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The Current State of Cost Accounting and Directions for its Improvement in the Context of Digital Transformation

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Abstract: The article discusses the actual problems of organizing cost accounting in the context of digitalization, globalization and increasing competition. The analysis of domestic and foreign approaches to the classification and use of various accounting methods, including ABC, Target Costing, ERP and predictive analytics, is carried out. strategic management accounting. Directions for improving cost accounting systems are proposed, taking into account industry, technological and institutional factors. The conclusion is made about the strategic importance of cost accounting as a tool for the sustainable development of enterprises.

Key words: cost accounting; management accounting; digitalization; ABC; ERP systems; strategic accounting; cost; Cost optimization.

Introduction. In modern economic conditions, enterprises are faced with the need to quickly respond to changes in the external environment, increase the efficiency of resource use and strengthen control over the formation of production costs. Cost accounting is becoming not just an element of accounting, but a key tool of management and strategic activities to make informed management decisions.

The digitalization of the economy strengthens the requirements for transparency and detail of accounting data. The implementation of ERP systems, workflow automation, the use of big data technologies and machine learning algorithms make it possible not only to fix costs, but also to identify reserves for their optimization. However, in parallel with the opportunities, new challenges arise: outdated accounting methods, limited analytical capabilities of traditional systems, insufficient integration of management and accounting accounting.

Thus, the relevance of the topic is due to the need to adapt the cost accounting system to the realities of the digital economy, to increase its analytical value and flexibility. This is especially important for countries with transition economies, where the modernization of accounting practices becomes a condition for the successful functioning of enterprises in the domestic and foreign markets.

The purpose of the study is to analyze the current state of cost accounting systems and identify effective areas for their improvement, taking into account the trends of digitalization and global competition. To achieve this goal, it is planned to study the theoretical foundations and modern methods of cost accounting, assess their applicability in various industries, as well as formulate practical recommendations for their implementation and adaptation.

Literature review

The development of cost accounting has come a long way in history, from primitive forms of direct cost accounting to complex integrated systems of management and strategic control. As V.A. Artyushchenko [1] notes, the formation of cost accounting methods is closely related to the development of production relations and the complication of the internal structure of enterprises.

The initially used boiler method (general cost accounting without detailing) gave way to more accurate and analytical approaches, such as calculation by stages, orders, redistribution, and then to standard and direct costing.

Since the middle of the XX century, the concepts of strategic cost management began to form in foreign practice. This was expressed in the emergence of such methods as Activity-Based Costing (ABC), Target Costing, Kaizen Costing, Life-Cycle Costing. According to a study by R. Biadacz, these methods are actively used in large enterprises, as they provide more accurate cost allocation, contribute to strategic planning and process optimization [3]. However, small and medium-sized enterprises (SMEs), especially in developing countries, often lack the human and technological resources to fully implement them.

In modern literature, cost accounting systems are also classified in detail according to the methods of calculating and managing the cost. The following approaches are common:

- **Absorption Costing** — accounting for the full cost of production, including both direct and indirect costs;
- **Direct Costing** is a variable cost method in which fixed costs are allocated to a period;
- **Standard Costing** — accounting based on standards and deviations from them;
- **ABC** – calculation based on activities;
- **Target Costing** is an accounting focused on the market price and target profit.

Each of these methods has been developed in response to specific production and management needs and demonstrates different capabilities in terms of accuracy, complexity and applicability depending on the industry and the level of maturity of the organization.

Along with the variety of cost accounting methods, the scientific literature also emphasizes the problem of the quality of the functioning of these systems in real practice. According to a study published in *the Journal of Risk and Financial Management* (2024), even manufacturing firms with a formally established document flow have a low analytical usefulness of accounting data [4]. prognostic and management information.

Key disadvantages of modern systems include:

- insufficient detail of analytical accounting;
- irrelevance of standards;
- limited integration with operational and financial modules (ERP);
- untimely reporting.

Particular attention is paid to the problem of transforming accounting from a reporting function into a management tool. Modern conditions require cost accounting systems not only to be accurate and reliable, but also to be able to quickly adapt to changes in the external environment, take into account uncertainties and support scenario planning. However, the transition to this level of maturity is impossible without the use of digital platforms, end-to-end automation of processes, as well as the involvement of users in the interpretation and use of accounting information.

