd Oblast is the region which lagged behind the leader. This region has the high results by the index the state of the information and communication infrastructure of the region (the 1st place among regions of the Southern Federal District), the human development index (the 1st place among regions of the Southern Federal District) and the index of the online presence of the regional authorities (the 2nd place among regions of the Southern Federal District). Other regions of the Southern Federal District have the level of the e-Government development not above the average one.

The results of the data assessment for 2008 reflect the tendency to the slight increase in the level of the regional e-Government

development. The overall picture of the assessment's results is similar to the results for 2007. Rostov Oblast remains the leader winning the first place among the regions of the Southern Federal District by all subindexes except the index of the state of the information and communication infrastructure. Volgograd Oblast is also on the second place by the index of the e-government development.

According to the results of the data assessment for 2009 Rostov Oblast and Volgograd Oblast are the regions taking the first and second place relatively by the index of the e-government development as it was before. However, the regions which have increased their development relatively to the other regions of the Southern Federal District should be noted, they are the Republic of Kalmykia and Krasnodar Krai. The Republic of Kalmykia takes the third place by the general index because of the high rates by the index of the online presence of the regional authorities (the 3rd place among regions of the Southern Federal District) and the human development index (the 4th place among regions of the Southern Federal District). Krasnodar Krai is the leader among the regions by the index of the state of the information and communication infrastructure of the region and the index of the information sector condition of the region's economy. In spite of the fact that the analyzed year is one of the final ones in the implementation of the Federal Target Program (FTP) "E-Russia 2002-2010", the general level of the e-Government projects' development of the regions of the Southern Federal District is estimated by the average values.

The data analysis for 2010 shows that the leader among the regions of the Southern federal district and the North Caucasus federal district allocated from its structure by the level of the e-Government development remains invariable. Astrakhan Oblast and Stavropol Krai make the top three by the index of the e-government development. Astrakhan Oblast is the leader among the regions of the Southern Federal District and the North Caucasian Federal District by the index of the state of the information and communication infrastructure of the region and the index of the information sector condition of the region's economy. Stavropol Krai takes the third place among the regions of the Southern Federal District and the North Caucasian Federal District by all subindexes except the index of the state of the information and communication infrastructure. The data analysis for 2010 displays the tendency to the increase in the level of the development of the e-Government projects in comparison with 2009, the approval of the Strategy of development of the information society in 2009 that served as a new stage in development of the concept of the e-Government in Russia can be one of the reasons of that. Despite the fact that Rostov Oblast is the leader among the researched regions, there is the tendency to lose the highest position in the rating because of the fast development of the adjacent regions. In this regard Rostov Oblast should develop the indicators relating to the general condition of the sphere of the information and communication infrastructure and the state of the information sector of economy of the region, namely the costs of the Information and Communication Technologies, the costs of the payment for the Internet access and the share of the consumer expenses to communication. Other regions should pay attention to the growth of the level of the online presence of the regional authorities, the regions being at the end of the rating should aspire to it intensely.

The information and analytical system of complex monitoring of the regional e-Government projects permits to carry out the monitoring and to estimate the results of the e-Government programs, to find the lag zones, to reveal the factors interfering the e-Government development, to form the adequate system of measures and correcting managerial solutions.

The offered system is able to form a basis for the creation of the predictive assessments of the long-term development of the Information and Communication Technologies and the e-Government of regions of Russia.

Using this system the work of government will become more accountable and transparent that will increase their responsibility to citizens.

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