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CONTACTS

Phone: **+998 50 737 87 88**

Website: https://ist-journal.uz

Email: innovationist2025@gmail.com

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THEORETICAL AND METHODOLOGICAL FOUNDATIONS OF ACCOUNTING FOR THE COSTS OF PRODUCTION AND SALE OF PRODUCTS (WORKS, SERVICES) IN BUDGET ORGANIZATIONS

Xudayberdiyev Nizomiddin Qurbonqulovich
Researcher, Tashkent State University of Economics, Uzbekistan
E-mail: nqx19791@gmail.com

Abstract. This article examines the theoretical and methodological foundations of accounting for the costs of producing and selling products (works and services) in budget organizations, with particular emphasis on higher education institutions. The views of domestic and foreign scholars on the concepts of **"cost," "prime cost," and "sale"** are comparatively analyzed, systematized into six conceptual approaches, and used to substantiate an authorial definition adapted to the conditions of budget organizations. A five-dimensional cost classification system, supplemented by the criterion of the source of financing, is proposed. Based on an analysis of the regulatory framework, five methodological gaps are identified, and directions for addressing them are outlined. The findings provide a theoretical basis for further research aimed at improving accounting for costs and sales in budget organizations.

Keywords: budget organization, higher education institution, production costs, prime cost, cost calculation, sales, development fund, public sector accounting standards, financial results.

INTRODUCTION

Across the world, models of financing higher education are undergoing fundamental changes: the share of state budget funding is declining, while the share of universities' own-source revenues—including the commercialization of scientific developments, the provision of paid services, and cooperation with industrial enterprises under commercial contracts—is steadily increasing [1; 2]. Under such conditions, accurate accounting for the costs of producing and selling products (works and services), scientifically grounded determination of prime cost, and reliable measurement of financial results have become essential prerequisites for ensuring the financial sustainability of budget organizations.

In the Republic of Uzbekistan, consistent reforms are being implemented to expand the financial autonomy of higher education institutions. A number of state higher education institutions have been granted the right to independently determine the parameters of their revenues and expenditures [3]. At the same time, this process imposes new requirements on the accounting system. In accordance with Article 60 of the Budget Code of the Republic of Uzbekistan, the revenue transferred to the development fund of a budget organization is determined as the positive difference between the proceeds from the sale of goods (works and services) and the costs of producing them [4]. Consequently, the accuracy of cost accounting is legally linked to budget discipline: if costs are calculated incorrectly, the amount transferred to the development fund is also determined incorrectly. This relationship determines not only the scholarly significance of the research topic but also its legal and practical relevance.

The aim of the research is to systematize the theoretical and methodological foundations of accounting for the costs of producing and selling products (works and services) in budget organizations, to clarify the core concepts in order to reflect the specific characteristics of budget organizations, and to identify methodological gaps in the regulatory framework. To achieve this aim, the following objectives were established: to comparatively analyze scholarly approaches to the concepts of **"cost," "prime cost," "calculation,"** and **"sale";** to improve the cost classification system for budget organizations; to model the flow of accounting information; and to assess the completeness of the regulatory framework.

LITERATURE REVIEW

The theory of cost accounting and prime-cost calculation has undergone a long process of development in international accounting literature. Ch. Horngren, S. Datar, and M. Rajan define cost as **“a resource sacrificed or forgone to achieve a specific objective”** and regard the cost accounting system as an information infrastructure for managerial decision-making [5]. C. Drury advances the principle of **“different costs for different purposes”** and distinguishes three functions of the cost management system: determining prime cost, planning and control, and supporting managerial decision-making [6]. D. Hansen and M. Mowen interpret cost accounting as a means of implementing an organization’s strategy [7]. The Activity-Based Costing (ABC) methodology developed by R. Kaplan and R. Cooper allocates overhead costs according to cost drivers and significantly improves the accuracy of prime-cost determination in the service sector [8].

Among representatives of the Russian accounting school, Ya.V. Sokolov systematized the theory of accounting objects [9], while A.D. Sheremet substantiated a three-dimensional model of cost accounting based on responsibility centres, cost elements, and cost objects [10]. In public administration theory, C. Hood’s concept of **New Public Management** justifies the application of private-sector accounting methods in public-sector organizations [11], while the agency theory developed by M. Jensen and W. Meckling interprets a reliable accounting information system as a means of reducing monitoring costs between owners and managers [12].

