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Article

Aspects of Improving the Risk-Based Internal Audit System in Higher Education Institutions

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Abstract: This article analyzes the current state of the risk-based internal audit system in higher education institutions and develops scientific and practical proposals aimed at improving its efficiency. In the course of the study, risk factors associated with tuition-contract funds, scholarship payments, business travel expenses, and the accounting of material assets were examined, and mechanisms for mitigating them were proposed. Furthermore, the study substantiates opportunities for enhancing the efficiency of internal audit by strengthening integration between the Billing, HEMIS, and UzASBO information systems and by employing artificial intelligence, data analytics, continuous auditing, and continuous monitoring technologies. As a result of the research, proposals were developed for introducing a risk-based automated analytical module for internal auditors within the UzASBO information system, as well as for implementing a three-tier control mechanism for financial transactions. The practical application of these proposals will contribute to improving the internal control system in higher education institutions, reducing financial risks, and ensuring the effective use of public funds.

Keywords: risk-based internal audit, internal control, higher education institution, risk management, UzASBO, HEMIS, Billing, Data Analytics, Continuous Auditing, Continuous Monitoring, artificial intelligence, financial control, audit risks.

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1. Introduction

In recent years, the Republic of Uzbekistan has been implementing large-scale reforms aimed at modernizing the higher education system and granting higher education institutions academic, organizational, and financial autonomy. As a result of these reforms, the financial activities of higher education institutions have expanded considerably. In particular, alongside state budget funds, the share of tuition-contract revenues, student housing payments, revenues from the credit-module system, research grants, sponsorship funds, and other extra-budgetary resources has been steadily increasing.[1][2]

The growing diversity of funding sources places upon higher education institutions the task of ensuring that these funds are used purposefully, rationally, and efficiently. For this reason, organizing the internal control and internal audit system on the basis of modern approaches is one of today's pressing issues. Whereas the traditional audit approach examines financial transactions after they have occurred, the modern risk-based internal audit system focuses primarily on the early detection and prevention of errors and violations of law.[3]

At present, a total of 205 higher education institutions operate in the Republic of Uzbekistan. Of these, 99 are state-owned, 74 are non-state (private), and 32 are foreign higher education institutions and their branches. Among the state-owned higher education institutions, there are institutions belonging to various ministries and agencies. Specifically, 72 of the 99 state higher education institutions operate under the Ministry of Higher Education, Science and Innovation of the Republic of Uzbekistan, while the remaining state higher education institutions fall under the jurisdiction of relevant sectoral ministries and other state agencies.[4]

In international practice, the internal audit system is regarded as one of the management tools serving an organization's achievement of its strategic goals. In particular, the Global Internal Audit Standards developed by the Institute of Internal Auditors (IIA) and the Enterprise Risk Management model of the Committee of Sponsoring Organizations of the Treadway Commission (COSO) closely link internal audit with risk management. Under this approach, the auditor's primary task is not merely to verify the accuracy of financial statements, but to identify risks in the organization's operations, assess them, and develop recommendations aimed at mitigating them.[5]

In Uzbekistan as well, important reforms are being carried out to digitalize state financial control, strengthen remote monitoring over the use of budget funds, and organize internal audit activities on the basis of risk-based mechanisms. In particular, a procedure for organizing the activities of internal audit services in higher education institutions under the Ministry of Higher Education, Science and Innovation has been approved. In addition, the Accounts Chamber is introducing remote audit mechanisms, electronic monitoring, and automated control systems. In external oversight of auditing organizations' activities, the practice of determining risk levels has been established through the “Risk Analysis” electronic system.[6]

Today, in organizing risk-based internal audit in higher education institutions, extensive use is made of the "Billing," "HEMIS," "UzASBO," and other information systems. Specifically, through the billing system, automated risk analyses are carried out with respect to tuition-contract funds, student housing payments, revenues from the credit-module system, scholarship expenditures, and student debt. These systems serve as an important source of information for the internal audit service.[7]

