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CONCEPTUAL FRAMEWORK FOR IMPROVING ACCOUNTING SYSTEMS IN NON-STATE HIGHER EDUCATION INSTITUTIONS



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Abstract: This article examines the organization and improvement of the accounting system in non-state higher education institutions. Since the financial activities of non-state higher education institutions largely depend on tuition fees, additional educational services, and other sources of income, there is a growing need for an accounting system that ensures reliable financial information and supports effective management decision-making. The study highlights the importance of accounting for income and expenses, management accounting, cost accounting, and the preparation of financial reports.

Keywords: accounting system, non-state higher education institutions, management accounting, financial reporting, income, expenses, cost accounting, Uzbekistan.

Аннотация: В статье рассматриваются вопросы организации и совершенствования системы бухгалтерского учета в негосударственных высших образовательных учреждениях. В связи с тем, что финансовая деятельность негосударственных высших образовательных учреждений в значительной степени зависит от платы за обучение, дополнительных образовательных услуг и других источников дохода, особое значение приобретает система учета, обеспечивающая достоверность финансовой информации и эффективность управленческих решений. В исследовании раскрывается значение учета доходов и расходов, управленческого учета, учета затрат и формирования финансовой отчетности.

Ключевые слова: система бухгалтерского учета, негосударственные высшие образовательные учреждения, управленческий учет, финансовая отчетность, доходы, расходы, учет затрат, Узбекистан.

INTRODUCTION

Higher education institutions operate in an environment where financial information has become increasingly important for management. This is particularly relevant for non-state higher education institutions, which need to manage their financial resources while maintaining the quality and continuity of educational services. The development of the non-state higher education sector also increases the need for reliable accounting information for managers, owners, employees, students, and other stakeholders.

Accounting in higher education is not limited to recording financial transactions. It also provides information about the sources of income, the use of financial resources, the cost of educational activities, and the financial results of an institution. Therefore, the quality of the accounting system directly affects the quality of financial management.

Non-state higher education institutions have several characteristics that make their accounting requirements different from those of other organizations. Their main source of income may be tuition fees, while additional income can be generated from professional training, research activities, consulting services, and other educational activities. At the same time, institutions have to cover a wide range of expenses, including academic staff salaries, administrative costs, buildings, equipment, information technologies, and other operating expenses (Table 1).

Table 1.
Main Components of the Accounting System in Non-State Higher Education Institutions¹

Accounting component	Main accounting task	Information generated	Management use
Income accounting	Recognition and classification of income by source and activity	Tuition income, income from additional services, other income	Revenue planning, pricing decisions, evaluation of income sources
Expense accounting	Recognition and classification of expenses	Direct and indirect expenses, operating expenses	Expense control, budgeting, analysis of expenditure
Cost accounting	Identification and allocation of costs to educational programmes and activities	Programme-level costs, cost per student, cost by activity	Tuition fee setting, programme evaluation, resource allocation
Financial reporting	Preparation of aggregated financial information	Financial position, income, expenses, financial results	External reporting and overall financial assessment
Management reporting	Preparation of detailed internal information	Budget variances, programme costs, income by activity	Planning, control, performance evaluation
Management use of accounting information	Application of accounting data in decision-making	Analytical financial indicators	Budgeting, investment, staffing, cost control and strategic decisions

A further issue is the allocation of costs among different educational programmes and activities. When costs are not properly identified and allocated, management may not have sufficient information to determine the actual cost of an educational service. This can affect decisions concerning tuition fees, resource allocation, programme development, and financial planning.

The accounting system therefore needs to provide not only information required for financial reporting but also information that can be used by managers for planning and control. This creates a need to examine how the existing accounting system can be improved and how financial and management accounting can be better connected.

The relevance of this issue is particularly important for Uzbekistan, where the non-state higher education sector has developed significantly in recent years. The expansion of non-state institutions has increased the importance of effective financial management and appropriate accounting practices. However, the accounting systems used by such institutions may not always provide sufficiently detailed information for internal management purposes.

The main research gap is related to the limited development of an accounting framework that considers the specific financial and operational characteristics of non-state higher education institutions. Existing accounting approaches can provide a basis for financial reporting, but they do not always address the need for detailed information about educational activities, programme costs, and internal financial management (Table 2).

