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CONDUCTING INTERNAL AUDITS OF RESEARCH PROJECTS AND COMMERCIALIZATION ACTIVITIES IN HIGHER EDUCATION INSTITUTIONS

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ABSTRACT

This article explores the influence of research activities and commercialization practices on the effectiveness of higher education institutions and highlights the role of internal auditing in evaluating and improving these processes.
Furthermore, the study contributes to the growing literature on research funding by examining its observed impacts and offering evidence on its significance in fostering research productivity and commercialization performance.

KEYWORDS

Higher education, higher education institution, scientific research, research project, works and services, investment, commercialization, research funding, research performance, dynamic assessment, internal audit.

Introduction

The internal auditing of research projects and the commercialization of their outcomes in higher education institutions (HEIs) extends far beyond the mere examination of financial statements. It constitutes a critical mechanism for assessing the proper utilization of allocated grants, budgetary and extra-budgetary funds, as well as the effective commercialization and marketing of intellectual property assets.

Internal audit is an independent and objective assurance activity aimed at evaluating organizational operations. It serves to enhance the effectiveness of the internal control system, ensure the legality and compliance of financial and economic transactions, and identify potential risks. In higher education institutions, the internal audit function should operate not only as a supervisory body but also as an advisory structure that supports managerial decision-making processes.

An analysis of current practices indicates that the internal audit function in many higher education institutions faces several significant challenges. These include the insufficient professional qualifications and practical experience of internal auditors, the limited adoption of modern information and communication technologies in audit processes, and the predominance of a compliance-oriented inspection approach rather than a risk-based and value-adding audit methodology. Collectively, these factors reduce the overall effectiveness of internal auditing within higher education institutions.

Literature comment

As emphasized by Lijing Yang and Brian McCall in their study:

"Workers increasingly seek higher levels of education and advanced skills, which, in turn, stimulate the demand for knowledge and contribute positively to economic growth. Funding for higher education constitutes an integral component of social sector expenditures and accounts for a substantial share of public budget allocations. To enhance the autonomy of higher education institutions, funding sources should not be limited solely to government expenditures; rather, alternative sources of financing should be further diversified and expanded" [1].

In their analysis of equitable access to higher education, Craig Brett and John A. Weymark argue that: "Individuals with a greater aptitude for education and a higher capacity to increase their earnings through formal education tend to benefit more from higher education opportunities. According to this view, even when government subsidies are distributed equally among the population, the benefits are disproportionately captured by those who are already advantaged, potentially reinforcing existing social inequalities" [2].

In a study conducted by A. Zokirov, the volume of allocations from the state budget of the Uzbekistan to the higher education sector, their growth dynamics, and the effectiveness of their utilization were examined using empirical methods [3].

In her article, Z. Majidova examines the financing models of higher education in former Soviet states through a comparative analysis. The study explores changes in the role of government participation, student funding and grant mechanisms, as well as credit-based approaches to financing higher education.

With regard to the case of Uzbekistan, particular emphasis is placed on the contribution of the private sector and the role of the tuition-fee (contract-based) education system in financing higher education institutions. The author argues that studying the distinctive experiences of post-Soviet countries is essential for improving higher education financing strategies and developing more effective and sustainable funding mechanisms. [4].

Research methodology

Subject scientific study , analysis and research to grow in the process induction and deduction , systematic analysis , statistical analysis and scientific abstraction such as from methods surrounding In the article , scientific abstraction from the method use at the bottom Great Britain at universities commercialization process on the surface conclusions released and to them suitable accordingly our country supreme education institutions to the activity aimed at scientific offer and practical recommendations was given .

Analysis and results

The internal audit function constitutes a fundamental component of effective governance in higher education institutions. By evaluating the efficient and appropriate management of public resources, internal auditors contribute to enhancing institutional accountability, ensuring the reliability of financial and operational information, and improving overall organizational performance.

This article focuses on the role of the internal audit function in higher education institutions, highlighting its supervisory mechanisms, control procedures, and key structural components. The findings of the study indicate that an effective internal audit function enables higher education

institutions to achieve their objectives in an effective, efficient, economical, and ethical manner. Furthermore, it promotes accountability and transparency, thereby strengthening public trust and ensuring that higher education institutions remain answerable to stakeholders and society at large.

Management activity is understood as a combination of processes and structures carried out by governing bodies to assess, regulate, and monitor the actions undertaken by a higher education institution in achieving its objectives. In higher education institutions, management activities are primarily directed toward setting goals and ensuring their effective attainment.