At the same time, certain problems exist in practice. In particular, the effectiveness of internal audit is adversely affected by the execution of financial transactions in the absence of a student's admission order, delays in collecting tuition-contract funds, inconsistencies between information systems in the assignment of scholarships, the limited capacity for automatically verifying business-travel expenses, and the lack of full integration among the various information systems.[8]

In particular, monitoring financial transactions related to students who have transferred their studies from abroad, been reinstated, or are studying on differentiated tuition-contract terms requires special attention. The fact that data on this category of students is maintained separately across different information systems in some cases gives rise to financial risks.[9]

Furthermore, because the advance reports of employees sent on business trips abroad are reflected in the UzASBO program in a summarized form, the possibility of automatically verifying, during remote audits, the compliance of hotel, transport, per diem, and other expenses with established norms is limited. As a result, auditors are compelled to carry out additional manual checks.[10]

Today, modern technologies such as artificial intelligence, Big Data, Data Analytics, Continuous Auditing, and Continuous Monitoring are significantly enhancing the efficiency of internal audit at many universities worldwide. With the help of these technologies, millions of financial transactions are analyzed in real time, risk levels are automatically assessed, and auditors are advised to conduct verification only of transactions carrying a high level of risk.

The purpose of this article is to analyze the risk-based internal audit system currently applied in higher education institutions, identify existing problems, study international experience, and develop scientifically substantiated proposals and recommendations for further improving the internal audit system on the basis of digital technologies.

Risk-based internal audit is today recognized as one of the important tools for enhancing management efficiency in both public- and private-sector organizations. The modern concept of internal audit is not limited to the exercise of financial control but also encompasses the identification and assessment of risks that may arise in an organization's operations, together with the development of recommendations aimed at mitigating them. For this reason, in recent years international scholarly literature has paid particular attention to issues of risk-based audit, digital audit, and Continuous Auditing**.**

The theoretical foundations of internal audit are set forth in the Global Internal Audit Standards developed by the Institute of Internal Auditors (IIA). According to these standards, internal audit serves to improve risk management, internal control, and the corporate governance system by providing an independent and objective assessment of an organization's activities. The standards note that internal audit plans should be based on the organization's risk level, and that audit resources should be directed toward areas of highest risk.[11]

Another important international document on risk management is the COSO Enterprise Risk Management (ERM) model. This model provides for the integration of risks into an organization's strategy and management decisions. Under the COSO model, identifying risks, assessing and prioritizing them, monitoring them, and developing control mechanisms are regarded as integral parts of management. This approach also serves as an important methodological foundation for the efficient use of financial resources and the improvement of the internal control system in higher education institutions.[12]

Standards developed by INTOSAI in the field of state financial control are of particular significance. These standards recommend adherence to the principles of economy, efficiency, and effectiveness in the use of public funds, the extensive use of information technologies in the audit process, and the planning of audit on a risk-based approach. In recent years, INTOSAI has paid special attention to the use of artificial intelligence, data analytics, and digital audit tools.

The OECD has likewise developed recommendations on shaping a modern internal control and internal audit system in the public sector. These recommendations emphasize the need to develop a risk-based internal audit system in state organizations in order to reduce corruption risks, strengthen financial discipline, and ensure the use of reliable information in decision-making.[13]

In international practice, particular attention is being paid to digitalizing internal audit activities at higher education institutions. Universities in the United States, the United Kingdom, Australia, and Canada have introduced Continuous Auditing and Continuous Monitoring systems that enable the real-time monitoring of financial transactions. In these systems, accounting software, student information systems, procurement platforms, and banking systems are integrated with one another. As a result, auditors gain the ability to automatically assess the risk level of financial transactions as they occur.

