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### **Information and Analytical Support of Local Self-Government in the Context of Automation of Public Administration Services**

**Abstract. Introduction.** *Creating a modern information and analytical base for managerial decisions in local governments is especially relevant at the present stage of development of Ukraine. Information and analytical support, based on the wide use of new information technologies, means of computer and communication technologies is an integral part of the professional functioning of the public administration system. The introduction and comprehensive use of modern information technologies in the activities of local governments provides information and analytical support for managerial decisions, provides information needs of both civil servants and other categories of citizens.*

**Purpose.** *The purpose of the article is to study the organization of information and analytical support of local self-government in the context of automation of public administration services.*

**Results.** *The state of information and analytical activity of the local self-government institution on the example of the general department of the Bashtanka territorial community of the Mykolayiv region is investigated. An analysis of the possibilities of using the computer program "Smart Village" in the activities of communities, the widespread implementation of which will help increase the efficiency of management, planning and use of all resources of local communities. The study of the state of information and analytical activity of local self-government institutions in the current conditions has allowed to determine that in the absence of the necessary information it is difficult to make objective and timely managerial decisions.*

**Conclusions.** *Information and analytical support as a direction of activity and in the context of automation of public administration services should be identified as one of the leading and provide for appropriate changes in the functions and structure of executive institutions at the local level. These changes, in turn, require an adequate interpretation of information from the environment with pre-ordering of incoming information flows, while ensuring a balanced supply of information from all sources, taking into account the functional load for the community.*

**Keywords:** *information and analytical support; local self-government; automation; public administration; activity.*

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### **Інформаційно-аналітичне забезпечення органів місцевого самоврядування в контексті автоматизації діяльності служб публічного управління**

**Анотація.** *Створення сучасної інформаційної та аналітичної бази для прийняття управлінських рішень в органах місцевого самоврядування є особливо актуальним на сучасному етапі розвитку України. Інформаційно-аналітичне забезпечення, засноване на широкому використанні нових інформаційних технологій, засобів комп'ютерної та комунікаційної техніки є невід'ємною складовою професійного функціонування системи державного*

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управління. Упровадження та всебічне використання сучасних інформаційних технологій в діяльності органів місцевого самоврядування забезпечує інформаційно-аналітичну підтримку прийняття управлінських рішень, забезпечує інформаційні потреби як державних службовців, так і інших категорій громадян. Метою статті є дослідження організації інформаційно-аналітичного забезпечення органів місцевого самоврядування в контексті автоматизації діяльності служб публічного управління. Досліджено стан інформаційно-аналітичної діяльності органу місцевого самоврядування на прикладі загального відділу Баштанської територіальної громади Миколаївської області. Проведено аналіз можливостей використання в діяльності громад комп'ютерної програми «Розумне село», широке впровадження якої сприятиме підвищенню оперативності управління, планування й використання всіх ресурсів територіальних громад. Вивчення стану інформаційно-аналітичної діяльності органів місцевого самоврядування в умовах сьогодення, дозволило визначити, що за відсутності необхідної інформації складно приймати об'єктивні та своєчасні управлінські рішення. Інформаційно-аналітичне забезпечення як напрям діяльності та в контексті автоматизації діяльності служб публічного управління слід визначити одним із провідних і передбачити з урахуванням цього відповідні зміни функцій та структури органів виконавчої влади на місцевому рівні. Дані зміни, своєю чергою, вимагають адекватної інтерпретації інформації із середовища з попереднім впорядкуванням вхідних потоків інформації, забезпечивши при цьому збалансовану подачу інформації з усіх джерел з урахуванням функціонального навантаження для громади.

**Ключові слова:** інформаційно-аналітичне забезпечення; місцеве самоврядування; автоматизація; публічне управління; діяльність.

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**Formulation of the problem.** Confidence in the activities of local self-government institutions largely depends on how effective the information and analytical support will be in the context of automating the activities of public administration services. Only transparency and openness can ensure an effective management process with the subsequent consistent implementation of the functions that make up the technological cycle of management. The specificity of analytical activities in local governments is that it is «incorporated» into the management process, it has special requirements for the efficiency of preparation of materials, their reliability and validity. Therefore, the implementation of effective information and analytical activities of local self-government, especially in the context of the implementation of decentralization processes in Ukraine is an urgent and multifunctional task facing the executive committees of local councils.