Furthermore, such activities include measures aimed at ensuring the reliability of institutional information and the fairness of services provided, thereby contributing to the reduction of corruption risks among employees of higher education institutions. The organization of internal audit functions and reporting relationships in higher education institutions differs between the ministry level and individual institutional level.

Within higher education institutions, audit activities encompass the execution of budget estimates, teaching processes, the assessment of the availability and efficient utilization of assets, the transparency of procurement procedures, and the accountability of institutional units. The internal audit function covers all levels of institutional activity and identifies key elements necessary for maximizing the effective use of available opportunities to achieve established objectives.

The internal audit service at the ministry level examines the activities of system organizations, including national, foreign, and regional higher education institutions. It identifies systemic problems and contributes to ensuring their effective resolution. In addition, as a budget-allocating authority, it conducts audits of the implementation process of targeted projects financed from the state budget and allocated to system organizations, ensuring their efficient execution. It also supports the reliability of managerial decisions made by the ministry leadership regarding system governance.

In higher education institutions, the role of the internal audit function is primarily associated with the assessment of accountability within the framework of management activities, particularly in terms of control, understanding, and forecasting criteria. Control ensures the effective implementation of institutional tasks and provides services aimed at detecting and preventing corruption in the public sector. The decision-making authority in higher education institutions ensures the independent evaluation of state programs, policies, activities, and outcomes for top management, while forecasting involves identifying potential future changes, risks, and challenges.

Auditors perform their duties in order to ensure the proper execution of these functions and, in line with ongoing systemic reforms, emphasize the necessity of continuously improving the internal audit function in higher education institutions.

The internal audit function in budgetary organizations defines its responsibilities in accordance with the specific nature of their activities. In the case of higher education institutions, universities are financed from the state budget based on approved revenue and expenditure estimates. In addition, they receive funding from tuition-fee (contract-based) payments, development fund resources, innovative project allocations, and grant-funded initiatives.

Expenditures of higher education institutions and other recipients of budgetary funds from the State Budget of the Republic of Uzbekistan are carried out within the limits of allocated budgetary appropriations and in accordance with the purposes specified in their approved expenditure estimates.

Extra-budgetary funds of higher education institutions refer to resources received by organizations from legally established non-budgetary sources. Separate revenue and expenditure estimates are

prepared for these extra-budgetary funds, and their execution is carried out throughout the financial year.

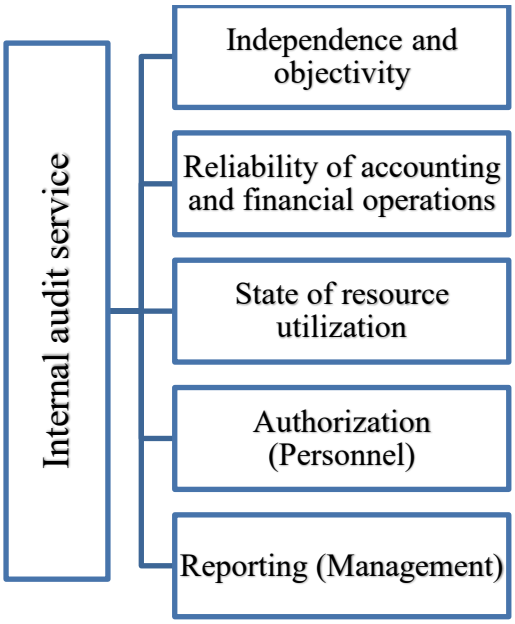
Accordingly, the accounting, planning, and expenditure of both budgetary and extra-budgetary funds in higher education institutions must be subject to ongoing internal control.

In higher education institutions, the control over the expenditure of budgetary and extra-budgetary funds, as well as the assurance of their efficient utilization, is carried out through the proper organization and maintenance of accounting systems. Ongoing reforms in the budget system necessitate further improvement in the accounting of the execution of revenue and expenditure estimates of higher education institutions.

Given the accounting structure of higher education institutions, the reporting requirements based on multiple estimates, and the diversified nature of funding sources, the importance of establishing an effective internal audit function in higher education institutions becomes even more significant.

In order to regulate the internal audit function in higher education institutions, the Resolution of the President of the Republic of Uzbekistan No. PQ-3231, dated 21 August 2017, entitled "On Further Improvement of Financing Mechanisms for Educational and Medical Institutions and the System of Public Financial Control," was adopted.

The main objective of this resolution is to further enhance the transparency of the budgetary process in public institutions and to strengthen public oversight over it, improve the mechanisms of budget financing, accounting, and reporting, and increase the accountability of ministries and agencies in strengthening budget discipline within subordinate institutions. It also aims to fundamentally reconsider the role of state financial control in preventing and mitigating violations of budget legislation through the introduction of modern information technologies and internationally recognized standards of financial control.