Table 2.
Classification of Income in Non-State Higher Education Institutions²

Income category	Examples	Recommended analytical classification	Management purpose
Tuition income	Payments for undergraduate, graduate and other educational programmes	By educational programme and student category	Revenue planning and tuition fee analysis
Additional educational income	Short-term courses, professional training, certification programmes	By type of service	Evaluation of additional educational activities
Research-related income	Research contracts, applied research, consulting	By project or contract	Evaluation of research activities
Grant-related income	Grants and targeted funding	By source and purpose	Monitoring the use of targeted resources
Other operating income	Rental income, service income and other activities	By type of activity	Assessment of additional revenue sources

¹ Source: Developed by the author based on the analysis of accounting requirements and the specific characteristics of non-state higher education institutions.

² Developed by the author.

The purpose of this study is to develop a conceptual framework for improving accounting systems in non-state higher education institutions.

To achieve this purpose, the study addresses the following research questions:

1. What are the main accounting problems associated with the financial activities of non-state higher education institutions?
2. What accounting information is required for effective financial and managerial decision-making?
3. Which elements should be included in an improved accounting system for non-state higher education institutions?
4. How can financial accounting and management accounting be connected within such a system?

The contribution of the study is the development of a conceptual framework that brings together financial accounting, management accounting, cost accounting, and financial reporting in the context of non-state higher education institutions.

REVIEW OF LITERATURE ON THE SUBJECT

Accounting in higher education has received increasing attention because universities operate under financial and organizational conditions that require reliable financial information for both reporting and management purposes. The literature shows that accounting in higher education is no longer viewed only as a system for recording transactions and preparing financial statements. It is also considered an important source of information for planning, cost control, resource allocation, and institutional decision-making.

One of the main areas discussed in the literature is the development of management accounting in higher education institutions. Hutaibat and Alhatabat [Hutaibat, K., & Alhatabat, Z. (2022). Management accounting and control in higher education institutions: A systematic literature review. *Administrative Sciences*, 12(1)], in their systematic review of research on management accounting and control in higher education institutions, identify several important areas, including management accounting practices, cost accounting, budgeting, performance measurement, and management control. Their findings indicate that higher education institutions increasingly require accounting information that goes beyond traditional financial reporting. Detailed information about costs, activities, and performance can support managers in planning and controlling institutional resources.

Agasisti et al. (2016) examine the use of management accounting in higher education and show that accounting systems can play an important role in supporting managerial processes. Their research draws attention to the relationship between accounting information, management practices, and the use of information technologies. This is particularly relevant to the present study because the development of accounting systems in higher education should consider not only accounting procedures but also the way accounting information is used by managers.

The issue of cost accounting is especially important in higher education because educational institutions provide a range of activities that consume different types of resources. Unlike organizations that produce a limited number of standardized products, higher education institutions usually offer several educational programmes with different requirements for academic staff, facilities, equipment, administrative support, and other resources. As a result, determining the cost of an individual educational programme can be difficult when only aggregated financial information is available.

The theoretical foundation for the allocation of indirect costs can be found in the literature on activity-based costing. Cooper and Kaplan (1988) argue that traditional approaches to cost allocation may produce distorted information when indirect costs represent a significant part of total costs. They propose linking costs to activities and using cost drivers that reflect the consumption of resources. Cooper and Kaplan (1991) further demonstrate that activity-based costing can provide more detailed information about the cost and profitability of different activities. Although these studies were not developed specifically for higher education, their approach provides a useful theoretical basis for analysing cost allocation in universities and other complex service organizations.

Kaplan and Anderson (2004) developed the time-driven activity-based costing approach as an alternative method for assigning indirect costs. Their approach emphasizes the use of time requirements and resource capacity in determining costs. This principle can be relevant to higher education because a substantial part of university expenditure is associated with activities such as teaching, student support, administration, and the use of facilities. These activities consume resources at different rates, and therefore the use of a single allocation base may not always provide sufficiently accurate information.

Recent research has examined the application of activity-based costing specifically in higher education institutions. A systematic review of the literature on activity-based costing in higher education shows that ABC can be used to improve the measurement of the cost of educational activities and to provide more detailed information for management. The literature also indicates that the application of ABC in higher education

requires consideration of the specific structure of educational activities, the availability of reliable data, and the selection of appropriate cost drivers.

