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Research on the Accounting Issues and Countermeasures of Higher Education Cost Based on Connotative Development

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Abstract: In the context of the connotative development of higher education, the objective requirement to strengthen cost control has increasingly highlighted the importance of cost accounting and cost information in higher education institutions. The specific research content of this topic mainly includes: analyzing the necessity of cost accounting in higher education, studying the current situation and problems of cost accounting in higher education institutions, and proposing solutions. This paper employs an inductive-deductive method to study and propose implementation paths for promoting the effective application of cost accounting in higher education from the perspectives of organizational management systems, financial accounting, and modern information technology. Conducting cost accounting in educational institutions is an objective requirement for comprehensively deepening educational reform in the new era and transforming towards connotative high-quality development. It plays an important role in helping institutions reduce costs, strengthen performance foundations, optimize resource allocation, and enhance internal management levels and operational efficiency, and thus deserves significant attention.

Keywords: Connotative Development; Higher Education; Cost Accounting; Current Situation; Solutions

1. Introduction

As a public service institution, universities mainly rely on government funding for financial support. Cost accounting is not only crucial for evaluating the use and management of public funds, but also affects the sustainable development and social responsibility of universities. Proper cost accounting can help universities allocate resources more effectively, enhance the efficiency of fund utilization, and promote high-quality development of universities[1]. This study is based on promoting cost reduction and efficiency enhancement in universities, aiming for connotative high-quality development[2], based on multidisciplinary theories such as economics, management, and accounting. It analyzes the current situation and issues of cost accounting in university education, and explores policy recommendations that can help advance the practical application of cost accounting in university education, as well as enhance the level of cost accounting and the quality of cost information, taking into account the cost information needs of stakeholders, the functional objectives of universities, types of business activities, internal organizational structure, and the construction of academic disciplines.

2. Analysis of the Necessity of Cost Accounting in Higher Education Institutions

Universities inevitably incur various resource expenditures as costs in their business activities, so cost control is also an important part of university financial work. By strengthening the accounting of educational costs, universities can help reveal the occurrence and formation process of unit costs, clarify the influencing factors of various costs, identify the main links of resource consumption, and carry out cost control activities in a targeted manner, thereby improving the effectiveness of resource acquisition, management, and utilization, reducing unnecessary resource consumption, and enhancing the efficiency of unit operations[3]. This is also an objective requirement for leading the way in "living frugally" [4] and the goal of building a thrifty government, using the government's "subtraction" to achieve the people's "addition", and using the saved resources for better fulfilling the functions of teaching, research, and social services.

Introduction of performance management concepts and methods in universities, promotion of budget performance management, require efforts and result information on cost measurement. " The department on Comprehensive Implementation of Budget Performance Management" (Document No. 34 of 2018) proposed measuring the overall and core business implementation effects of departments and units in terms of operating costs, and comprehensively measuring the effectiveness of policy and project budget funds in terms of costs, with performance goals including cost indicators. This requires the relevant cost accounting of departments and units as a whole, policies, and projects. Furthermore, evaluating the cost-related performance indicators of internal institutions, academic disciplines, etc., is also an objective requirement for universities to strengthen internal management. Therefore, strengthening education cost accounting in universities helps to establish a solid cost data foundation, better measure the implementation effects of unit business activities, provide support for improving the performance management system, and achieve "asking for effectiveness when spending money, holding ineffective accountable."

The reform and transformation of university classification require reasonable allocation of higher education resources, such as using cost information as the data basis for government pricing or cost compensation. With the advancement of the classification reform of public institutions, universities are mainly managed as public welfare entities, further strengthening the social welfare attributes of the institutions. The funding sources of universities are diversified. In addition to the financial allocations provided by the state, they can usually earn certain income based on government pricing on top of cost compensation. In China, the government adopts a cost supervision method for pricing public services or products, where the pricing authority determines prices based on the cost verified by the operators. However, this approach is mainly based on enterprise cost accounting methods and does not fully consider the basic characteristics of universities. Therefore, strengthening the accounting of education costs in universities helps to improve the quality of cost information, providing more scientific and objective data basis for reasonable government pricing or cost compensation.