Picture 1. The relationship between the internal audit function, management staff, and other employees in higher education institutions [1]

[1] Prepared by the author based on normative and legal documents governing internal audit..

As can be observed from the above figure, independence and objectivity represent the primary and most essential conditions for the effective functioning of the internal audit service. An auditor must not be subordinated to any structural unit.

In accordance with Chapter 2 of Budget Accounting Standard No. 1, "Accounting Policies, Changes in Accounting Estimates and Errors," the reliability of accounting and financial transactions is reflected as follows:

In cases where there is no specific budget accounting standard applicable to a particular transaction, event, or condition, management must rely on professional judgment in developing and applying accounting policies that ensure the provision of relevant information. In this context, the information should be reliable, meaning that the financial statements faithfully represent the financial position, financial performance, and cash flows of the entity; reflect the economic substance of transactions, events, and conditions rather than merely their legal form; comply with the prudence principle; and include all material aspects in a complete manner.

The utilization of resources—using a higher education institution (HEI) as an example—reflects the extent to which grants, laboratory equipment, and human resources are being used efficiently.

It is necessary to ensure the accuracy of financial documents and reports, as well as to prepare conclusions regarding identified deficiencies and risks.

Audit is not solely intended to penalize errors; rather, it serves to provide guidance to staff and to assist management (the rectorate/administration) in making informed and sound decisions.

Internal control provides a systematic approach for a higher education institution to achieve its objectives by enabling risk management and by assessing and improving the effectiveness of governance processes. Internal audit serves accountability relationships.

Each higher education institution should evaluate its governance structure in order to determine whether the internal control entities are appropriate for the specific context. In some higher education institutions, where subordinate ministries and agencies and their lower-level structures have internal control units, there may also exist internal control bodies composed of members appointed by these entities. The need for an internal control service depends on individual circumstances, the nature of audit activities, and the decisions of the higher authority or supervisory board.

Economic efficiency refers to the assessment of the extent to which developed innovations are brought to market. Marketing agreements concluded by the commercialization department, royalty revenues, and the amount of dividends recorded on the balance sheet of the higher education institution (HEI) are analyzed.

Preparation of the Audit Report and Recommendations (Final Stage) – An audit report reflecting identified deficiencies and financial losses (Audit Report) is submitted to the rectorate and the Supervisory Board. Most importantly, a corrective action plan aimed at risk mitigation is developed.

According to the research findings, higher education institutions (HEIs) that have established internal audit services demonstrate higher levels of budget discipline, and the efficiency of financial management has been significantly improved. These outcomes are achieved not only through traditional inspections, but also through remote monitoring and risk-based audit approaches focused on the early identification of potential risks. The results indicate that the internal audit service within the higher education system of Uzbekistan is transitioning from an institutional formation stage to a stage of professional development. At the same time, the analysis shows that certain important areas still require further improvement.

In particular, although the direct reporting of internal audit services to the rector (as observed, for example, in Tashkent State University of Economics) contributes to ensuring institutional independence, the introduction of additional collegial oversight mechanisms would be advisable to further enhance practical effectiveness.

Conclusion

In conclusion, it can be stated that a comprehensive scientific analysis was conducted on issues related to the financing of research projects in higher education institutions (HEIs), the commercialization of scientific and scientific-technical results, as well as the improvement of accounting and internal audit mechanisms for controlling these funds.

The efficiency of resource utilization in HEIs—particularly in terms of grants, laboratory equipment, and human resources—is reflected in the extent to which these resources are used effectively and productively.

It is necessary to ensure the reliability and accuracy of financial documents and reports, as well as to prepare conclusions regarding identified deficiencies and risks.

Audit activities are not intended solely to detect and punish errors; rather, they serve to provide guidance to staff and support management (rectorate/leadership) in making informed and effective decisions.

The services provided by the internal audit function in higher education institutions to ensure reliable governance include the following:

- An independent attitude toward audited individuals and an objective approach to the audited entity;
- The use of systematic processes for collecting and analyzing relevant and significant evidence;
- The comparison of criteria for evaluating and forming audit results;
- The application of widely accepted professional auditing standards.

In our view, internal audit is an independent, objective, and assurance-oriented advisory activity designed to improve the performance and add value to a higher education institution.

Internal control represents a systematic approach that enables a higher education institution to manage risks and assess and improve the effectiveness of governance processes, thereby supporting the achievement of its objectives. Internal audit also serves accountability relationships within the institution.

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