**Analysis of recent research and publications.** The problem of formation and effective implementation of the information strategy of public authorities, the introduction of information and communication technologies in the activities of local self-government is the subject of research by both national and foreign researchers and it is significant scientific interest. Among the Ukrainian researches who have made a significant scientific contribution to the study of information space, information policy, public communications, information activities of public authorities, it is necessary to mention V. Varenko [4], T. Gantsyuk [5], V. Kyselyova [11], V. Kotkovskiy [12]. Despite the significant scientific interest in the problem, some aspects have not been studied sufficiently. In particular, it is about the principles of organization and effective operation of information and analytical units of the executive committee of local councils and their cooperation with other units of local self-government.

**Formulation of research goals.** The purpose of the article is to carry out scientific and theoretical substantiation of the system of information and

analytical support of local self-government in the context of automation of public administration services.

**Outline of the main research material.** Information and analytical support is an integral part of all areas where significant flows of information are accumulated and processed, and the consequences of decision-making are critical to society.

The functions and structure of information and analytical support of local self-government should be analyzed taking into account the functions of the elements of the system of executive committees of local self-government. The goals of each structural unit determine its functions, and the functions in turn determine the structure and organizational structure of units, as well as the job responsibilities of its employees.

Local self-government can study the opinion of the community and influence its change more effectively by analyzing the data. They can plan their programs and work with the population, assess the impact of the program on the target segment, find ways to meet the needs of the population.

The system of information and analytical support of local self-government in the context of automation is presented according to the model of V. M. Varenko [4], which provides a comprehensive implementation of the following main functions:

1. Situation monitoring. The implementation of this function provides an analysis of all current information received, its generalization, comparison and provision to interested managers in the form that best meets their needs. Materials of the sources analysis, along with other databases, are the basis for the preparation of analytical reports, notes, references and other documents of the problem-oriented information system of management.

2. Expert and analytical support. In the implementation of this function it is necessary to identify the most competent professionals in problem areas, their real capabilities.

3. Collection and initial processing of information. These processes are the most routine, time-consuming

part of the work. With unsatisfactory organization of work on the collection and initial processing of information, analytical studies are characterized by low reliability and objectivity, and their results, as a rule, reflect the subjective opinion of individual expert analysts. The work of collecting and primary processing of information combines many technical and routine operations into a common process, ensuring the reception and registration of incoming information, verification of the integrity and accuracy of data, systematization of information by subject and address.

4. Creating a system of automated support for analytical research. Such a system allows to organize the support of information-analytical research optimally with the use of special information-software tools, which include structural-information, linguistic and applied software components.

According to V. Varenko [4], automation of public administration services includes the presence of functional components that provide submission, reception and automated computer processing of information in electronic form, creation of electronic registers and their interaction, use of analytical processes for comprehensive and operational analysis.

The main elements of the information-analytical system of local self-government institutions should be: databases of necessary information, data processing systems, communication and information transmission systems, digital workplaces of public servants. Thus, computer technology, system and special software, qualified specialists are a necessary part of a set of tools, which in turn belong to the automated information subsystems of the primary elements of the information-analytical system. Therefore, to solve these issues, taking into account international experience and research, the first step should be a full expansion and restructuring of the existing infrastructure of information and analytical support of local self-government, namely automated hardware and structured cable networks, creating a secure local and regional network, and on their basis - systems of interaction with the necessary information resources and a centralized knowledge base [14].

Let's analyze the main components of the system of information-analytical activity of the local self-government institution on the example of the general department of the Bashtanka territorial community of the Mykolayiv region.

Bashtanka City Council as an institution of local self-government operates on the basis of the Constitution of Ukraine, Laws of Ukraine «On Local Self-Government in Ukraine», «On Service in Local Self-Government Institutions», «On Voluntary Association of Territorial Communities», «On Civil Service», «On citizens' appeals», «On the state budget», «On land lease», the Budget Code of Ukraine, the Land Code of Ukraine, the Code of Ukraine on Administrative Offenses, Tax Code of Ukraine, other laws and regulations.

The tasks of the general department are to establish a single procedure for documenting management information and work with documents using modern automated systems, methodological guidance and control over compliance with the established procedure for working with documents in the structural units of the city council in Bashtanka City Council.

Documentation of management information in the city council is carried out in electronic form with the use of a qualified electronic signature, a qualified electronic seal and a qualified electronic timestamp, except in cases of reasonable grounds for documenting management information in paper form, which are recognized as:

- documents containing information with limited access, the requirement for protection of which is established by law;
- electronic documents that cannot be used as an original in accordance with the requirements of the law;
- documents, the requirement for processing of which in paper form is established by acts of the Cabinet of Ministers of Ukraine [1].

In 2019, the IT Program of the Bashtanka United Territorial Community for 2020-2022 was approved. This program defines a set of priority tasks for information, organizational and technical, regulatory and legal support of local governments. In 2021, the project «Introduction of a new document management technology in the process of activity of the Bashtan City Council» was submitted for participation in the annual regional competition of projects and programs of local self-government development. Total cost is 299,794 thousand UAH, from the regional budget - 200,005 thousand UAH, from the city budget - 99,789 thousand UAH.