These challenges are becoming especially relevant for countries with transition economies, where the normative-oriented approach to accounting still dominates over the managerial one, and traditional forms of costing often do not meet the requirements of flexible and innovative management.

With the transition of the economy to the digital phase, the possibilities for improving cost accounting have significantly expanded. In the works of D.S. Tashnazarova [2], it is emphasized that the introduction of ERP systems, analytical platforms, as well as methods of machine learning and predictive analytics makes it possible to increase the accuracy of the distribution of indirect costs, identify hidden reserves and quickly correct deviations from planned values. Flexible digital

models show especially high efficiency in the conditions of multi-assortment production and an unstable external environment.

Special attention in modern literature is paid to **Activity-Based Costing (ABC)** as a technology that can eliminate distortions in the distribution of costs that arise when using traditional bases (for example, output or labor costs). According to the authors, including Kaplan and Drury, ABC contributes not only to accurate calculation, but also to the identification of inefficient operations, reduction of transaction costs, and the construction of strategies based on the analysis of cost by type Activities.

Another important trend is the development **of strategic management accounting**, which N.S. Baida writes about in detail. Unlike traditional operational management accounting, strategic accounting focuses on long-term goals, such as reducing costs in supply chains, optimizing business models, restructuring and investment attractiveness. cost accounting systems, the ability to generate not just reporting, but managerially significant, predictive and cross-functional information.

L.S. Botasheva also supports this idea, emphasizing the need to integrate cost accounting with financial planning, risk management and real-time data analysis. Digitally based management reporting is seen as the key to building adaptive and resilient organizations.

Thus, the current literature clearly indicates the need to move from formal, normatively oriented cost accounting to a flexible, digital and strategically managed system based on integration with other business processes and a focus on decision-making.

Methods

Within the framework of this study, qualitative methods of analysis were used, which make it possible to generalize theoretical provisions and practical experience in the field of cost accounting. The basis was the content analysis of domestic and foreign scientific literature, including articles published in peer-reviewed journals, as well as methodological documents reflecting modern approaches to the organization of cost accounting in various countries.

To assess the applicability of various cost accounting models in modern conditions, **a comparative approach was used**, which made it possible to identify the strengths and weaknesses of such methods as Absorption Costing, Direct Costing, Standard Costing, ABC, Target Costing and others. The analysis was carried out taking into account the industry features, the scale of the enterprise, the degree of digitalization and the level of integration of accounting information into the management planning system.

An integrated approach to the analysis of sources made it possible to build a structured view of the current state of cost accounting systems, identify key problems of their functioning and identify areas for further improvement. Within the framework of this study, qualitative methods of analysis were used, which make it possible to generalize theoretical provisions and practical experience in the field of cost accounting. The basis was the content analysis of domestic and foreign scientific literature, including articles published in peer-reviewed journals, as well as methodological documents reflecting modern approaches to the organization of cost accounting in various countries.

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Particular attention is paid to the generalization of cost accounting practices with an emphasis on industry specifics, in particular in the agricultural sector. Based on the materials of E.N. Kolesnikova, specific problems related to the methodology of calculation, the organization of

primary and analytical accounting, as well as the formation of reporting in agriculture were analyzed.

In addition, elements of case analysis are used, which allow us to consider real examples of the implementation of ABC and ERP systems at manufacturing enterprises. These cases illustrate the practical importance of modernization of accounting systems, their impact on the accuracy of indirect cost allocation and the potential for management analysis.

Results of the study

Based on the study of scientific literature and the analysis of practices used in different countries and industries, systemic problems were identified that hinder the development of effective cost accounting. Despite the availability of a variety of methodological approaches and the development of digital technologies, many organizations continue to use outdated costing schemes that do not provide managerial value. These problems are especially acute in small and medium-sized businesses, as well as in those sectors where costs depend on seasonality and a high share of indirect costs. Below are three key areas where the most pronounced deficits have been identified.