The cost accounting of higher education as an important part of cost management has long been of concern to relevant government departments. The Ministry of Finance and the Ministry of Education promulgated the "Financial System of Higher Education Institutions" (Caijiao [2022] No. 128), which requires that higher education institutions strengthen financial accounting and implement cost accounting according to the actual needs of teaching, research business activities, and other activities. The new round of government accounting reform has reconstructed the accounting model for public institutions, providing accounting foundation and institutional guarantees for the cost accounting of higher education institutions; the "Basic Guidelines for Cost Accounting of Public Institutions" (Caijiao [2019] No. 25) provides general guidance and basic principles for cost accounting work of various public institutions; the "Specific Guidelines for Cost Accounting of Public Institutions - Higher Education Institutions" (Caijiao [2022] No. 26) provides direct institutional basis for the cost accounting of higher education institutions. However, in practice, the cost accounting work of higher education institutions still faces many practical challenges, such as the imbalance between financial expenditure and cost, the specific determination of cost accounting objects, the classification of costs that should be included in the accounting scope, the standardized process of using financial accounting data to calculate costs, the basic conditions for cost accounting, and the technical support for cost accounting. In addition, there are many differences in functional goals, types of business activities, internal organization settings, and discipline and specialty construction of universities, which also brings certain complexity to their education cost accounting work.

3. Norms for Cost Accounting Systems in Higher Education

3.1 The Normative System of Cost Accounting in Higher Education

The cost accounting of higher education involves a series of related institutional norms, which can be divided into three levels:

First is on the macro level, there are financial and legal regulations, such as the "Overall Plan for Deepening the Reform of the Fiscal and Taxation System", the "Budget Law of the People's Republic of China" and its implementation regulations, the "Notice on Transmitting the Reform Plan of the System of Responsibility for the Government Comprehensive Financial Report System of the Ministry of Finance", and the "Opinions on Further Deepening the Reform of the Budget Management System", etc.

The second is the regulatory system of financial management for medium-sized entities, such as the "Financial Rules for Public Institutions", "Administrative Measures for State-owned Assets Management of Administrative Institutions", "Financial System for Higher Education Institutions", etc.

The third is the unit accounting system at the business level, including the system of government accounting standards, the "Basic Guidelines for Cost Accounting of Public Institutions", and the "Specific Guidelines for Cost Accounting of Public Institutions - Higher Education Institutions", among others. Of these, the relevant system standards that have a direct impact on the accounting of educational costs in higher education institutions belong to this level[5].

3.2 Governmental Accounting Standards System

The reform of government accounting in our country is steadily advancing, and a new model of government accounting standards system has been basically established, mainly including government accounting basic standards, specific standards and their application guidelines; government accounting system and the new supplementary regulations for different industries and institutions; interpretation of government accounting standards system, etc. The government accounting standards system has established a new government accounting model of "dual functions, dual bases, and dual reports", providing a foundation and institutional guarantee for the cost accounting of higher education.

3.2.1 Introduction to the accrual basis of accounting

In accounting, accounting basis refers to the determination of when to recognize the effects of economic transactions or events in order to achieve accounting objectives. There are generally two accounting bases: cash basis and accrual basis. In fact, they are just two endpoints of this range of accounting bases, with many intermediate models representing adjustments to either the cash basis or accrual basis. Moreover, different accounting bases correspond to different measurement focuses and accounting elements (**Table 1.**). A typical feature of government accounting reform is the introduction of accrual basis to varying degrees and in different ways, thereby promoting corresponding changes in accounting and financial reporting models.