Another important issue concerns the relationship between financial accounting and management accounting. Financial accounting is primarily intended to provide standardized information about the financial position and performance of an organization. Management accounting has a different purpose: it provides detailed and timely information for internal users. In higher education institutions, these two areas are closely related because management accounting can use information generated by the financial accounting system while providing additional analytical classifications.

The literature suggests that the usefulness of accounting information depends on several characteristics, including reliability, relevance, timeliness, comparability, and an appropriate level of detail. These characteristics are particularly important for non-state higher education institutions because management decisions may directly affect the institution's financial sustainability. Decisions concerning tuition fees, educational programme development, staffing, infrastructure, and resource allocation require information about both income and costs.

Revenue recognition is another important area of accounting in higher education. Tuition fees are often a major source of income for non-state institutions, which makes their proper recognition and classification particularly important. IFRS 15 provides a general framework for revenue recognition from contracts with customers, while the IFRS Interpretations Committee has specifically considered the recognition of tuition fee revenue by educational institutions. These sources demonstrate the importance of establishing clear accounting procedures for revenue generated from educational services.

The classification of expenses is also important for both financial reporting and internal management. IAS 1 recognizes the presentation of expenses by nature or function as relevant approaches to financial statement presentation. However, for internal management purposes, higher education institutions may require additional classifications. For example, expenses may need to be identified by educational programme, department, cost centre, activity, or other responsibility area. Such analytical classifications can provide information that is not necessarily available from aggregated financial statements.

Research related to higher education in Uzbekistan also points to the importance of improving financial management and accounting practices. Tashkhodjaev (2023) examines factors affecting financial management efficiency in Uzbek higher education institutions and emphasizes the role of financial resources and tuition-related income in institutional management. Other studies conducted in Uzbekistan address expenditure accounting, internal control, financial reporting, and financial resource management in higher education institutions. These studies provide an important national context for examining the development of accounting systems in the Uzbek higher education sector.

The legal and regulatory environment is also an important factor. The accounting system of institutions operating in Uzbekistan must comply with national accounting legislation and applicable financial reporting requirements. At the same time, the development of non-state higher education creates additional information needs related to financial planning, cost management, and the evaluation of educational activities. Therefore, an accounting system designed only to meet formal reporting requirements may not fully address the internal information needs of institutional management.

Despite the growing body of research on management accounting, cost accounting, and financial management in higher education, several issues remain insufficiently addressed. First, much of the existing literature focuses on public universities or examines higher education institutions without making a clear distinction between public and non-state organizations. Second, studies on cost accounting often focus on individual methods, such as activity-based costing, without developing an integrated accounting framework that connects income accounting, expense classification, cost allocation, reporting, and management decision-making. Third, there is limited research that develops such a framework specifically for the conditions of non-state higher education institutions in Uzbekistan.

This gap provides the basis for the present study. The research does not propose to replace financial accounting with management accounting or to introduce a single universal costing method. Instead, it aims to develop a conceptual framework that connects the main accounting functions and allows accounting information to be used at different levels of institutional management.

The literature reviewed suggests that an improved accounting system for non-state higher education institutions should meet three main requirements. First, it should provide reliable information for financial reporting. Second, it should provide sufficiently detailed information about income, expenses, and the cost of educational activities. Third, it should transform accounting information into a form that can support management decisions.

Based on these findings, the present study develops a conceptual framework built around five interconnected areas: income accounting, expense accounting, cost accounting and allocation, financial and management reporting, and the use of accounting information for management decision-making. The framework extends the

existing literature by bringing these elements together and considering them in the specific context of non-state higher education institutions.

The main research gap can therefore be formulated as follows: while previous studies have examined individual aspects of accounting and financial management in higher education, there remains a need for an integrated conceptual approach that links accounting records with programme-level cost information and management decision-making, particularly in the context of non-state higher education institutions in Uzbekistan. Addressing this gap is the main focus of the present study.

RESEARCH METHODOLOGY

The study is based on a conceptual research design aimed at developing a framework for improving accounting systems in non-state higher education institutions. The research does not examine the accounting system of a single institution. Instead, it considers the general characteristics of accounting in non-state higher education institutions and identifies the accounting elements that are important for financial management and decision-making.

