Секція: *Сучасні математичні методи, моделі та інформаційні технології в економіці*

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ANALYSIS OF INFORMATION AND TECHNICAL SUPPORT OF TREASURY SERVICE

Successful implementation of budget policy, transparency of movement and efficiency use of state funds largely depend on qualified, coordinated work of the State Treasury Service of Ukraine (STSU). Clearly that such work is impossible without the use of modern information technology −software and hardware protection, processing and storage of information. Due to the automation of many complex actions, the treasury staff is able to perform their professional duties in time, despite the significant complexity of accounting tasks and the large number of operations of receipt and expenditure of funds.

Researchers Stoyan V. [1], Yuriy S. [2] identify a number of problematic issues of improving the efficiency of the Treasury of Ukraine, namely: the development of new payment technologies and the centralization of accounting for budget execution operations. At the same time, the issues of introduction of modern information technologies, in particular information and technical support, were considered by a wide range of scientists: Golubytsky O., Danevych O., Demkova N. [3], Koliushko I. [3], Kondratyuk S., Mats M., Ponomarenko V., Slyuz T. [4], Stovbchaty A., Sushko N. and others.

The use of automation systems ensures the creation of a single information space that covers united areas and all participants in the budget sphere. The core of building a single information space of the budget sphere is the full automation of the process of cash budget execution, which provides optimization of integrated

budget accounting, financial control and effective management of public financial resources.

The main purpose of the automated information system (AIS) of the Treasury Service is to coordinate and ensure the interaction of treasury bodies at all levels with each other and with other participants of budget process, their operational information support, automation of major processes, organization of communication and data transmission systems.

The structure of the information and computer system of the STSU depends on a number of factors: the nature of the functions performed and tasks to be solved; regulatory framework; internal organizational structure, etc. The automated information system of the STSU is connected with the systems and services of the National Bank of Ukraine, the Ministry of Finance of Ukraine, the State Fiscal Service of Ukraine.

To some extent, the organization of AIS of the STSU and its territorial bodies, as well as data processing technology is influenced by the structure of the treasury system, which includes hierarchical levels: the first level is represented by the central office of the State Treasury Service; the second level −the Main Departments of the State Treasury Service. Accordingly, the AIS of the Treasury has a hierarchical organization, in which centralized information processing and unified management of system resources at the top level is combined with appropriate data processing at the lower levels.

The organization and functioning of information systems of the STSU largely depends on the tasks and functions performed by the Treasury Service. The main activity of the treasury service is related to ensuring the cash execution of state and local budgets, servicing of state trust funds and debt, effective management of financial resources of the state. Therefore, the object of management, or "main production" of the Treasury, is associated with the formation and processing of information about cash flows.

In the process of cash execution of budgets of all levels in the AIS of the treasury service bodies reflect the real cash flows on revenues and expenditures. Information on cash flows is submitted to the relevant bodies of the Treasury Service, as well as to other participants in the budget process [1, p. 78]. However, information is formed on the so-called non-cash flows, such as: proof of targets, commitments, formation and submission of reports on the state of budget execution, which exist only in the form of relevant reporting data and relevant regulatory information.

Therefore, in the automated information systems of the treasury service, information related to the movement of cash and non-cash flows is formed separately. Display in the information system of the treasury service of these information flows, their automated processing is a crucial factor in improving the efficiency, analytical and reliability of information about the state and movement of budget funds.

Complex automated treasury service system to service state and local budgets in the internal payment system of the treasury service and interaction with the bank payment system through the electronic payment system uses a wide range of software and hardware, each of which provides individual functional tasks: AS "E-Treasury", AS "Treasury system", AS "Unified Network", AS "E-Reporting".

The technical basis for the implementation of a comprehensive automated information system is a multi-machine computer network of a specific topology, which, if necessary, can be connected to external networks. Given the territorial dispersion of the network, the presence of a large number of users in the network and the various functions performed by the network, it is advisable to divide the network into separate parts. Each part performs homogeneous functions and has its own server. The user can access any server. The connecting link that connects several networks into a single network is a local area network of organizations.

A local area network in a treasury service system is a set of hardware and algorithms that connect computers located in a relatively small area and allow them to share shared disk memory, peripherals, and exchange data. Creating a local area network in the treasury service system allows you to: combine autonomously distributed data processing processes and form information resources into a single structure; minimize the financial costs of information processing and optimize the operation of software packages, etc. It is in the conditions of local area networks that information connections between users are most effective.

Local area networks can be built on different topologies. Depending on the configuration, the following basic network topologies are distinguished: star-shaped network, ring network, network with topology, tree-like network. Network technology of information processing has proved to be extremely effective, as it provides users with the necessary service for collective solution of tasks, significantly increases the use of available online information, computing and communication resources, provides access to remote users.

In the system of the treasury service, the high efficiency of the automated information system is ensured by the concentration of the information load on the servers. A server is a computer with a network operating system. The server is the main means of satisfying network requests from users.

The server is designed as a multifunctional operating system and is designed to dynamically change the load on the various resources provided. The system is adaptive, its behavior is determined by a set of strategic parameters that determine the speed and limits of resources allocated, and tactical parameters that affect the speed and range of load bursts.

The current state of coverage of treasury functions, given the information saturation of the system, its multilevel hierarchical structure, functional complexity and the need to work almost in real time synchronously with the banking system, became possible due to significant work on automation of

computing processes. Practice shows that the success of the performance of their functional powers by the bodies of the state treasury service largely depends on the reliable operation of the information system.

Further development of the communication system of the Treasury Service is based on the latest automated systems. This should lead to the creation of a single telecommunications system capable of providing reliable voice, modem and facsimile communication between the structural bodies of the Treasury, as well as their connection with other systems and institutions.

Development and improvement of telecommunication networks of the treasury service system is carried out in accordance with the Concept of telecommunication development in Ukraine using the latest technologies that meet international standards, taking into account the technological integrity of all telecommunication networks and facilities, improving efficiency and sustainability. Automated information systems used in the treasury service system are constantly being upgraded, which is due to the emergence of more advanced hardware and software. This allows you to adequately respond to the changing internal and external environment, to ensure effective management of financial resources of the state.

References:

1. Stoian V. I. Kaznacheiska systema : pidruchnyk / V. I. Stoian, O. S. Danevych, M. Y. Mats. – 3-tie vyd. zmin. y dop. – K. : Tsentr uchbovoi literatury, 2014. – 868 p.

2. Yurii S. M. Teoretychni pytannia informatsiinoi modernizatsii kaznacheiskoho obsluhovuvannia biudzhetiv / S. M. Yurii // Hroshi, finansy i kredyt. – 2019. – 1(73) –P. 196 – 204.

3. Koliushko I. B. , Demkova M. S. Elektronne uriaduvannia – shliakh do efektyvnosti ta prozorosti derzhavnoho upravlinnia : [Elektronnyi resurs] / I. B. Koliushko, M. S. Demkova. – Rezhym dostupu : http://www.isu.org.ua/uploads/publications/20.doc

4. Sliuz T. Nyni kaznacheiska systema Ukrainy – nadiina i ne raz perevirena opora derzhavy / T. Sliuz // Kazna Ukrainy. – 2015. – 3. – P. 5 – 9.