For a long time, government accounting has mainly focused on budget accounting functions, mainly using the cash basis accounting, emphasizing reflecting the budgetary income and expenditure execution of the accounting entity. Information on assets, liabilities, and costs cannot be fully reflected. In this context, an effective cost accounting system cannot be established because the cash basis can only reflect the cash costs incurred by the entity for purchasing goods or services during a certain accounting period, cannot reflect the expenses for the depreciation or amortization of long-term assets used by the entity, cannot reflect potential losses caused by the entity's liabilities and other financial risks, and also does not reflect the costs formed by short-term liabilities. The governmental accounting standards and system not only further strengthen the budget accounting function but also introduce the accrual basis financial accounting, expanding the accounting scope of government accounting, optimizing the methods of asset and liability accounting, providing more objective and truthful income and expense information, which can more systematically reflect the value circulation process and results of the entity. This provides a foundation of financial data for educational cost accounting in universities.

Table 1. Accounting Basics, Measurement Focus, and Accounting Elements

Basic Accounting	Measurement Focus	Elements of Accounting
Cash Basis	Cash balance and its changes	Cash receipts, cash payments, cash balance
Modified Cash Basis	Current financial resources and their changes	Cash receipts plus accounts receivable, cash payments plus accounts payable, cash and cash equivalents balance
Modified Accrual Basis	Total financial resources and their changes	Revenues, expenses, financial assets and liabilities, net financial resources
Accrual Basis	Economic resources and their changes	Revenues, expenses (including depreciation), assets, liabilities, net assets
Note: Accounts receivable and accounts payable refer to amounts that are to be collected or paid out during a specific period starting from the end of the period.		

Source: International Federation of Accountants (IFAC) Public Sector Committee (PSC) Research Report (1991)

3.2.2 Valuation and accounting of assets

In government accounting, assets refer to economic resources formed by past economic transactions or events of the entities, controlled by the entities, which are expected to generate service potential or bring economic benefits flowing in [6]. Therefore, the use of assets by government accounting entities must inevitably be reflected as an expenditure of economic resources, and objectified costs are formed through certain cost accounting processes and methods. Therefore, the valuation and specific accounting of government accounting assets play an important foundational role in the cost accounting of higher education.

The government accounting standards system has also changed the accounting methods for the entity's assets, particularly in terms of depreciation of fixed assets and amortization of intangible assets. The expenditures incurred by government accounting entities form objectified costs, which generally should follow specific value circulation and accounting processes (**Figure 1.**). In order to enhance the value management of state-owned assets in administrative and public institutions, the original "Accounting System for Administrative Units," "Accounting Standards for Public Institutions," and "Accounting System for Public Institutions" adopted the method of "virtual depreciation" or amortization to reflect the changes in the book value of fixed assets and intangible assets of the unit. However, this does not meet the objective needs of government accounting entities for cost accounting, as it does not reflect the total resource consumption incurred by the entity in fulfilling its functions or conducting business activities, and thus cannot further form objectified cost information according to processes. The government accounting standards system has introduced the method of "actual depreciation" or amortization, which accounts for the depreciation of fixed assets and amortization of intangible assets recognized by government accounting entities as current expenses (mainly business activity expenses and unit management expenses), providing a basis for colleges and universities to comprehensively, systematically, and completely reflect the resource consumption of the unit and to calculate relevant cost indicators according to cost accounting objects.

3.2.3 Classification of expenses and their accounting treatment

In accounting, expenses refer to the outflow of economic resources containing service potential or economic benefits that result in a decrease in the net assets of an accounting entity during the reporting period, while costs usually refer to objectified expenses. Therefore, the recognition, measurement, and accounting of expenses are important prerequisites and foundations for cost accounting work of accounting entities. The government accounting standards system has standardized the accrual basis of financial accounting expenses elements to reflect the value of economic resources expended by accounting entities for providing services or outputs, expanding the scope of cost accounting in government accounting, and providing more comprehensive and accurate cost information related to the services or outputs of accounting entities.

