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THE ARCHITECTURE OF ELECTRONIC COOPERATION OF PUBLIC AUTHORITIES: AN INTERNATIONAL EXPERIENCE

The international experience of forming the architecture of electronic interaction between the public authorities in order to determine the applicability of such experience in Ukraine as a basis to improve the efficiency of management and qualitative administrative services providing is analyzed. Models (architecture) of electronic interaction between the public authorities: the American-English model, Western and Asian models. Implemented projects of creation of e-governance tools: Federal IT-architecture of the United States; the architecture of the gateway of the government of Great Britain; the State portal of Estonia are investigated. It is proved that the most relevant for Ukraine is the European model implementation.

Key words: e-government, public authorities, electronic interaction, international experience.

The introduction of the system for electronic cooperation of public authorities is a complex, difficult problem and belongs to the category of semistructured tasks. Without regard to a number of the normatively-legal acts, which are sent to her decision, there are many spent budgetary facilities and other resources, this system is so not created in Ukraine. The main reason of such state is absence of the only approach for creation of such system, declarativity and insufficient validity of public policy in this sphere, domination of department approach in public authorities and absence of coordination in their actions.

The signing of Agreement about the association of Ukraine and European Union (EU) actualizes the problem of determination and acceptance of concerted with the directives of EU, European scopes of interoperability of organizational and legal norms,

standards, facilities and methods of realization of electronic management, including electronic cooperation of public administration bodies and local government bodies , that in the modern paradigm of public administration science are united in a concept «public government bodies».

Today, in the situation of military aggression of Russian Federation and system crisis in Ukraine it is needed to form and inculcate effective, concerted with the standards of EU public policy of development of electronic cooperation of public government bodies as one of the key facilities for realization of administrative reform, fight against a corruption and providing of effective public administration.

This problem was examined by the domestic scientists – A. Semenchenko [5], A. Asanova [1], O. Baranov, M. Demkova, S. Dziuba [3], P. Klimushin [2], I. Kispliak [4] and other

The aim of the article is an accumulation and analysis of international positive experience of forming of architecture of electronic cooperation of public government bodies(public authorities) for the determination of possibility of application of such experience in Ukraine as bases of improving for efficiency of management and quality grant of public services.

The process of architecture development for electronic cooperation of public government bodies must take into account aims and priorities of political management, the real functioning of the public and local government system, the features of normatively-legislative base, technological and vehicle possibilities, and also it must attract the best foreign experience. Development of such architecture is basis for introduction in the vital functions of the state and society of e-government technologies and in future e-democracy.

At global level it is possible to distinguish such models (architecture) of electronic cooperation: American-English, Western and Asian. The American-English model was formed under the influence of general conception of socio-economic development, that provides for prevailing of the private sector over the functions of the state in all directions of society development. A basic tendency was an improvement of informative services quality and providing of social orientation of the state. A Western model summarizes strategies and programs of the USA, Canada, Great Britain and others. The European model, the personal features of that are variativity and political orientation of the

programs of informative society construction is distinguished in limits of the Western model.

One of differences of the European model from American, there is creation of an informative legislation – the legislative base that takes into account both national and international principles of informative relations adjusting. A basic document that regulates strategic development of European informative society is «Initiative Europe 2020» and in its limits – the «Digital agenda for Europe».

The Asian model realizes the ideological doctrine of the countries of the Pacific Ocean region. The bases of this model are the collaboration of the state and market, establishing connections between cultural values and social changes and high indexes of the informative society development. In 2014 South Korea led rating of the UNO after the level of e-government development. Basic efforts were sent to the construction of infrastructure and development of broadband access to the Internet network, including using mobile communication. So, there are 190 departments render 335 services by means of SMS and MMS.