It should be noted that the system of information and analytical support of local self-government must have the following components and meet the following requirements:

- creation of a single information base of remote objects and subdivisions of the local self-government institution;
- organization of effective movement of information flows;
- information support of the activity of all subdivisions and objects of the local self-government institution;
- automation of all technological and business processes of the local government, operational control and management of production, transportation and marketing, personnel management, etc.;
- processing and analysis of information obtained from the external environment;
- ensuring the necessary level of security and protection of information resources of the local government - providing the opportunity to conduct automated effective analysis of the necessary information in accordance with the created user's request [5].

Using modern approaches to information processing, Bashtanka Territorial Community is actively working on the implementation of the computer program «Smart Village», which in the future may become the main means of entering, processing and analyzing information. This program allows staff to adapt quickly to the transition between system units and reduce significantly the time required to learn to work with the system.

Today, the «Smart Village» system is the only comprehensive system for managing territorial communities, which is supplied on the territory of Ukraine and has no similar foreign analogues. The composition and structure of the system «Smart Village» are presented in table 1.

Table 1. Composition and structure of the «Smart Village» system

| Module Title   | Module structure  |
|--|---|
| Household information                                  | Personal account, cadastral number.<br>Household address (index, country, region, district, settlement, street, house number).<br>Additional information  |
| Information about community residents                  | Name, attitude to the head of the household.<br>Passport data, data on gender, nationality, etc.<br>Information on education, work, pension, etc.<br>Notes on doing business, on running a personal farm, on the need for social protection, etc.<br>Data on departure / arrival of individuals.<br>History of changes in surnames and names of individuals                 |
| Information about livestock in the household           | Data on cattle, pigs, horses, etc.<br>Birds, bee colonies.<br>Fur and other animals   |
| Information about buildings                            | The total area of the house, its living area.<br>Year of construction, wall and roof materials, number of rooms.<br>Plans of buildings, documents-grounds for ownership.<br>Condition of buildings (emergency, satisfactory, etc.).<br>Availability of amenities (water, heating, etc.).<br>Accrual and payment of taxes  |
| Information about land plots                           | The total area of land.<br>Land intended for construction, housing and communal services, etc.<br>Information on the area of cultivated crops: winter, spring, technical; potatoes, vegetables, melons and fodder crops, etc  |
| Accounting and control of land taxes                   | Registration of landowners.<br>Accounting for acts of ownership, decisions of sessions of executive committees.<br>Automatic calculation of the tax amount based on the tariff rate and land area.<br>Extract of primary documents on tax payment.<br>Information on tax arrears.<br>Convenient mechanism of automatic change / replacement of owners of land plots (farms) |
| Information about agricultural machinery in households | Tractors.<br>Trucks.<br>Combines and other equipment in private ownership.  |
| Section of citizens' appeals                           | Fixation of appeals and their reasons.<br>Appointment of people responsible for the decision.<br>Issuance of resolutions on appeals.  |
| Reports in the program:                                | Lists of voters.<br>Lists of socially vulnerable people.<br>Various analytical reports: a list of people due to the age, a list of conscripts, a list of people engaged in entrepreneurial activities, etc  |

Source: [16]

All information from the system «Smart Village» can be sorted by certain characteristics and presented in some electronic format. This allows data to be exchanged with other information systems. For example, the creation of a single database for the territorial community in terms of settlements and village councils that are part of it.

Thus, the use of the program “Smart Village” in community activities will provide an opportunity to organize work in order to meet all the information needs of citizens in a timely manner, simplify the work of local authorities and increase efficiency, manageability and coordination of local self-government.