Government accounting standards systemizes the current expenses incurred by accounting entities into categories such as "operating expenses," "unit management expenses," "operating expenses," "asset disposal expenses," "remitted expenses to superiors," "subordinate unit subsidies," "income tax expenses," and "other expenses" according to the nature of the expenses. The cost accounting object of public institutions is multidimensional and multilevel, with different cost accounting objects corresponding to different cost ranges. Universities can determine the types of expenses to be included in the cost range according to specific cost accounting objects, and collect and allocate them according to certain processes and methods[7].

To meet the cost accounting needs, the governmental accounting standards system also classifies "business activity expenses" and "unit management expenses" according to economic purposes. It proposes that the "business activity expenses" account can be classified into detailed items such as "wages and benefits expenses," "goods and services expenses," "benefits for individuals and families," "subsidies for enterprises," "depreciation expenses of fixed assets," "amortization expenses of intangible assets," "depreciation (amortization) expenses of public infrastructure," "depreciation expenses of guaranteeing housing," and "provision for special funds," which collect expenses that can be directly included in business activities or calculated and included in business activities using specific methods. The "unit management expenses" account can be classified into detailed items such as "wages and benefits expenses," "goods and services expenses," "benefits for individuals and families," "depreciation expenses of fixed assets," "amortization expenses of intangible assets," which collect expenses that can be directly included in unit management activities or calculated and included in unit management activities using specific methods. This provides a basic basis for universities to set up cost items according to cost information needs, and to collect data for each cost accounting object based on its cost items.

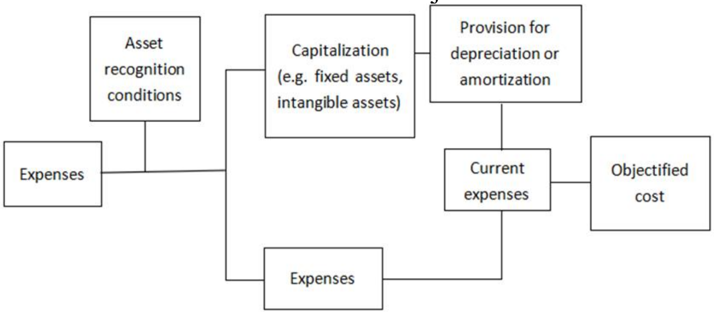

Figure 1. The Process of Forming Objectified Costs for Government Accounting Entities.

3.3 Basic Guidelines and Specific Guidelines for Cost Accounting in Public Institutions.

The "Guidelines for Cost Accounting of Public Institutions" was issued by the Ministry of Finance in December 2019, and it was required to be implemented from January 1, 2021. This document clearly sets out the basic principles and methods of cost accounting for public institutions, and also establishes the top-level design of cost accounting technology for public institutions, serving as a fundamental reference for cost accounting in universities. In September 2022, the Ministry of Finance further formulated and issued the "Specific Guidelines for Cost Accounting of Public Institutions - Higher Education Institutions." According to the "Guidelines for Cost Accounting of Public Institutions" and the specific guidelines, universities' education cost accounting should pay full attention to the following issues:

3.3.1 Reasonably determine the cost accounting objects

Public institutions should determine the corresponding cost accounting objects based on their own functional goals, industry characteristics, and different cost information needs. Universities, as a specific type of public institution, have significant uniqueness in terms of functional positioning and business activities, and also have different cost information needs. Therefore, universities should fully consider internal and external management needs and determine various related cost accounting objects.

3.3.2 Define the scope of costs and their specific classifications

Cost reflects the various resource consumptions incurred by public institutions (including universities), including human resource costs, tangible assets such as buildings, equipment, materials, products, as well as intangible assets like intellectual property, and other expenses. This provides a principled requirement for universities to determine the types of resource costs to be included in the cost scope, but specific judgments need to be made in combination with different cost objects. In addition, for specific cost objects, universities should also reasonably classify the various resource costs included in the cost scope according to economic purposes, cost elements, etc. (i.e. cost items), in order to reflect the actual consumption and structure of various resources[8].