Likewise, Computer Assisted Audit Techniques (CAATs) and Data Analytics technologies are significantly enhancing the efficiency of internal audit. These technologies make it possible to analyze millions of financial transactions within a short period of time and to automatically detect anomalous transactions, fraudulent payments, or duplicate expenditures. As a result, rather than checking all transactions, auditors can conduct in-depth analysis only of those transactions carrying a high level of risk.[14]

Consistent reforms are likewise being carried out in the Republic of Uzbekistan to improve the internal audit system. In particular, Order No. 150 of the Minister of Higher Education, Science and Innovation, dated April 28, 2025, approved the procedure for organizing the activities of internal audit service staff at higher education institutions under the Ministry's system. This procedure defines the main tasks, rights, and obligations of the internal audit service, as well as the mechanisms for organizing audits. It establishes that the principal purpose of the internal audit service is to assess the financial and economic activities of the higher education institution, analyze the effectiveness of the internal control system, and develop recommendations aimed at reducing risks.[15]

In addition, with a view to organizing external oversight of audit organizations' activities on the basis of modern mechanisms, a regulation on the procedure for introducing the "Risk Analysis" electronic system in the external quality review of audit organizations' work (registration No. 3885, dated July 3, 2026) was adopted. Under this regulation, the risk level of an audit organization's activities is automatically assessed on a 100-point scale and classified into low, medium, and high risk categories. The assessment draws on the databases of state authorities, statistical data, the "Audit" information system, complaints, and other sources. This system serves to digitalize state financial control and reduce the human factor.[16]

Furthermore, the Accounts Chamber of the Republic of Uzbekistan is introducing remote audit mechanisms for overseeing the use of state budget funds. Under the current procedure, certain payment documents undergo automated verification on the Accounts Chamber's remote audit platform before being submitted to the DMBAT system. If an inconsistency is detected in a contract, legal obligation, or other financial document, the payment document is returned with the relevant error indicated. This makes it possible to detect financial errors before a payment is executed.[17]

The broad introduction of digital management systems in higher education institutions is likewise bringing internal audit activity to a new stage. At present, data exchange is being established among HEMIS, Billing, UzASBO, DMBAT, my.gov.uz, E-imzo, and other information systems. However, because integration among these systems has not yet been fully completed, the capacity for automatically controlling certain financial transactions remains limited.[18]

The analysis shows that, in international practice, internal audit is increasingly organized on the basis of artificial intelligence, Big Data, Data Analytics, and continuous audit technologies. In Uzbekistan as well, introducing these approaches into the activities of higher education institutions will serve to enhance the efficiency of internal audit, reduce financial risks, and strengthen control over the use of public funds.[19]

2. Materials and Methods

This study employed a comprehensive set of scientific research methods with the aim of assessing the current state of the risk-based internal audit system in higher education institutions and identifying directions for its improvement.

The theoretical basis of the study was formed by international standards on internal audit and risk management, including the Institute of Internal Auditors' (IIA) Global Internal Audit Standards, the COSO Enterprise Risk Management Framework, the INTOSAI state audit standards, and the OECD's recommendations on developing internal control and audit in the public sector.

The legal basis of the study was formed by the current regulatory and legal acts of the Republic of Uzbekistan, including the Law "On Accounting," the Budget Code, the procedure for organizing the activities of internal audit services approved by Order No. 150 of the Minister of Higher Education, Science and Innovation dated April 28, 2025, as well as the regulation on introducing the "Risk Analysis" electronic system for the external oversight of audit organizations' activities.

In the course of the research, the scientific methods of comparative analysis, systemic approach, induction, deduction, statistical observation, comparison, grouping, and economic analysis were employed. In addition, the operating mechanisms of the Billing, HEMIS, UzASBO, and DMBAT information systems currently used in higher education institutions were examined, and their mutual integration was analyzed from the standpoint of internal audit.

In the course of the practical research, risk factors were identified using the example of financial transactions related to tuition-contract funds, student housing payments, revenues from the credit-module system, scholarship payments, business-travel expenses, and public procurement, and the effectiveness of the existing control mechanisms for these transactions was assessed.

Furthermore, the practical experience of Continuous Auditing, Continuous Monitoring, Data Analytics, and Computer Assisted Audit Techniques (CAATs) as applied at international universities was studied, and the possibilities of adapting them to the activities of higher education institutions in Uzbekistan were analyzed.

As a result, scientifically substantiated proposals and recommendations were developed for improving the internal audit system on the basis of digital technologies.