The methodological basis of the study includes a review of academic literature, analysis of accounting principles and regulatory requirements, comparison of different accounting approaches, and a systems approach to accounting. These methods were selected because the accounting system of a higher education institution includes several related areas, such as income recognition, expense accounting, cost allocation, financial reporting, and management information (Table 3).

Table 3.
Financial and Management Information Requirements³

Cost element	Direct/Indirect	Possible allocation method	Programme-level information
Academic staff remuneration	Direct	Direct assignment	Teaching cost by programme
Programme-specific materials	Direct	Direct assignment	Material cost by programme
Laboratory expenses	Direct/Indirect	Direct assignment or usage-based allocation	Laboratory cost by programme
Administrative staff costs	Indirect	Allocation based on workload or another relevant driver	Share of administrative cost
Utilities	Indirect	Space or usage-based allocation	Facility-related cost
IT services	Indirect	Number of users or usage	IT cost by programme
Building maintenance	Indirect	Occupied space	Facility cost by programme
Security	Indirect	Student/staff numbers or occupied space	Allocated institutional cost
Depreciation of shared facilities	Indirect	Usage or occupied space	Capital-related programme cost

The research was conducted in several stages. The first stage involved a review of academic publications on accounting in higher education institutions. The purpose of this stage was to identify the main approaches used in previous studies and to determine the accounting issues that require further attention.

The second stage focused on the characteristics of the financial activities of non-state higher education institutions. Particular attention was given to the sources of income, types of expenses, educational activities, cost structures, and the information requirements of institutional management.

The third stage involved an analysis of the relationship between financial accounting and management accounting. This stage was necessary because financial statements alone may not provide sufficient information for decisions concerning individual educational programmes, costs, tuition fees, budgeting, and resource allocation.

At the fourth stage, the identified accounting elements were grouped into related areas and their relationships were examined. On this basis, the main components of the proposed conceptual framework were determined.

The final stage involved the development of a conceptual framework for improving accounting systems in non-state higher education institutions. The framework was designed to show how accounting information can move from the recording of individual transactions to financial reporting and, subsequently, to management decision-making.

The study uses several groups of information sources. The first group consists of academic literature dealing with accounting, management accounting, cost accounting, financial reporting, and financial management in higher education.

³ Developed by the author.

The second group includes accounting principles and relevant regulatory requirements governing accounting and financial reporting. These sources are considered important for determining the requirements that an accounting system should meet.

The third group includes studies and analytical materials concerning the development and financial activities of higher education institutions. These materials are used to identify the specific features of higher education as an economic and organizational activity.

The analysis also considers the characteristics of non-state higher education institutions in Uzbekistan. These include the importance of tuition income, the presence of different educational programmes, the need to manage academic and administrative costs, and the growing need for internal financial information.

A literature review was used to examine existing approaches to accounting in higher education and to identify areas that have received insufficient attention. The review focused on studies related to revenue recognition, expense classification, cost accounting, management accounting, financial reporting, and the use of accounting information in decision-making.

A comparative method was used to examine the differences between financial accounting and management accounting. Financial accounting is mainly concerned with the preparation of information for external reporting, whereas management accounting provides more detailed information for internal planning, control, and decision-making. The comparison helped identify areas where information from the two accounting functions can be connected.

A systems approach was used to examine accounting as an integrated system. Under this approach, individual accounting procedures are not considered separately. Income accounting, expense accounting, cost allocation, reporting, and management information are treated as interconnected elements. Changes in one element can therefore affect the quality and usefulness of information produced by other elements.

An analytical method was used to identify the main accounting problems associated with the financial activities of non-state higher education institutions. The analysis considered how income and expenses are classified, how costs can be assigned to educational activities, and how accounting information can be transformed into information useful for management.

A synthesis method was then used to combine the results of the analysis and develop the proposed conceptual framework. The conceptual framework was developed by establishing relationships between the five areas identified above. The basic logic of the framework is that accounting information should not end with the recording of financial transactions. It should be processed and presented in a form that can be used by managers.

The framework therefore follows a sequence from economic activity → accounting recognition → classification → cost allocation → reporting → management decision-making.

For example, tuition payments received from students should first be correctly recognized and classified. The related expenses should then be identified and, where possible, connected with the relevant educational activities. Indirect expenses should be allocated using appropriate and clearly defined methods. The resulting information can then be included in financial and management reports and used by managers when making decisions.