3.3.3 Choose appropriate cost accumulation and allocation methods

According to the basic principles of cost accounting, the accounting entity should allocate various expenses collected based on identifiability of costs in a certain process, method, and standard to determine various cost objects. Therefore, cost accounting for higher education institutions needs to clarify how various expenses incurred should be collected according to cost items, directly record direct costs into corresponding cost accounting objects, choose appropriate allocation standards, cost drivers, or allocation methods for indirect costs, and include them in various cost accounting objects. The causes of cost generation in higher education institutions (i.e., cost drivers) are diverse, so it is more appropriate to adopt the activity-based costing method, allocate cost items according to different allocation standards to ensure the accuracy of the cost accounting process and results, while also considering the principles of the importance of cost accounting.

3.3.4 Close integration with government accounting standards and regulations

Public institutions (including universities) should use the accrual basis of accounting to carry out cost accounting, with the establishment of cost items coordinating with the requirement of detailed accounting for financial accounting subjects, and cost allocation being carried out through accounting subjects such as "operating expenses" and "institutional management expenses". Therefore, the accounting of educational costs in universities needs to be closely integrated with the accounting process and results of the institution's financial accounting, fully connecting with the institution's financial information system to timely obtain necessary financial accounting data. Therefore, universities should do a good job in financial accounting, including the correct valuation and provision for depreciation or amortization of assets, reasonable allocation of employee compensation, etc., to fully ensure the accuracy of cost information.

4. The Current Situation and Issues of Cost Accounting in Higher Education.

The cost accounting of higher education, although having had principled requirements early on, is still in the early exploration stage overall, with many urgent dilemmas to be solved in practice. Moreover, the "Basic Guidelines for Cost Accounting of Public Institutions" and specific guidelines have also brought some new situations and new problems. The comprehensive superposition of these diverse factors poses new challenges and tasks for the cost accounting of higher education. This is also the starting point for universities to carry out cost accounting of education.

4.1 Lack of Targeted Guidance Guidelines and Methods

Establishing a government cost accounting system and promoting cost accounting in public institutions is an objective requirement for comprehensive deepening reform. This requires building a supportive institutional system, tools, guidelines, and case studies at the government level to provide a strong basis and support for cost accounting in public institutions. The construction of the cost accounting system for public institutions is ongoing. The "Basic Guidelines for Cost Accounting in Public Institutions" sets out the fundamental requirements for public institutions to carry out cost accounting, marking a key step in this area. The "Specific Guidelines for Cost Accounting in Public Institutions - Higher Education Institutions" is the extension and application of these fundamental requirements to specific types of public institutions. Universities should choose suitable cost accounting methods based on their functional goals, characteristics of business activities, and management needs.

However, due to the large number and variety of universities and the complexity of situations, the lack of targeted implementation guidance often results in a lack of guidelines for educational cost accounting. Therefore, institutions can only explore and accumulate experience through pilot projects, while also having subjective concerns about making mistakes in their work.

4.2 Emphasize Budget Expenditure Over Cost Accounting in Finance.

Most of the operating funds of universities mainly come from various levels of fiscal appropriations included in the department budget management. Financially, the focus is on the annual budget execution, improving the fiscal budget execution rate, that is, whether the unit can complete its budget tasks on time and in compliance to avoid budget cuts the following year. Additionally, the fiscal appropriations that universities can obtain depend on factors such as staffing quotas, budget expenditure standards, and the number of students enrolled, and relevant cost indicators cannot play a fundamental role in budget resource allocation. Furthermore, due to the complexity of educational cost accounting, the system regulations such as the "Basic Guidelines for Cost Accounting of Public Institutions" are not mandatory, so universities usually pay more attention to budget expenditures in finances, lack the internal drive to conduct educational cost accounting, which also leads to weak cost awareness among managers and staff, causing a significant waste of resources[9].

