

CLUSTERIZATION AS A METHOD FOR RESEARCHING THE FINANCIAL STABILITY OF IT COMPANIES

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Abstract. The intensive introduction of information technologies has caused an intensive growth in the number of IT companies. The state and federal subjects provide various types of support to such companies: reduction of the tax burden, preferential lending, benefits for renting industrial premises, etc. In such conditions, it is important to assess the risk of investments, including from the point of view of the financial stability of companies. Although there are currently many models for assessing the financial stability of companies and the risk of bankruptcy, most of the models are focused either on manufacturing companies or on companies in the financial sector.

Kalit so'zlar: accounting, accounting, cluster approach, accounting system clustering, accounting system module, modeling.

CLUSTER APPROACH IN ACCOUNTING MODELING

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Abstract. The article considers the possibility of modeling the accounting system from the point of view of clustering. The essence of the accounting cluster and cluster-module structure, in particular, implies the formalization of accounting based on the position of the formation of the elements of the accounting system. In the course of the work, an analysis of scientific research on this problem was conducted and the breakdown of scientific views on its solution was determined.

Based on the volume of scientific material, the main content, limits and possibilities of the design of the accounting system are determined.

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

In the production and economic activities of an economic entity, the rational use of financial resources is of particular relevance. In particular, the problem of ensuring the optimal level of financial stability of the enterprise is of particular importance. Insufficient financial stability is often the reason for the insolvency of an enterprise and an obstacle to the development of production. Financial stability, on the one hand, is an important factor in business activity and enterprise reliability. On the other hand, financial stability is the result of managing all production, economic and financial processes of an economic entity in the past, present, and future. Financial stability should be considered as a certain synthetic category that incorporates many characteristics of the production and economic activities of an enterprise, including solvency, profitability, liquidity, and creditworthiness. The unity of the elements of financial stability is the key to the financial well-being of an enterprise. Therefore, ensuring financial stability is a systematic process of managing the financial activities of an economic entity.

Cluster analysis is a branch of science whose task is to study and develop methods for dividing the original set into subsets, clusters, objects within which are “similar” to each other, while objects from different groups should be as different from each other as possible. Clustering should not be equated with classification. A characteristic feature of clustering is the previously unknown number of subsets into which the original set is divided, and this number is determined during the solution of the problem.

An essential property of the clustering method under consideration is the requirement to specify the number of clusters and cluster centers at the first step of the algorithm, which largely determines the quality of clustering. Among the

methods for determining the number of clusters, we indicate the silhouette method and the inflection point method. At the first step, cluster centers are selected either randomly or following a certain rule. For example, cluster centers are chosen in such a way that the distance between clusters is maximum.

Cluster schemes, being, in fact, intersectoral complexes, play the role of “growth points” of the regional and national economy, while clusters make it possible to overcome structural limitations, as well as the diversified structure of production that has developed in a number of economic entities. Economic clusters, as a tool of active economic policy, make it possible to increase the competitiveness of the economy in an open market.

The choice of timber industry enterprises as a research base is due to the fact that today the development of timber industry is one of the priority areas of industrial policy in the Krasnoyarsk Territory. The largest investment projects are related to the development of the forest sector of the economy, which is explained by the large concentration of all-Russian timber reserves in the region. The forestry industry is an association of both extractive (logging) and manufacturing (woodworking, pulp and paper and forest chemical industries) industries. The forestry industry has high resource potential, but its constituent industries need structural restructuring and investment. One of the ways of innovative development of the forestry complex is the creation of territorial clusters.

A cluster is a group of geographically localized interconnected companies, suppliers of equipment, components, specialized services, infrastructure, research institutes, universities and other organizations that complement each other and enhance the competitive advantages of individual companies and the cluster as a whole. The interaction of enterprises and organizations included in the cluster is a combination of cooperation and competition, i.e. There is a constant exchange of personnel, innovations, technologies, joint use of infrastructure, services and advertising and marketing promotion.

Depending on the nature of technological connections between individual industries, two types of clusters can be distinguished: horizontal and vertical.

Vertical clusters (vertically integrated systems) involve combining successive stages of product production into a complex. For forestry industry, the most common form is a structure formed according to a technological principle, the initial link of which is procurement production, the next stage, as a rule, includes processing industries - woodworking, pulp and paper production, and at the final stage, finished products are sold through trading companies.

In turn, a vertically integrated structure can be organized according to the principle of “soft” integration and have a holding structure with the preparation of consolidated reporting or according to the principle of “hard” integration with centralized management and reporting according to standard options. In the first integration option, each holding entity draws up a separate independent balance sheet, and mutual settlements are carried out in the usual manner as between two independent business entities. In the second option, the subjects of integration are structural divisions of the organization, in order to carry out current settlements between them it becomes necessary to use account 79 “Intra-business settlements”.

Integration of production along the technological cycle provides favorable conditions for reducing the costs of supply and sales management, but at the same time it leads to problems associated with the distribution of management functions. The procedure for managing the financial resources of integrated structures is regulated by the provisions of civil and tax legislation, as well as regulatory documents on accounting.

The distribution of IT companies by level of financial stability was obtained using the K-means method, the advantage of which is that clustering factors are not divided into independent and dependent, but are used in such a way as to group the objects they describe based on their underlying similarity. The analysis of the distribution of IT companies according to their level of sustainability allowed us to

identify groups of companies that require a different approach to their support from the state.

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