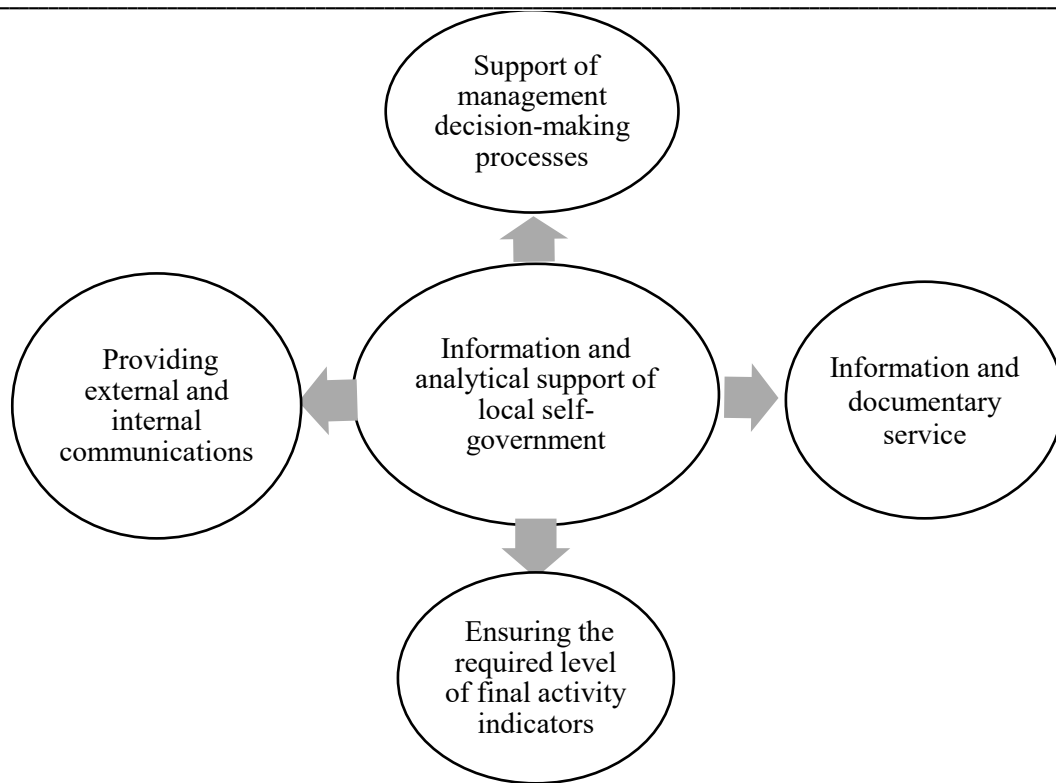


Figure 1 - **Components of information and analytical support of local self-government**

Source: generated by the authors

The generalized model of information and analytical support of local self-government is a set of subsystems with the appropriate purpose (Fig. 1):

Information and communication environment - providing external and internal communications, organization of access to external and internal information resources.

Problem monitoring - identification of priority problems on the basis of objective information obtained as a result of analytical and synthetic processing of input information.

Information and documentary service - ensuring the required level of quality of decisions making by:

- collection, analytical processing and provision in different modes of factual information about the current, desired and projected situation in the control object and in the external environment;
- collection and submission of the analytical, normative-legal and scientific-methodical documents to the authorities and providing access to specially organized funds of documents.

The creation of information-analytical documents combines the methods of information analysis and synthesis, i.e. focusing on the main provisions, facts, data with the rejection of redundant information. The obtained analytical information helps to orient not only in the flow of primary documents, but also in the content of the problem as a whole. Analytical documents play a special role in making management decisions, as well as preventing high-profile situations, mass rallies and

protests that may arise in the community. It is important to find out not only the contradictory nature of the facts, their sources, but also the ways of obtaining, studying information in order to comprehend it and convey it to the appropriate audience. The ability to search and process information is a part of the activity of local self-government specialists, which, for various reasons, is especially relevant today. The methods used to collect information in local self-government, first of all, ensure its quality. The reliability of information in practice is achieved through methodologically correct techniques for obtaining it, as well as by re-reviewing the data obtained. To monitor the socio-political situation in the community, the activities of the regional state administration and socio-political sentiments of the population, and as a result of creating analytical information, they use information resources such as online publications, print media and television [6].

**Conclusions.** All the above allows us to conclude that the information and analytical support of local self-government in the context of automation of public administration services is undoubtedly a broad and multifaceted area of activity. It includes the selection and systematization of facts on a particular issue, mainly related to the socio-political situation in the community, their assessment, selection, interpretation, clear and thoughtful presentation in writing, in the form of information and analytical documents. These documents are a means of information support for management decisions, save time for professionals, eliminate the need

for direct review of documents when searching for the necessary materials, focus on the most important information. Analytical information of local self-government is created systematically, covering the socio-political situation in the region with the use of local media. To provide users with the necessary, systematized, processed and analyzed information, analytical documents are created, the source of which is only a means of identifying and converting primary information. The defining principle of preparation of such analytical documents is the need to provide condensed information for its use without additional recourse to the

processed source materials. In the process of analyzing the activities of local self-government, a number of problems have been identified that need to be solved in order to improve the organization of analytical documents for the process of creating and making management decisions. The identified problems can be divided into three groups: the lack of a single regulatory and methodological framework for information and analytical activities; the need to form a system of professional staff of specialists-analysts engaged in information-analytical activities; diversification and improvement of the content of analytical documents.

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