4.3 The Object of Cost Accounting is not Clearly Defined.

The cost accounting object is the "target" for organizations to collect and allocate costs, which needs to be specifically determined in conjunction with the cost information needs of stakeholders. At the same time, based on the benefit principle in cost accounting, it also determines the corresponding cost scope, cost items, cost accounting workflow, etc. Therefore, the cost accounting object is the link between cost information needs and cost accounting methods. "Specific Guidelines for Cost Accounting in Public Institutions - Universities" propose that universities can determine the cost accounting object from multiple dimensions and levels based on their business characteristics and cost information needs. However, universities mainly provide educational and research services, compared with business organizations, their cost information needs are more diverse, business processes are more abstract, cost drivers are not easily described accurately, and outputs are not limited to specific products. Therefore, the cost accounting object of universities is often difficult to determine concretely in practice, which in turn affects the smooth implementation of cost accounting work such as cost collection and allocation.

4.4 Inaccurate Financial Accounting.

The cost accounting of universities needs to be based on the accrual basis financial accounting data, so the quality of financial accounting will inevitably affect the effectiveness of cost accounting work. The formal implementation of the government accounting standards system began in 2019, with government financial accounting as a newly introduced accounting model. There are still many issues in the practical operations of universities in this area, such as whether the valuation of assets is complete and accurate, how to determine the amount of asset depreciation or amortization, whether depreciation or amortization has been provided for idle assets, specific classification of expenses and their details or auxiliary accounts, etc. These issues have affected the reliability, accuracy, and accessibility of financial accounting data, making it impossible to reasonably ensure the quality of the education cost accounting process and results. The scientific and normative nature of education cost data is relatively poor, and the utility value is not high[10].

4.5 Low Level of Informatization Management

The complete cost accounting process in universities not only includes cost departments collecting and allocating costs at the terminal stage according to cost information requirements and cost accounting objects, but also requires basic data collection, organization, calculation, and coordination between departments in the preceding stages according to predetermined rules and requirements, necessitating a high level of management informatization. With the rapid development of modern information technology, universities have achieved great results in educational informatization construction, but due to the lack of overall planning, internal departments usually have independent management information systems, such as the office's OA office system, the Personnel Department's human resource management system, the Finance Department's financial reimbursement system, and the Asset Department's fixed asset management system. These systems are developed by various university departments according to their own business management needs, and the software service providers also differ. The lack of compatibility between the various management information systems leads to poor business data exchange, lack of real-time information sharing, and the emergence of an "information silo" problem, making the basic data collection for educational cost accounting face significant difficulties.

In addition, the cost accounting work of higher education institutions also faces a series of new requirements and tasks in terms of organizational leadership, cost accounting position setting, staff training, and cost accounting system construction.

5. Strengthening Measures for the Cost Accounting of University Education.

5.1 Financial Accounting Calculation: Support for Cost Accounting of Higher Education Institutions.

College and universities should carry out cost accounting based on the financial accounting data under the responsibility system. The detailed account setting and auxiliary accounting in financial accounting should meet the needs of cost accounting. In fact, the key point of cost accounting in higher education lies in objectifying the expense data in financial accounting based on cost-related basic information, down to specific cost accounting objects. Therefore, the high-quality accounting in financial accounting forms the primary foundation of cost accounting in higher education.