3. Results and Discussion

3.1 Assessment of Risks Related to Tuition-Contract Funds

Among the extra-budgetary funds of higher education institutions, tuition-contract revenues constitute the largest share. These funds serve as an important source for financing the remuneration of teaching staff, the development of the material and technical base, the support of scientific activities, and other expenditures. For this reason, the full and timely collection of these funds is one of the priority areas of internal audit.

Under the current procedure, contract amounts, payment deadlines, outstanding debts, and funds received for each student are automatically generated within the Billing information system. The system makes it possible to identify students with outstanding debts, record instances of missed payment deadlines, and generate risk indicators.

However, practice shows that the level of risk associated with collecting tuition fees is particularly high in the case of students admitted for the first time, students who have transferred their studies from abroad, students who have been reinstated, or students studying under differentiated contract terms. The following factors contribute to this:

- failure to formalize the admission order due to late payment;
- delayed data exchange between the Billing and UzASBO systems;
- violations of payment deadlines;
- an insufficient level of automation in monitoring student debt.

As a result, there arises a risk of increased accounts receivable, inaccurate data being reflected in financial statements, and non-fulfillment of the extra-budgetary revenue forecast.

In order to address this problem, it is deemed appropriate that the admission order be formalized only for students who are being admitted to the higher education institution for the first time, who have transferred their studies from a foreign higher education institution, or whose studies have been reinstated. At the same time, it is recommended that the practice of issuing a recommendation order be discontinued. This approach creates the possibility of collecting payment in accordance with the established procedure for the student's period of study and ensures that tuition-contract relations are formalized correctly from a legal standpoint.

In particular, Figure 1 below presents an analysis of the funds received from the tuition-contract form of instruction and the credit-module system at higher education

institutions under the Ministry of Higher Education in the current financial year — that is, an analysis of the "Report on the Movement of Funds Received from the Tuition-Contract Form of Instruction at State Educational Institutions," consolidated by the Ministry of Higher Education in accordance with Budget Accounting Standard No. 3 of the Republic of Uzbekistan.

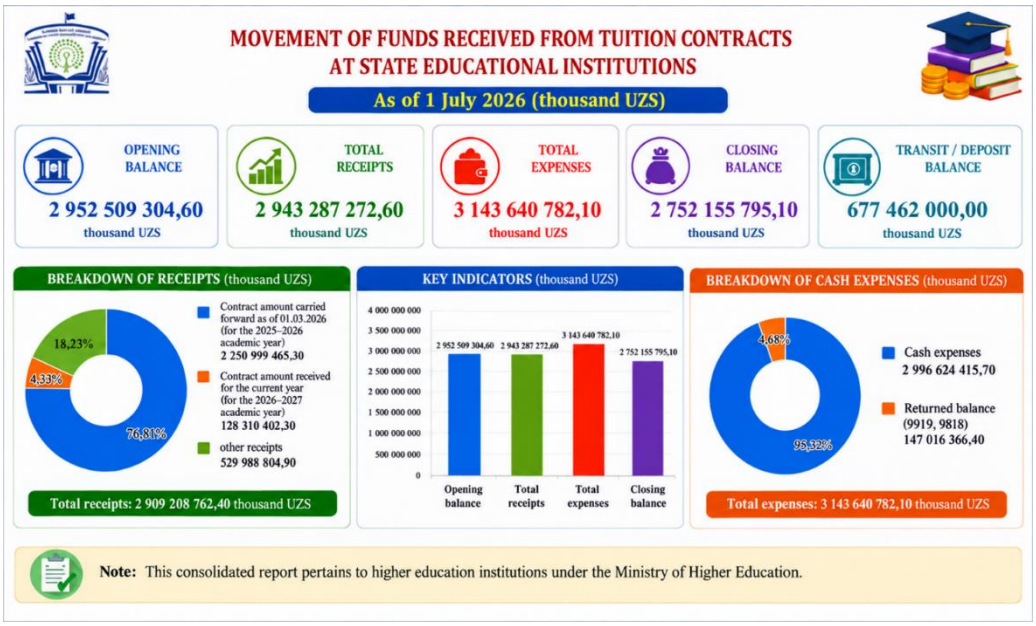


Figure 1. Report on the Movement of Funds Received from the Tuition-Contract Form of Instruction at State Educational Institutions

Source: *Data of the Ministry of Higher Education, Science and Innovation of the Republic of Uzbekistan*

3.2 Reducing Risks Related to Scholarship Payments

Today, scholarship funds also constitute one of the important expenditure areas of higher education institutions. In assigning scholarships, a student's academic performance, form of study, year of study, admission order, and other legal grounds are taken into account.