Among Uzbek scholars, R.D. Dusmuratov defines calculation as the process of determining, in monetary terms, the costs attributable to a unit of product, work, or service [13]. B.A. Xasanov regards costs as the monetary expression of expenditures associated with specific types of activity [14], while A. Karimov and his co-authors examine costs from the perspective of financial statement elements [15]. A.Kh. Pardayev and B.Kh. Pardayev interpret the cost category within the framework of the **cost–volume–profit (CVP)** relationship [16]. In the field of accounting for budget organizations, A. Ostonokulov studied the methodology of accounting and reporting for extra-budgetary funds [17], A.S. Xodjayev examined the accounting and internal audit of extra-budgetary funds in higher education institutions [18], and S.M. Buzrukxonov investigated the mechanisms of financing higher education [19].

The literature review demonstrates that the general theory of cost accounting has been extensively developed, and considerable research has also been conducted on accounting for extra-budgetary funds in budget organizations. However, accounting for the costs of producing and selling products (works and services) as an integrated system—from conceptual foundations to the regulatory framework—adapted to the dual-source financing conditions of budget organizations has not yet been examined as a separate object of research. This gap defines the scholarly focus of the present study.

RESEARCH METHODOLOGY

The research employed both general and specialized methods of scientific inquiry. In examining the core concepts, comparative analysis and systematization were applied, and the definitions proposed by thirteen authors (or author teams) were compared using uniform criteria, including the object of analysis, the scope of the definition, and the extent to which each definition reflects the specific characteristics of budget organizations. In developing the cost classification system, the methods of induction and deduction were employed. In modelling the flow of accounting information, abstract-logical reasoning and graphical modelling were applied. To assess the regulatory framework, document content analysis was conducted. The provisions of the Budget Code of the Republic of Uzbekistan, the Law **“On Accounting,”** Resolutions of the Cabinet of Ministers No. 54 and No. 325 [20; 23], Budget Accounting Standards Nos. 1–4 [21], Instruction No. 2169, and the International Public Sector Accounting Standards (IPSAS 9, 12, and 18) [22] were comparatively analyzed with one another and against international requirements.

ANALYSIS AND RESULTS

The results of the comparative analysis indicate that the existing scholarly definitions can be grouped into six conceptual approaches (Table 1).

Table 1
Classification of scholarly approaches to the “cost” category

Approach	Representatives	Essence
Objective-resource	Ch. Horngren, S. Datar, M. Rajan	Cost is a resource sacrificed to attain a specific objective
Control-methodological	C. Drury	Unity of the functions of cost determination, planning and control
Strategic	D. Hansen, M. Mowen	Accounting as a tool for implementing strategy
Financial-statement elements	A. Karimov, F. Islomov, A. Avloqulov	Cost is a decrease in economic benefits
Managerial-analytical	A.Kh. Pardayev, B.Kh. Pardayev	The «cost-volume-profit» relationship
Calculation-based	R.D. Dusmuratov, B. Ro’zmetov	Determination of the unit cost of production

The analysis showed that the existing definitions do not contradict one another but rather reflect different dimensions of the cost concept. However, all of them are intended for commercial organizations and do not take into account the specific characteristics of budget organizations, including estimate-based financing, the parallel movement of budgetary and extra-budgetary funds, and the priority of their non-commercial purpose. To address this gap, the following authorial definition is proposed: **in a budget organization, the costs of producing products (works, services) represent the monetary value of the material, labour, and financial resources consumed in the process of producing products, performing works, and providing services outside the organization’s core (budget-funded) activities, which are recognized as a separate accounting object and, together with the corresponding revenues, contribute to the determination of the financial result.** The distinctive feature of this definition is that it explicitly incorporates the requirement to distinguish such costs from those associated with the organization’s core activities.

The four classification attributes traditionally employed in the economic literature—by economic elements, method of inclusion in prime cost, relationship to production volume, and relation to the reporting period—are insufficient under the conditions of budget organizations. As a result of the study, a fifth classification attribute was substantiated: **the source of financing** (budgetary funds or extra-budgetary funds). Although this attribute has limited significance for commercial organizations, it is of fundamental importance for budget organizations. Costs financed from budgetary funds are controlled within the framework of budget estimates, whereas production costs financed from extra-budgetary funds are managed through the mechanisms of cost calculation and financial result determination. Therefore, preventing the intermingling of these two financial flows constitutes a fundamental methodological principle of the accounting system.