5.1.1 Strengthen the accounting for the valuation and use consumption of assets

In cost accounting, the valuation and consumption of assets have a significant impact on the results of cost accounting. In order to ensure the objectivity and reliability of the cost accounting results, universities should strengthen the accounting of asset valuation and consumption in accordance with the government accounting standards, to more truthfully and objectively reflect the resource consumption of the unit's business activities. This mainly includes: for off-balance sheet assets, reasonable measurement attributes should be timely included in the on-balance sheet for accounting; for construction in progress, research and development projects that have reached the predetermined usable state or results, completion settlement and financial settlement should be processed in a timely manner according to regulations, and transferred to fixed assets or intangible assets for accounting; based on the specific characteristics of fixed assets and intangible assets, appropriate depreciation or amortization methods should be selected to truthfully reflect the expenses incurred during the asset's use. Depreciation of fixed assets in use or amortization of intangible assets during use should be collected and allocated using reasonable methods and standards, and included in the cost indicators of relevant cost accounting objects. Depreciation of idle fixed assamortization of idle intangible assets should be accounted for directly in the relevant occupying department's cost to reflect the resource waste caused by the ineffective use of assets and promote the effectiveness of asset allocation.

5.1.2 Optimize cost classification and details or auxiliary accounting.

From the "Basic Guidelines for Cost Accounting in Institutions" and the relevant provisions of specific guidelines, expenses are the cornerstone of cost accounting for institutions (including universities), and expenses are collected and allocated according to cost information needs and cost accounting objects. Therefore, the classification and details or auxiliary accounting of "business activity expenses" and "unit management expenses" in the financial accounting of universities directly affect the cost accounting process and results. Universities should classify "business activity expenses" and "unit management expenses" in more detail under the general ledger and their detailed accounts, such as "wages and benefits expenses," "goods and services expenses," "subsidies for individuals and families," "depreciation of fixed assets," "amortization of intangible assets," "other business expenses," etc., and at the same time mark them with auxiliary labels according to the attribution relationship and type of internal institutions, thereby providing convenient conditions for collecting and allocating costs according to cost accounting objects during cost accounting. For example, universities can set up lower-level detailed accounts such as "water fees," "electricity fees," "property management fees" under the "goods and services expenses" detailed account, and simultaneously mark the expense types with auxiliary labels (such as "office-administration and logistics management department," "college/department-business department," etc.). For expenses paid uniformly by a department but need to be shared by multiple departments, the university's financial department should make reasonable allocations when processing reimbursements, and include them in the corresponding general ledger and detailed accounts of "business activity expenses" and "unit management expenses."

5.1.3 Do a good Job in disclosing unit cost information.

In order to meet the cost information needs of users, universities can publish relevant cost information on information disclosure platforms (such as their own websites) in certain ways (refer to **Figure 2.**). Mandatory information disclosure refers to the cost information disclosure behavior of universities in accordance with laws, administrative regulations, government accounting standards, and other relevant norms; voluntary information disclosure refers to the proactive disclosure of cost information by universities based on their own situations. In addition, these cost information need to be assessed by third-party professional organizations to determine their authenticity and reliability, and to conduct corresponding cost analysis and application. These organizations are social intermediaries independent of government regulatory agencies and other organizations, with generally wide sources of channels, including accounting firms, social research groups, etc., typically possessing the professional knowledge and skills necessary to evaluate cost information data from universities. The disclosure of cost information by universities is also an objective requirement and integral part of government information disclosure.

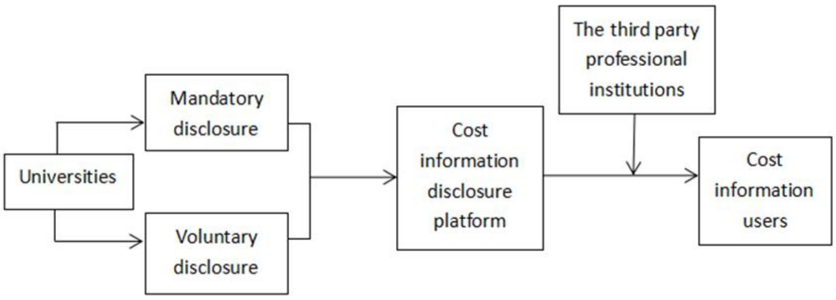

Figure 2. Mechanism for Disclosing Cost Information of Universities.