Although risk analysis for scholarship payments has been established within the Billing system, errors may nonetheless arise in certain cases due to inconsistencies between information systems. In particular, there is a possibility that, owing to a technical error, incentive payments and material assistance may be accrued to a student for whom no admission order has been formalized.

For this reason, it is advisable that the following data be automatically cross-checked before scholarship payments are executed:

- the student's status in the HEMIS system;
- the existence of an admission order;
- academic performance results;
- the order on scholarship assignment;
- the student's identifier in the Billing system;
- the payment details in the UzASBO program.

This integration would significantly reduce the human factor and prevent unlawful scholarship payments.

Figure 2 below presents data on scholarships and equivalent payments disbursed by higher education institutions.

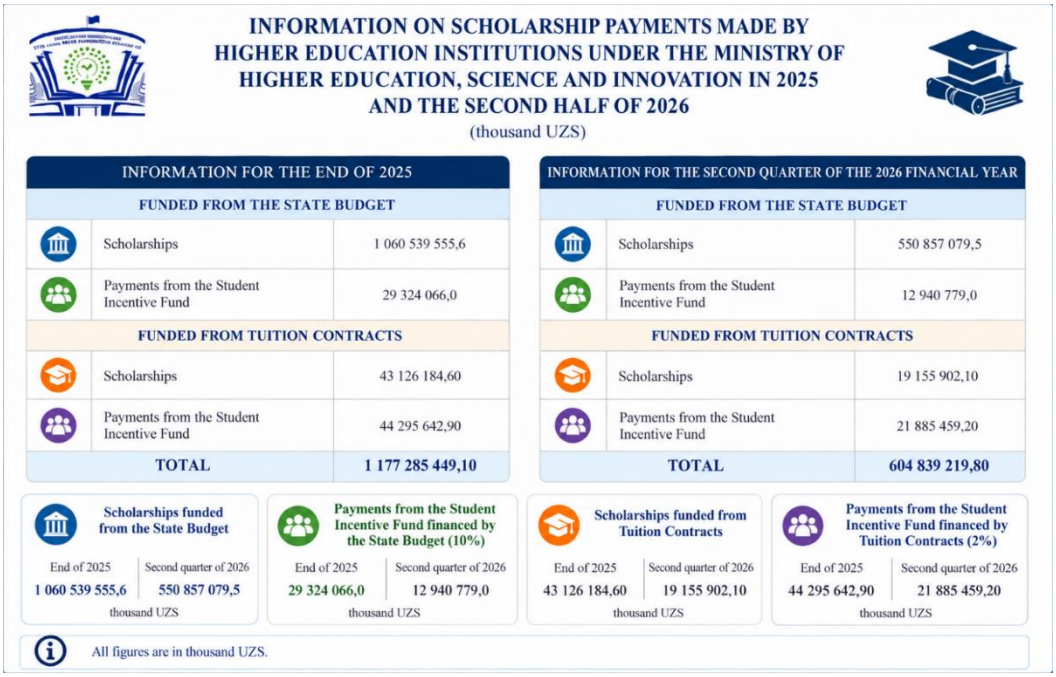


Figure 2. Data on Scholarship Payments Disbursed by Higher Education Institutions

Source: *Data of the Ministry of Higher Education, Science and Innovation of the Republic of Uzbekistan*

3.3 Auditing Business-Travel Expenses and Improving Risk-Based Control

At higher education institutions, business-travel expenses represent one of the important categories of expenditure financed from both budgetary and extra-budgetary funds. These expenses include the cost of transportation to and from the place of business travel, hotel services, daily (per diem) allowances, visa and consular fees, medical insurance, and other expenses related to the processing of business trips.