This approach makes it possible to connect accounting procedures with the actual activities of a higher education institution (Table 4).

Table 4.
Conceptual Framework for Improving the Accounting System⁴

Stage	Main process	Output	Management application
1	Identification of economic transactions	Primary accounting information	Recording of transactions
2	Recognition and classification	Classified accounting data	Income and expense analysis
3	Identification of direct costs	Programme-specific costs	Programme cost calculation
4	Identification of indirect costs	Shared institutional costs	Cost allocation
5	Selection of cost drivers	Allocation criteria	More accurate cost assignment
6	Cost allocation	Programme and activity costs	Cost comparison
7	Financial reporting	Aggregated financial information	External reporting
8	Management reporting	Detailed internal information	Planning and control
9	Analysis	Financial and operational indicators	Evaluation of performance
10	Management decision-making	Corrective and strategic decisions	Budgeting, pricing, resource allocation

⁴ Developed by the author.

ANALYSIS AND RESULTS

The analysis indicates that the accounting system of a non-state higher education institution should be considered as an integrated information system rather than only as a mechanism for recording financial transactions. Its main purpose is to collect, classify, process, and present financial information in a form that meets both reporting requirements and the information needs of institutional management.

The results of the analysis made it possible to identify two closely related functions of the accounting system. The first is the financial reporting function, which provides reliable and properly classified information about the financial position, income, expenses, and results of the institution. The second is the management information function, which provides more detailed information for planning, budgeting, cost control, resource allocation, and operational decision-making.

These functions should not be treated as separate systems. They are based on the same accounting data but require different levels of classification and analysis. Financial accounting generally provides aggregated information, while management accounting requires information that can be broken down by educational programme, activity, cost centre, or other relevant organizational unit.

Based on the analysis, a conceptual framework for improving the accounting system of non-state higher education institutions was developed. The framework consists of five interconnected components:

1. Income accounting and classification;
2. Expense accounting and classification;
3. Cost accounting and cost allocation;
4. Financial and management reporting;
5. Use of accounting information for management decision-making.

The components are connected in a logical sequence. Information about economic transactions is initially recognized and recorded in the accounting system. It is then classified according to the nature and purpose of the transaction. Relevant costs are assigned to the activities that generate them, and the resulting information is summarized in financial and management reports. The reports provide a basis for planning, monitoring, and decision-making.

The analysis shows that the classification of expenses is an important part of the accounting system of non-state higher education institutions. Expenses should be classified not only by their economic content but also by their connection with specific educational and administrative activities. This makes it possible to identify how financial resources are used and to determine the costs associated with different areas of institutional activity.

For accounting and management purposes, expenses can be divided into direct and indirect expenses. Direct expenses are those that can be reasonably and directly attributed to a particular educational programme or activity. These may include the remuneration of academic staff involved in a specific programme, teaching materials, laboratory materials, and other expenses directly related to the provision of a particular educational service.

Indirect expenses cannot be directly assigned to one educational programme because they support several programmes or the institution as a whole. Such expenses may include administrative staff salaries, maintenance of buildings and facilities, utilities, information technology services, security, general administrative expenses, and other shared costs.

The distinction between direct and indirect expenses is important for determining the cost of educational programmes. Direct expenses can normally be assigned to the relevant programme without additional allocation, while indirect expenses require an appropriate allocation method. Therefore, a clear classification of expenses creates the necessary basis for further cost accounting and improves the quality of information used for financial planning and management.

Cost accounting is a central element of the proposed accounting framework because it provides information about the resources required to deliver individual educational programmes and other institutional activities. For non-state higher education institutions, information about programme-level costs is important for budgeting, tuition fee setting, resource allocation, programme evaluation, and financial planning.

The analysis indicates that costs should be assigned to educational programmes in a consistent and economically justified manner. Costs that can be directly traced to a particular programme should be recorded as direct costs. Shared or indirect costs should be allocated using clearly defined allocation bases that reflect, as far as possible, the relationship between the cost and the activity generating it.

The choice of an allocation basis should depend on the nature of the cost. For example, teaching hours may be appropriate for allocating certain academic costs, while the number of students may be relevant for some student-related expenses. The use of classrooms, occupied space, number of employees, or other operational indicators may also be appropriate for specific categories of indirect costs.