One of the most acute problems is the outdated methodology and poor adaptation of cost accounting to modern economic conditions, especially in the agricultural sectors. As E.N. Kolesnikova [6] emphasizes, the current practice often boils down to the mechanical reflection of costs on the basis of primary documents, without sufficient analytics and without differentiation between cost accounting methods and costing methods. As a result, the logic of cost formation is violated: there is no full-fledged system of distribution among objects and cost centers, which makes it impossible to assess the profitability of individual areas. In addition, the forms of documentation are often cumbersome and not adapted for operational analysis, which reduces the quality of management decisions. The low level of automation and individualization of approaches within the industry lead to fragmentation of accounting decisions, especially in agriculture, where the cost depends on many unstable factors - yields, weather conditions, market conditions.

The second group of problems concerns the limited access of small and medium-sized businesses to modern methods of cost accounting. In a study by R. Biadacz, which covered more than 700 Polish companies, it was revealed that only about 30% of SMEs use ABC, Target Costing or other strategic approaches. The main barriers are related to the high cost of implementation, lack of qualified personnel and lack of the necessary IT infrastructure. Even if the benefits of these models are understood, most SMEs limit themselves to traditional direct accounting and simplified reporting forms. This not only reduces the accuracy of cost calculations, but also prevents companies from identifying internal reserves, managing costs by processes and making strategic decisions. In an increasingly competitive environment, this situation increases the risk of SMEs being washed out of the market or their dependence on large partners who dictate pricing terms.

The third important limitation is the lack of integration of cost accounting with digital management tools. Despite the active development of ERP systems and analytical platforms, in many companies cost data continues to be collected manually or using unstructured Excel spreadsheets. Lack of automation leads to errors in calculations, delays in reporting, and the impossibility of flexible analysis of deviations. As modern research (including in the field of financial management of production) shows, only a few organizations use the potential of predictive analytics, real-time monitoring and scenario modeling of costs. The problem is exacerbated by the fact that even with software solutions in place, their functionality is not fully used due to the lack of competencies among the staff or the lack of motivation on the part of management to move to higher standards of analytics. As a result, cost accounting remains isolated from other business processes and loses its managerial significance.

Modern tools and their effectiveness

In the context of the rapid digitalization of the economy, innovative tools for accounting and cost analysis are of particular importance, which can increase the transparency and manageability of cost information. Studies show that the use of technologies such as ERP systems, Big Data, and machine learning makes it possible not only to automate calculations and data collection, but also to significantly expand the analytical capabilities of accounting and financial services.

According to L.S. Botasheva [7], ERP platforms, if properly configured, provide full integration of cost accounting with budgeting, procurement, logistics and personnel management. This allows companies to track costs in real time, quickly respond to deviations from planned indicators, and generate predictive models. Big data analytics and machine learning technologies are used to uncover hidden patterns, anomalies, and inefficiencies, especially in the production cycle. As D.S. Tashnazarova notes, the introduction of predictive analytics allows not only to fix costs after the fact, but also to manage them on a proactive basis, modeling the behavior of the cost depending on external factors (exchange rates, seasonality, inflation, etc.).

Among the modern methods that have received wide recognition, Activity-Based Costing (ABC) stands out. Unlike traditional methods, ABC allows you to accurately allocate overhead and indirect costs to objects depending on the actual consumption of resources. According to Tashnazarova's observations, the use of ABC helps to improve the accuracy of calculations, reduce losses and identify "unproductive" operations that were previously uncontrollable. The method is especially effective in complex, multi-level structures, where standard distribution bases (labor hours, production volumes) distort the picture of costs.

Thus, modern cost accounting and analysis tools not only automate routine processes, but also create a platform for making informed management decisions. Their implementation makes it possible to move from the registrar function of accounting to strategic cost management, opening up new opportunities for improving operational efficiency and business sustainability.

Practical effects

The introduction of modern cost accounting methods and digital tools demonstrates tangible economic and managerial effects. As the cases described in the works of D.S. Tashnazarova show, after the introduction of analytical accounting systems and the ABC approach, enterprises achieve a reduction in administrative and production costs by an average of 10-15%. This is achieved by accurately identifying inefficient processes, optimizing the use of resources, and distributing indirect costs more equitably.

One of the key results of modernization is an increase in product margins. When a company receives reliable cost data for specific products, customer segments or distribution channels, it can quickly revise its pricing policy, assortment structure and promotion channels. This is especially important in conditions of high competition, when the struggle is not for volume, but for profit per unit of production or service.