Under the current procedure, upon completion of a business trip, the employee submits an advance report, and the expenses are entered into the UzASBO program on the basis of supporting documents. However, an analysis of practice shows that in some cases these expenses are entered in a summarized (lump-sum) form. As a result, the composition of the expenses is not fully reflected in the electronic information system.

This situation is one of the factors reducing the effectiveness of internal audit and remote audit. This is because the auditor may see the total amount of expenses but does not have the ability to automatically assess whether the hotel, transport, per diem, or other expenses making up that amount comply with the established norms. In such a situation, each advance report has to be examined manually, which leads to additional time and resource expenditure in the audit process.

In order to address this problem, it is advisable to reflect business-travel expenses in the UzASBO program under separate analytical fields. In particular, the following expenses should be entered as independent line items:

- airfare or railway ticket expenses;
- hotel expenses;
- per diem (daily) expenses;
- transport expenses;
- visa and consular fees;
- medical insurance expenses;
- other approved expenses.

As a result of this approach, it becomes possible to automatically compare each type of expense against the relevant regulatory norms. If an expense exceeds the established

limit or if supporting documents are missing, the system automatically generates a risk indicator and sends the relevant alert to the internal audit service.

It is likewise advisable to attach the electronic documents accompanying business-travel expenses to the UzASBO system by means of a QR code or an electronic identifier. This would further simplify remote audit and enable auditors to quickly verify the authenticity of documents.

Such a mechanism is fully consistent with the principles of Continuous Auditing and Continuous Monitoring, which are widely applied in international practice. Under this approach, automated control is exercised at the same time that financial transactions are executed. As a result, errors or violations of law are detected during the transaction itself, rather than after the financial statements have been prepared.

In particular, by the end of 2025, higher education institutions under the Ministry of Higher Education made payments for business travel from budget funds amounting to 4,912,005.2 thousand soums within the territory of the Republic and 1,669,896.6 thousand soums to foreign countries.

From tuition-contract funds, payments for business travel amounted to 9,896,901.7 thousand soums within the territory of the Republic and 39,361,726.70 thousand soums to foreign countries.

3.4 Proposals for Improving the Accounting of Material Assets

Ensuring effective control over the accounting and safekeeping of material assets is one of the important factors in strengthening an organization's financial discipline. For this reason, it is advisable to introduce the following practical proposals.

1. Introducing a risk-assessment system in the recruitment of materially responsible persons

In a risk-based internal audit system, the process of selecting and hiring materially responsible persons is one of the important control points. In this process, candidates' professional qualifications, work experience, knowledge of current legislation and accounting, as well as their skills in handling material assets, should be comprehensively assessed. To this end, it is recommended that interview questions aimed at identifying risk factors be used, and that the candidate's level of responsibility be assessed.

In addition, the human resources department should thoroughly explain to the employee the job description, internal control procedures, and the legal grounds of material liability, and, prior to hiring, a full material-liability agreement should be concluded in accordance with current legislation. The internal audit service should periodically assess, through audits, whether these processes have been fully formalized in accordance with legal requirements. This serves to prevent risks associated with material assets.

2. Strengthening audit control over the dismissal of materially responsible persons

The dismissal of materially responsible persons is one of the high-risk processes for an organization. For this reason, the internal audit system should treat this process as a separate object of control. Before an employee is dismissed, a full inventory of all material assets under their responsibility should be conducted, their actual existence verified, and they should be handed over to a new materially responsible person, in the prescribed manner, on the basis of a formal transfer act.

The internal audit service should verify the reliability of inventory results, the correct formalization of documents, and the timely identification of shortages or surpluses. Refraining from finalizing settlements until the inventory is completed and the material assets are fully transferred significantly reduces financial risks and ensures the safekeeping of the organization's property.

3. Strengthening risk-based control over current repair works

At higher education institutions, current repair works constitute one of the areas accounting for a significant share of financial resources, and this process should be regarded as a high-risk activity. For this reason, before any repair work begins, a detailed cost estimate should be drawn up, approved by management, and used as the primary control document for internal audit.