Based on the current chart of accounts, the movement of accounting information from primary documents to the financial result accounts was modelled (Figure 1).

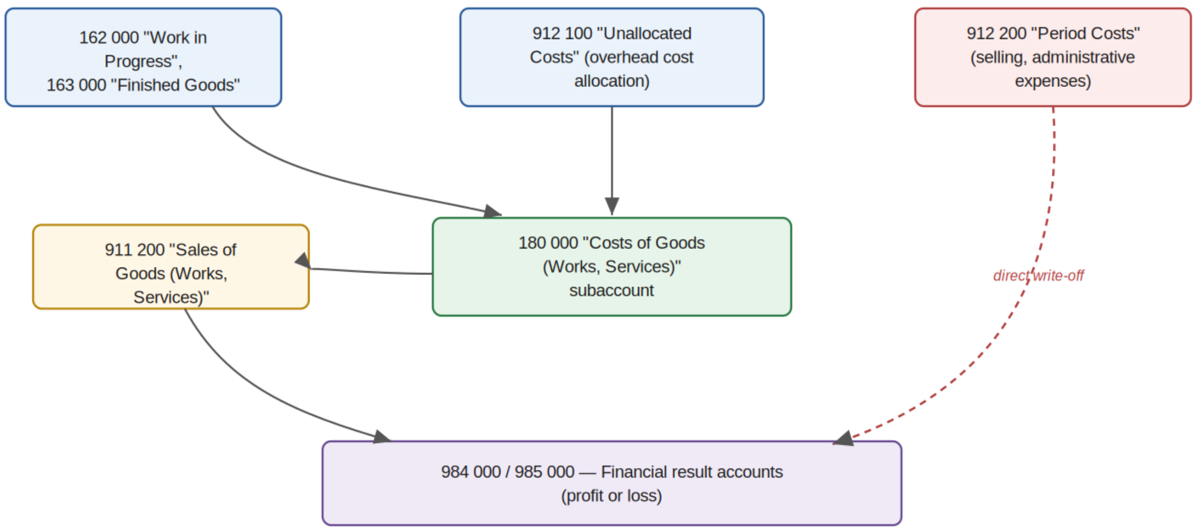

Figure 1. Scheme of the movement of accounting information for the costs of production and sale of products

(works, services) in a budget organization

Source: compiled by the author on the basis of Instruction No. 2169 of the Ministry of Finance and BAS No. 2 “Unified Chart of Accounts”.

The model identified two key methodological issues. The first concerns the allocation of overhead (indirect) costs from subaccount 912 100 to subaccount 180 000, *Costs of Goods (Works, Services)*. The choice of the allocation base directly affects the accuracy of prime-cost determination. The second concerns the direct write-off of period costs to the financial result without including them in the prime cost. Upon the sale of products (works, services), subaccount 911 200 is debited and subaccount 180 000 (or subaccount 163 000 for finished goods) is credited, while the profit generated from the sale is transferred to subaccount 520 310, *Accrued Revenues of Budget Organizations for the Development Fund* [21]. This accounting mechanism ensures the practical implementation of the general provisions of Article 60 of the Budget Code at the account level and highlights the fundamental distinction between sales accounting in budget organizations and commercial entities: profit is treated not as freely disposable income but as a targeted financial resource to be used exclusively for the purposes established by law [23].

The study substantiated five interrelated principles governing this area of accounting: **the principle of separation**, under which the costs and revenues of production and commercial activities are accounted for separately from those of the core activity; **the principle of matching**, according to which the revenues of a reporting period are matched with the costs incurred to generate those revenues; **the principle of completeness**, which requires that only production-related costs be fully and appropriately included in the prime cost; **the principle of accrual**, whereby revenues and costs are recognized in the accounting period to which they relate regardless of the timing of cash flows; and **the principle of controllability**, which requires accounting information to be generated by responsibility centres.

The content analysis of the regulatory framework showed that the five-level hierarchical system (laws, presidential acts, government resolutions, departmental regulations, and internal organizational documents) is sufficiently developed at the higher regulatory levels. However, five significant methodological gaps remain at the level of methodological guidance (Table 2).