5.2 Modern Information Technology: Guarantee of Cost Accounting in Higher Education

The rapid development of modern information technology has led the accounting calculation to go through the stages of computerization, informatization, and intelligentization, significantly enhancing the data processing capability of accounting systems. This has also provided strong technical support for universities to carry out cost accounting. The "Basic Guidelines for Cost Accounting of Public Institutions" also proposes that public institutions should establish sound original records related to cost and expenses, make full use of modern information technology, strengthen and improve the basic work of collecting, recording, transmitting, summarizing, and organizing cost data, and provide necessary data foundation for cost accounting. The "Specific Guidelines for Cost Accounting of Public Institutions—Higher Education Institutions" also require that through fully utilizing modern information technology, ensure that the cost accounting work is conducted in a normal and orderly manner[11].

The types of business activities in universities are diverse, often involving a large amount of resource consumption, leading to wide data collection, large data scale, complex processes, and a large workload in cost accounting. In order to supervise cost accounting work in real time, improve the efficiency of cost accounting, and provide relevant cost information to users in a timely manner, universities can establish an intelligent cost accounting system based on modern information technology (**Figure 3.**). This system aims to achieve rapid and reliable acquisition, aggregation, and processing of basic cost-related data, as well as cost information analysis, output, and sharing.

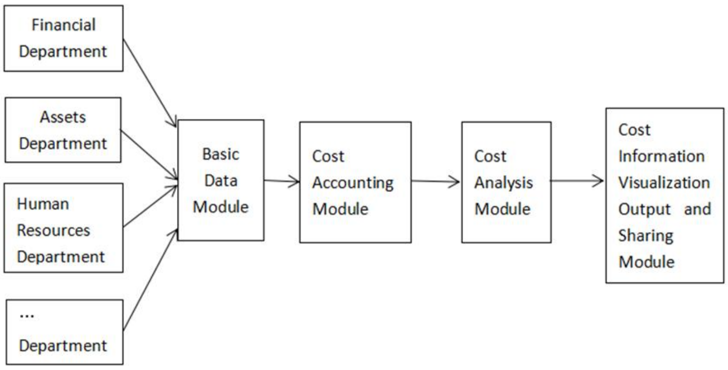

Figure 3. Intelligent Cost Accounting System for Higher Education.

The intelligent education cost accounting system of universities needs to include four closely related and integrated basic functional modules. Among them, the "basic data template" mainly extracts the necessary cost-related basic data from the information systems of various departments of the university according to the cost accounting requirements, and can also accept new data pushed by the other party when the basic data changes, playing an important role as a "data hub"; the "cost accounting and accounting module" mainly processes the cost-related basic data according to fixed information system operation procedures, calculates the relevant cost indicators of the cost accounting object, and generates the cost information needed by stakeholders; the "cost analysis module" mainly analyzes and utilizes the unit's related cost information, helps users make evaluations and management decisions, and enhances the economic value of cost information; the "cost information visualization output and sharing module" mainly visualizes cost information and analysis results through BI reports and other tools, improves users' understanding through more vivid and beautiful data charts, and university staff can also log in to the system within the authorized scope to access the required cost information.

6. Conclusion

Higher education cost accounting in universities is in a generally favorable internal and external environment, including institutional norms, practical issues, and the demand for cost information. Although there are still many urgent problems to be solved in the practice of university education cost accounting, institutional norms can provide the basic financial accounting data under the modified government accounting model, and the demand for cost information provides the intrinsic cost accounting objectives and driving force.

The accounting of education costs in universities is an objective requirement of the new era to comprehensively deepen education reform and transform towards connotation-based high-quality development. It plays an important role in promoting universities to reduce costs, strengthen performance foundations, optimize resource allocation, enhance internal management levels, and improve operational efficiency, and should receive high attention.

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