Finally, the transition to digital platforms and more accurate accounting methods contributes to a significant increase in the transparency of internal processes. Management has access to real-time information, which allows for faster decision-making, increases the responsibility of departments, and improves interaction between functions (finance, procurement, production, sales). In an environment where data is becoming a business asset, cost transparency is becoming not just an operational task, but a factor of strategic advantage.

Discussion

The results of the study demonstrate the obvious heterogeneity and inconsistency of the state of cost accounting systems. On the one hand, theory and international practice offer a wide range of modern methods and tools, from ABC and Target Costing to digital ERP platforms and predictive analytics. On the other hand, most enterprises, especially in industries with low digital maturity or

among small businesses, continue to rely on traditional, regulated forms of accounting, focused mainly on tax purposes and financial reporting.

One of the fundamental contradictions is the mismatch between the normative and managerial approaches to accounting. As shown in the studies of E.N. Kolesnikova and L.S. Botasheva, the normatively approved forms of accounting in a number of industries (in particular, in the agricultural sector) do not provide either analytical depth or flexibility in calculations. Such a system complicates the control of expenditures at the local level, does not make it possible to compare actual costs with standards and does not stimulate management actions. This leads to a situation where enterprises simultaneously maintain "official" accounting for reporting, and "internal" accounting for decision-making, but both remain fragmentary and inconsistent with each other.

In addition, the use of modern methods, even if technically possible, is limited by personnel and organizational barriers. The lack of specialists capable of interpreting management information, the lack of motivation of the management to reengineer processes, as well as the focus on short-term goals (for example, tax optimization instead of strategic planning) lead to the fact that innovations are reduced to formal automation, without affecting the essential characteristics of cost accounting.

At the same time, despite the identified limitations, the results of the analysis show the presence of real growth points and potential for adapting modern approaches in the field of cost accounting. International experience, in particular R. Biadacz's data on Polish enterprises, demonstrates that even partial implementation of strategic models, such as ABC or Target Costing, allows you to achieve a significant increase in managerial efficiency – provided that the methods are adapted to specific business conditions. This is especially true for developing economies, where the transition to a modern model of management accounting can compensate for structural constraints and increase competitiveness in foreign markets.

In the context of Uzbekistan and other transition economies, a flexible, step-by-step approach to the transformation of cost accounting systems is of particular importance. This approach involves the simultaneous development of the regulatory framework, staff training, gradual automation of processes and the introduction of pilot digital solutions (for example, modules within ERP). At the same time, it is necessary to take into account the industry specifics, the scale of the business and the degree of readiness of the enterprise for changes - both technical and managerial.

In addition, in the context of growing uncertainty in the external environment, cost accounting ceases to be an auxiliary function and turns into a strategic management tool. Its task is not only to reflect the fact of costs, but also to forecast, model scenarios, manage risks and support investment decisions. This requires a qualitatively new data culture, in which financial information is integrated into the corporate governance system at all levels.

Thus, the discussion of the results of the study emphasizes not only the presence of significant problems, but also the presence of objective grounds for the transition to more mature models of cost accounting. Successful implementation of such changes is possible if there is institutional support, digital transformation, and a shift in focus from reporting to decision-making.

Conclusion

Cost accounting in the modern economy is undergoing a profound transformation: from traditional accounting models, it is moving to integrated management systems focused on strategic goals and digital information processing. The analysis showed that, despite the presence of developed theoretical approaches and international practices, many industries and organizations still have systemic limitations due to outdated methodologies, weak digital infrastructure and insufficient motivation for change. Modern tools such as ABC, ERP systems, predictive analytics methods and data-driven management accounting not only improve the accuracy of calculations and reduce costs, but also turn accounting information into an asset that forms competitive advantages. The

introduction of such approaches ensures higher margins, transparency of internal processes and increased manageability at all levels.

To achieve sustainable results in reforming cost accounting systems, it is necessary to provide institutional and methodological support, develop the competencies of specialists, and introduce digital solutions adapted to industry and national specifics. Only in this case, cost accounting will become not only a control tool, but also the basis for conscious and effective strategic management.

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