The internal audit service should regularly analyze the correspondence between the construction materials specified in the estimate, their quantities and prices, and their actual expenditure. Furthermore, the reports of responsible persons on the work performed and the materials used should be treated as primary evidence in audit inspections. This approach reduces the risks of excessive expenditure, unlawful spending, and inefficient use of funds.

4. Introducing risk-based monitoring of the receipt and disposal of material assets

The receipt and disposal operations of material assets are among the most common sources of financial risk at higher education institutions. For this reason, internal audit activities should be directed toward the continuous monitoring of these operations and the identification of high-risk transactions.

In audit inspections, the receipt of material assets into the warehouse should be cross-checked against procurement documents, acceptance certificates, and accounting records. Disposal operations from the warehouse should be verified as having been carried out solely on the basis of approved requisitions and the relevant primary documents.

Furthermore, it is recommended that the internal audit service introduce electronic warehouse accounting and barcode or QR-code systems, using modern information technologies. These technologies make it possible to track the movement of material assets in real time, reduce errors related to the human factor, and enhance the reliability of audit evidence.

As a result of introducing the above proposals into the risk-based internal audit system of higher education institutions, the efficiency of the use of material assets will increase, the internal control system will be further improved, and the ability to detect financial, operational, and corruption-related risks at an early stage will expand. Consequently, the organization's financial stability, the degree of purposeful use of budget funds, and the effectiveness of management decisions will increase significantly.

3.5 Proposals for Improving Salary Payments and Equivalent Allowances

In accordance with Chapter 3 of the Joint Resolution "On Approving the List of Nationally and Internationally Recognized Certificates Determining the Level of Proficiency in Foreign Languages and General Education Subjects" (registration No. 3515, dated May 29, 2024), it is envisaged that university teaching staff holding national and internationally recognized certificates confirming their level of foreign-language proficiency shall receive supplementary payments in the established manner.

Accordingly, in order to correctly and validly calculate, and to disburse in a timely manner, supplementary payments to university teaching staff on the basis of national and international certificates confirming their level of foreign-language proficiency, it is first necessary that these expenditures be duly planned in the university's cost estimate.

It is advisable to establish an integration system that makes it possible to obtain and verify, in electronic form, information on teaching staff members' foreign-language certificates — including their type, level, and validity period — as well as confirmation that the certificate is registered in the databases of the relevant authorized organizations.

Figure 3. Data on Salary Payments and Equivalent Allowances

INFORMATION ON SALARY AND EQUIVALENT PAYMENTS MADE BY HIGHER EDUCATION INSTITUTIONS IN THE 2025 FISCAL YEAR

(thousand UZS)

No.	Expense item	FUNDED FROM THE STATE BUDGET	FUNDED FROM TUITION CONTRACTS
1	Basic salary	705 137 820,6	4 418 013 347,10
2	Director's Fund payments to reward exemplary employees of general, secondary-specialized and vocational education institutions	19 130 149,3	–
3	Payments from the fund for material incentives for employees of budgetary organizations	31 520 784,5	–
4	Additional payments to employees with academic degrees	372 805 270,4	–
5	Temporary disability benefit	3 608 976,5	17 219 105,00
6	Maternity benefit	6 632 638,1	31 040 035,50
	TOTAL	1 138 835 639,4	4 466 272 487,60

Source: *Data of the Ministry of Higher Education, Science and Innovation of the Republic of Uzbekistan*

By establishing this integration, it becomes possible to automatically verify teaching staff members' certificate data through the information systems of the authorized organizations, to confirm the authenticity and validity period of the certificate, and to prevent errors related to the human factor in calculating supplementary payments.

3.6 Formation of Risk Indicators Based on Artificial Intelligence and Data Analytics

In developed countries, the internal audit system is increasingly relying on artificial intelligence and data analysis technologies. At universities in the United States, the United Kingdom, Canada, and Australia, internal audit units automatically analyze millions of financial transactions through Data Analytics platforms.

In these systems, a risk level is automatically calculated for each transaction. For example:

- a sharp change in the contract amount;
- repeated payments to the same supplier;
- business-travel expenses exceeding the established limit;
- contract funds not collected on time;
- overdue accounts receivable;
- a scholarship accrued twice to the same student;
- incorrect formation of the contract amount.

