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## Cluster Approach in Accounting Modeling

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**Abstract:** The article discusses the possibility of modeling the accounting system from the point of view of its clustering. The essence of the accounting cluster and the cluster-modular structure is substantiated, in particular from the position of forming the elements of the accounting system, thereby stipulating the formalization of accounting. In the course of the work, an analysis of scientific research on this problem was carried out, and the fragmentation of scientific views regarding its solution was determined. Based on the volume of scientific material, it is determined the main content, limits and possibilities of designing an accounting system.

**Key words:** accounting cluster, cluster approach, accounting system clustering, accounting system module, modeling.

The practical component of the implementation of accounting is positioned with the ability of the accounting system to harmoniously respond to a combination of external and internal factors, causing the formalization of accounting into the appropriate system. Taking into account the needs of a business entity and the environment of its functioning, it is possible to resort to a specific design of the structure and capabilities of such a system by using the modeling method.

When modeling an accounting system, it should be taken into account that its components are extremely rarely identified by homogeneity with respect to certain criteria of economic activity. Hence the need arises to find a new way to implement accounting modeling, in particular from the position of forming the structural elements of the accounting system - clusters and modules as clear logical structures.

Theoretical-methodological and organizational-methodological aspects of accounting modeling in the conditions of a systematically expressed accounting process have been the subject of research by such scientists as N.T. Belukha, N.A. Blatov, F.F. Butinets, B.I. Valuev, O.V. Golosov, M.I. Cooter, Ya.D. Krupka, O.L. Luzin, N.M. Malyuga, V.G. Makarov, K.N. Naribaev, P.P. Nimchinov, B.E. Odintsov, V.F. Arsonist, M.S. Pushkar, V.I. Podolsky, R.S. Rashitov, A.P. Rudanovsky, E.E. Sievers, Y.V. Sokolov, V.V. Sopko, N.G. Chumachenko, D.V. Chistov, A.A. Shaposhnikov et al. However, the problems of the cluster approach in accounting modeling have not found clear expression in the scientific literature of the accounting field.

Analysis of an array of scientific research makes it possible to only touch on the essence of this problem. The noted fragmentation in scientific views focuses attention primarily on the need to identify such a category as an accounting cluster. Thus, this concept should be considered from the perspective of accounting procedures or individual elements of the accounting system. In this regard, and from the point of view of the existence of a sequence of steps in the implementation of accounting actions with the corresponding regulation and hierarchy of M.I. Kuter notes: "the accounting procedure must be understood as a logically consistent, clear sequence of performing accounting actions, reflecting information in the registration process, accumulating and processing accounting data for the purpose of generating financial statements".

K.E. Kallas adheres to a similar idea: “the accounting system consists of many relatively independent components that have not only vertical (hierarchical) but also horizontal connections that are very closely intertwined with each other”.

The position of these authors fundamentally identifies the content, limits and possibilities of constructing an accounting system, which provides the basis for the theoretical justification of the cluster-modular structure. In this case, there is a convergence of fundamental approaches in the implementation of accounting - procedures and modeling, which emphasizes the relevance of this topic and determines the main tasks and goals of the study.

The purpose of the work is to study structural solutions for modeling the accounting system from the perspective of the possibility of optimizing accounting tasks and the needs of users of accounting information. The accounting system of each business entity comes down not only to the accumulation (collection, registration and generalization) of accounting information, which is formed from individual transactions, but also ensures its transformation into information flows necessary for enterprise management. In this case, the existence of a close relationship between business processes and the accounting operations accompanying them is conditional. It is noteworthy that the existence of dependencies between business transactions forms corresponding identities in the structure of the accounting system, in particular subjecting it to clustering or modular division.

The need to cluster the accounting system lies in the organizational and methodological support of situational accounting modeling. Suppose an enterprise, in addition to its main production, pursues the goal of carrying out commercial activities, in this case there is a need to form a new accounting structure to summarize information with an appropriate set of accounting processes and procedures.

The reasons for identifying accounting clusters include situations related to the reorganization or liquidation of enterprises, changes in the volume of authorized capital, etc. In this case, effective accounting areas with certain organizational and methodological restrictions, accounting clusters, are formed using the modeling method.

At the same time, studies of a possible interpretation of the concept of “cluster” or “accounting system module” are extremely amorphous regarding the characteristics of the content, essence and functionality of using them in the practical implementation of accounting. Typical characteristics exist exclusively in situations of automation of the accounting structure and the formation of complex or modular solutions for processing data in different areas of accounting and ensuring close information links with the management information system. In this understanding, the content of dividing the accounting system into clusters and modules is limited, since it does not provide for the diversification of the functional relationship between the facts of economic activity and the result of the functioning of accounting.

In a general understanding, the essence of the content of the concept “cluster” comes down to the following: “(cluster – accumulation) is the union of several homogeneous elements into a single whole, which can be considered as an independent unit.” From an accounting point of view, the cluster appears to have systemically expressed and logically complete, but heterogeneous in terms of objects and areas, accounting procedures and processes.

A specific feature of clusters is their clear positioning in relation to economic processes. Other features include the following:

- the structure of clusters includes a set of accounting procedures and processes;
- clusters are able to realize themselves within the framework of the achieved result (for example, exchange (conversion) of shares);
- in addition to the completely autonomous functioning of the cluster system, the determining factor is the interconnection of predominantly chain-sequential content;

- there is a clear dependence of the configuration of clusters, their forms and quantity on the accounting policy and the established accounting system at the enterprise;
- clusters are quite flexible to their modeling processes.

In the activities of an enterprise, one can distinguish the main, or permanent, areas of accounting processes. If you subordinate the implementation of such accounting processes to a specific result or task, you can form certain accounting elements of the accounting system.

Based on the needs and requirements of business activities, structuring the accounting system through the formation of accounting clusters is one of the directions for increasing the functionality of accounting. The implementation of this way of expressing accounting work deepens the positioning of the final results of accounting, factors of economic activity and tasks of the accounting system.

On the other hand, this approach greatly facilitates the work of practicing accountants. It should be noted that solving this problem requires further scientific research.

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