Table 2
Methodological gaps identified in the regulatory and legal framework and their consequences

№	Identified gap	Consequence for accounting practice
1	No dedicated costing methodology has been developed for budget organizations; Regulation No. 54 is designed for the commercial sector	Organizations are forced to adapt commercial methodology to their own circumstances; accounting practice varies across organizations
2	No basis is established for allocating overhead costs between budget-funded and extra-budgetary activities	Cost may be distorted, both understated and overstated; transfers to the fund are determined incorrectly
3	No mandatory analytical breakdowns by activity type are envisaged within the 180 000 subaccount	Impossible to assess the profitability of each product and service type; pricing policy is not substantiated
4	Stage-by-stage recognition of revenue under long-term economic contracts is not regulated	Matching of revenues and costs is violated; the financial result is distorted across periods
5	No model structure of accounting policy for budget organizations exists	Methodological decisions rely on subjective judgment; comparability of indicators is limited

Source: compiled by the author on the basis of an analysis of regulatory and legal documents.

A comparison of the national budget accounting standards with the International Public Sector Accounting Standards (IPSAS) also yielded important findings. IPSAS 9 requires revenue from service transactions to be recognized using the percentage-of-completion method, IPSAS 12 requires overhead costs to be allocated on the basis of normal production capacity, and IPSAS 18 requires segment reporting [22]. These issues are not yet fully regulated under the national budget accounting standards, confirming that Uzbekistan’s budget accounting system remains at an intermediate stage in the transition from the cash basis to the accrual basis of accounting [24].

Comparison of the findings with the existing scholarly literature reveals several important observations. First, the proposed authorial definition extends the concept of separate accounting for extra-budgetary funds developed in the studies of A. Ostonokulov [17] and A.S. Xodjayev [18]. Unlike those studies, however, it incorporates the requirement to distinguish the sources of financing directly into the definition itself. Second, the proposed classification attribute based on the source of financing may be regarded as a practical adaptation of C. Drury's principle of "different costs for different purposes" [6] to the context of budget organizations: the same expenditure of resources is classified differently depending on whether the objective is budget estimate control or prime-cost determination. Third, the identified methodological gaps may be explained within the framework of the New Public Management concept [11]. When financial autonomy is expanded without corresponding methodological and accounting support, the information asymmetry described by agency theory [12] increases, thereby reducing the efficiency of public resource utilization.

From a practical perspective, each of the five identified methodological gaps can be addressed through amendments to specific regulatory documents. The first and second gaps may be eliminated by incorporating a dedicated section on budget organizations into Regulation No. 54 or by adopting a separate methodological guideline. The third gap may be addressed by introducing mandatory analytical breakdowns within subaccount 180 000 in Budget Accounting Standard (BAS) No. 2. The fourth gap may be resolved by incorporating the percentage-of-completion method into a new budget accounting standard on revenue recognition. Finally, the fifth gap may be addressed through the adoption of a model accounting policy structure for budget organizations as a departmental regulatory act. A comprehensive justification of these proposals will be presented in subsequent research.

CONCLUSIONS AND RECOMMENDATIONS

The findings of the study support the following conclusions.

The production and sale of products (works, services) in budget organizations have evolved from a supplementary activity into a strategic factor contributing to financial sustainability. Consequently, accounting for these activities has become directly linked to budget discipline through the provisions of Article 60 of the Budget Code.

The scholarly approaches to the concept of **cost** were systematized into six conceptual approaches. Since none of the existing definitions adequately reflects the specific characteristics of budget organizations, an authorial definition incorporating the requirement to distinguish financing sources was substantiated.

The four conventional cost-classification attributes were supplemented with a fifth attribute specific to budget organizations—classification by the source of financing. This attribute provides the methodological basis for preventing the intermingling of budgetary and extra-budgetary financial flows.

Based on the model of accounting information flows, two key methodological issues—the allocation of overhead costs and the direct write-off of period costs to the financial result—were identified. In addition, five fundamental accounting principles were substantiated: separation, matching, completeness, accrual, and controllability.

Five methodological gaps in the regulatory framework were identified, and a specific regulatory mechanism was proposed to address each of them. Future research should focus on empirically examining how these gaps manifest themselves in the operations of higher education institutions and on developing practical methodological solutions for their elimination.

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