The number of countries that worked out and continue the prosecution of data standards and electronic cooperation is large enough, but almost all of them have in the architecture an analogue of governmental sluice:

− Great Britain: governmental sluice, governmental Intranet and standard of e - GIF;

− Denmark: infrastructure of Infostructurebase;

− Sweden: Government Elink (GeL);

− Australia: FedLink governmental sluice and governmental інтранет is protected;

− Hong Kong: Government System Architecture (GSA) and Electronic Service Delivery (ESD) Scheme;

− The USA: Federal corporate architecture of information technologies of state organizations.

Examine the realized projects of creation of electronic management facilities.

Federal IT-architecture of the USA. Responsibility for IT-architecture development is imposed on the Board of information and technology leaders, that unites about thirty IT-directors of federal and regional government bodies. IT-architecture of state organizations is a conceptual model of description in the structured and coordinated

form of federal government and state organizations activity; from the functional point of view regardless of organizational structures that will realize corresponding functions, with the aim of improvement of their activity due to the information technologies use. Separate state departments must use this general model for description of the architecture. The primary purpose of Federal IT-architecture of state organizations is providing of conditions for compatible development of processes, standards of compatibility and exchange information between public authorities and organizations.

Conception of Federal IT-architecture has such advantages:

– reduction of duplication of the informative systems;

– providing of compatibility and potential possibilities in relation to integration of the systems;

– reduction of the informative systems cost;

– optimization of implementation processes of organization's functions;

– increase of the productivity and efficiency of activity;

– improvement of management of the systems;

– improvement in organizations' management and support of processes reengineering.

Architecture of governmental sluice of Great Britain includes such components:

– the incorporated services of authentification for public authorities;

– simple means of the web-forms creation, which are intended for documents serve;

– the only mechanism of rules, realized as web services, that contains rules of document treatment, accessible for all systems;

– corresponding interface for all parties, that means - the physical or legal person will be needed to enter the data once, and must be sure that all parties concerned will get this information;

– architecture that can be described as « loosely-coupled integration» between the client systems, where forms are entered, and the server systems that can be modernized that is haven't the influence on web-form, that can change with time also, that is why the state organizations will be able to use the done investments before, to save the existent systems and personnel skills, and also to improve the systems;

– the only structure for services creation, management by them and their support, due to it all parties have a general info base and attracted in an only process.

Architecture of governmental sluice provides:

– functioning of web sites and portals of separate departments;

– authentification and registration of users (Registration & Enrolment R&E);

– control of transactions (Transaction Engine, TxE) and routing of documents;

– integration and mechanism of rules on the basis of SOAP protocol and UDDI standard;

– work of servers of departments integration (Department Integration Services).

The governmental sluice of Great Britain co-operates not directly with the departmental informative systems that are in a country about 1800, but with the integration servers of level of separate departments.

It should be noted that ministries and local government bodies aim to save the independence from the centralized systems, the programmatic financing and political will is absent for the imperative plugging of departments in an only process; departments prevent to integration, try to prove it by the irreconcilable differences of forms and data bases. In the same time, in basis of governmental sluice lie the compulsory for all state systems – standards of e-GIF (Government Interoperability Framework), that, in particular, consist in such:

– concordance with the Internet network: the universal use of general specifications that use in a network for all informative systems of the state sector (HTML, SMTP and other);

– use of XML language as a basic standard for the tools of integration and aiming of data in the Internet network for all systems of the state sector;

– application of web-browsers as basic interface; all informative systems of the state sector must be accessible by means of this technology; other interfaces are assumed only as addition;

– providing the metadatas of all governmental informative resources, that is given in the Internet network;

– development and acceptance of Metadatas Standard (Government Metadata Standard,e-GMS), that facilitates a publication and information retrieval;

– development and accompaniment of Governmental Category List (Government Category List).

Development of electronic management in Estonia. Realization of digital agenda for Estonia became possible due to the formed infrastructure. By the state on 2011, the fixed broadband coverage presented – 93,9 %. In 2013 – the 80 % habitants in age from 16 till 74 used by the Internet network . So, 95 % of Estonia residents give tax returns on-line.

Another component of infrastructure, which is necessity for electronic management development, there is a common service space, the kernel of that is the state informative system, that includes the base infrastructure of service (X - Road, electronic authentication, state portal and others), that is developed and renovates systematic.