The analysis therefore suggests that the use of one allocation basis for all indirect costs may not provide sufficiently accurate information. Different categories of costs may require different allocation criteria. A differentiated approach can provide a more reasonable estimate of the resources consumed by individual educational programmes.

Reliable cost information can also help management compare the financial performance of different programmes and identify activities that require additional resources or cost control (Table 5).

Table 5.
Integrated Conceptual Model⁵

Input	Accounting process	Information output	Management result
Tuition payments	Income recognition and classification	Income by source and programme	Revenue planning
Academic labour	Direct cost identification	Academic cost by programme	Staffing and programme decisions
Administrative resources	Indirect cost identification	Allocated administrative costs	Cost control
Facilities and infrastructure	Cost measurement and allocation	Facility cost by programme	Resource allocation
IT and support services	Cost classification and allocation	Support-service costs	Operational planning
Accounting data	Processing and analysis	Financial and management reports	Management decisions
Historical and current data	Comparative analysis	Trends and variances	Budgeting and forecasting

CONCLUSIONS AND SUGGESTIONS

The study examined the main requirements for improving accounting systems in non-state higher education institutions and developed a conceptual framework that connects accounting information with the financial and managerial needs of these institutions. The analysis confirms that an accounting system designed primarily for the preparation of financial statements may not provide sufficient information for effective internal management. Non-state higher education institutions require more detailed information on the sources of income, structure of expenses, cost of educational programmes, and use of financial resources.

The proposed framework brings together five related components: income accounting, expense accounting, cost accounting, financial and management reporting, and the use of accounting information in management decision-making. These components should operate as parts of a single information system rather than as separate accounting functions.

A key result of the study is the identification of the importance of linking accounting information with individual educational programmes and institutional activities. Income and expenses should be classified in a way that allows management to determine the financial contribution and resource requirements of different activities. Direct costs should be traced to the relevant programmes where this is possible, while indirect costs should be allocated using economically justified cost drivers. This approach can provide more reliable information about the cost of educational services and improve the basis for financial analysis.

The study also establishes the importance of integrating financial accounting with management accounting. Financial reporting provides an overall view of the institution's financial position and performance, whereas management accounting can provide more detailed information for budgeting, cost control, tuition fee decisions, resource allocation, and evaluation of educational programmes. The integration of these two areas can improve the usefulness of accounting information without changing its fundamental role in financial reporting.

The conceptual framework proposed in this study contributes to the development of a more structured approach to accounting in non-state higher education institutions. Its main feature is the connection between the recording of economic transactions and their subsequent use in management decisions. In this framework, accounting information is not treated only as a record of past financial events but also as a basis for planning, control, and evaluation.

The practical value of the framework lies in its potential application at the institutional level. Non-state higher education institutions can use the proposed approach to review their existing accounting policies, improve

⁵ Developed by the author.

the classification of income and expenses, develop cost centres and responsibility centres, introduce more appropriate methods for allocating indirect costs, and improve the content of internal management reports. The specific design of the accounting system should, however, take into account the size and organizational structure of each institution, the range of educational programmes, the sources of income, and applicable accounting and regulatory requirements.

The study has a conceptual character and therefore does not provide statistical evidence of the effect of the proposed framework on the financial performance of specific institutions. This limitation points to an important direction for further research. The framework should be empirically tested using accounting and financial data from non-state higher education institutions in Uzbekistan. Future studies can examine whether improved cost allocation, programme-level reporting, and management accounting information lead to better budgeting, cost control, resource allocation, and financial decision-making.

Further research may also focus on the development of specific accounting procedures for different types of educational programmes and on the use of digital accounting systems for collecting, processing, and analysing financial information. Such research would allow the proposed conceptual framework to be developed into a practical accounting methodology adapted to the conditions of non-state higher education institutions in Uzbekistan.

Overall, the study demonstrates that improving accounting in non-state higher education institutions should focus not only on the accuracy of accounting records and financial reporting but also on the quality, detail, and practical use of accounting information. A system that connects income and expense accounting, cost allocation, reporting, and management decision-making can provide a stronger information basis for the financial management and sustainable development of non-state higher education institutions.

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