Such transactions are classified by artificial intelligence algorithms into the \ high-risk category and are automatically added to the auditor's work plan.

At higher education institutions as well, risk indicators can be formed on the basis of Billing, HEMIS, and UzASBO data. In particular, it is proposed to introduce the following indicators:

1. A student for whom no admission order exists.
2. A contract with an overdue payment deadline.
3. A payment deadline extended more than twice.
4. Incorrect calculation of the contract amount.
5. A scholarship assigned to a student with outstanding debt.
6. Business-travel expenses exceeding the limit.
7. Expenditure made without supporting documents.
8. A repeated payment to the same individual.
9. Accounts receivable left uncollected for a prolonged period.
10. A discrepancy between the procurement contract and the payment document.

If an automated risk rating is formed on the basis of these indicators, the internal audit service can direct its resources specifically toward examining transactions with a high level of risk. This would significantly enhance the effectiveness of the audit.

4. Conclusion

In conclusion, the expansion of financial autonomy at higher education institutions, the growth in the volume of extra-budgetary funds, and the introduction of digital management systems are placing new demands on internal audit activity. Whereas traditional audit methods are oriented toward examining financial transactions only after they have occurred, the risk-based internal audit system is significant in that it serves to identify, assess, and mitigate risks in advance.

In the course of the study, a number of financial and operational risks were identified in the processes related to tuition-contract funds, scholarship payments, business-travel expenses, and the accounting of material assets. In particular, insufficient integration among information systems, the limited capacity for automated control of certain financial transactions, and the failure of internal control mechanisms to fully cover all processes were assessed as factors reducing the effectiveness of audit.

In order to address these problems, scientific and practical proposals were developed for improving the procedure for formalizing admission orders, automatically verifying scholarship payments through information systems, maintaining business-travel expenses on the basis of analytical accounting, strengthening internal control over the activities of materially responsible persons, and monitoring the receipt and disposal of material assets through risk-based monitoring. It was likewise substantiated that it is necessary to strengthen integration among the Billing, HEMIS, UzASBO, and other information systems, and to automatically generate risk indicators through the use of artificial intelligence, Data Analytics, Continuous Auditing, and Continuous Monitoring technologies.

Furthermore, in order to further reduce audit risks, it is considered advisable to develop a separate module (section) for internal auditors within the UzASBO information system. This module should bring together, on a single platform, the organization's financial statements, the movement of funds in personal treasury accounts, cost estimates, accounts receivable and payable, contracts, business-travel expenses, tuition-contract revenues, and other information necessary for conducting audits. This module should be equipped with a risk-based automated analysis and indicator system, enabling the real-time monitoring of financial transactions, the automatic identification of high-risk transactions, and the prompt notification of internal auditors.

In addition, in order to further strengthen internal control, it is advisable that payment orders for each expenditure made by the organization be reviewed from a risk standpoint and electronically approved by the internal auditor, alongside their approval by the chief accountant and the head of the organization. Such a mechanism would establish a three-tier system of control over financial transactions, serving to prevent unlawful or unsubstantiated expenditures, ensure the purposeful use of budget funds, and reduce corruption risks.

At the same time, consolidating data on salary payments and equivalent payments within a single electronic database would help ensure that payroll calculations are carried out accurately, transparently, and on a substantiated basis, that expenditures are properly planned in the cost estimate, and that unjustified supplementary payments are prevented from being calculated or disbursed in practice.

Overall, implementing the proposed approaches in practice makes it possible to direct internal audit resources toward the processes carrying the highest level of risk, reduce the influence of the human factor, detect financial errors and violations of law at an early stage, and enhance the effective and purposeful use of state and extra-budgetary funds. As a result, the effectiveness of the risk-based internal audit system at higher

education institutions will increase, the internal control system will be improved, and the transparency and reliability of financial management will be ensured. The results of this study serve as a scientific and practical basis for developing internal audit activity at higher education institutions on the basis of international standards, for the broad introduction of digital audit technologies, and for enhancing the effectiveness of state financial control.

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