At the elections 2014 in Estonia there was possibility to carry out the choice in the on-line mode. This possibility was used by 31,4 % of the electors .

To the key factors that assisted to the e-goverment development in Estonia, it is possible to take such: access to the Internet network is examined as a social right, presence of competition in IT- sector in relation to creation of state electronic services, presence of desire and necessary competenses at guidance of republic. Another important factor of success is a presence of organ that carries out co-ordination of the national informative systems activity - state office that provides implementation of such tasks:

1) collection and analysis of information that concerns the national informative systems development and planning of development strategy;

2) projects developments of normatively-legal acts in the field of an informatics, examination of other bills from position of information technologies;

3) evaluations of charges for information technologies from the state budget;

4) participating in the rules development for the public purchasing of IT-facilities and projects, conclusion and implementation of scope agreements that concerned the purchase of IT-facilities;

5) co-ordination of IT standardization activity;

6) organization and co-ordination of interdepartmental projects of the informative systems, and also the activity of working groups, including the co-ordination of work with national registers;

7) co-ordination of IT elements audit in the development and functioning of the national informative systems.

Together with Ministry of finance, the State office participates in preparation of state budget statement in the part that connected with the financial charges on the national informative systems.

Taking into account the geopolitical position in connection with signing of Agreement about an association between Ukraine and EU, the most actual for Ukraine is the implementation of European model. There is a necessity of the implementation of the only approaches for the electronic cooperation of public government bodies, that is why exactly the European forms of electronic cooperation present the special interest for our country, that must provide implementation of EU initiatives for the complex development of electronic management.

European strategy of interoperability (European Interoperability Strategy, EIS) gives basis for an organizational, financial and operating structure in support the transfrontal and/or the intersectoral cooperation, the aim of European scopes of interoperability (European Interoperability Framework, EIF) is a help in introduction of effective collaboration between government bodies. On the whole, EIF is the concerted approach for interoperability for organizations that want to work together for the general rendering of administrative services.

It is also necessary to mark that basic complication of the project realization in the field of an e-government and electronic cooperation consists not in application of present information technologies, but in organization of acceptance process of corresponding standards and concordance of the information technologies architecture of different public authorities.

List of references

1. **Asanova A. A.** Elektronnyi uriad yak diiovyi mekhanizm vzaiemodii i forma spivpratsi derzhavy ta hromadian v informatsiinomu suspilstvi / A. A. Asanova // Derzhavne upravlinnia. – 2006. – № 1. – Rezhym dostupu : www.nbuv.gov.ua.

2. **Klimushyn P. S.** Osoblyvosti vprovadzhennia svitovoho dosvidu elektronnoho uriaduvannia iz zastosuvanniam portalnykh tekhnolohii v systemu natsionalnoho

derzhavnoho upravlinnia / P. S. Klimushyn // Derzhavne budivnytstvo. – 2010. – № 1. – Rezhym dostupu : www.kbuapa.kharkov.ua.

3. **Kuspliak I. S.** Elektronne uriaduvannia yak instrument rozvytku demokratii / I. S. Kuspliak // Stratehiia rehionalnoho rozvytku: formuvannia ta mekhanizmy realizatsii : materialy pidsumk. nauk.-prakt. konf. za mizhnar. uchastiu (Odesa, 31 zhovt. 2008 r.). – O. : ORIDU NADU, 2008.

4. **Semenchenko A. I.** Formuvannia kompleksnoi modeli elektronnoho uriaduvannia z urakhuvanniam zahalnosvitovykh tendentsii / A. I. Semenchenko // Visn. derzh. sluzhby Ukrainy. – 2009. – № 2. – S. 77 – 82.

5. **Kontseptsiia** rozvytku elektronnoho uriaduvannia v Ukraini / [O. A. Baranov, M. S. Demkova, S. V. Dziuba ta in. ; za red. A. I. Semenchenko]. – K. : DKNII, 2009. – 15 s.