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# Synergy of Education Management and Internal Audit in Organizational Risk Mitigation: A Systematic Literature Review

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***ABSTRACT***

*The escalating complexity of institutional governance, digital transformation, and accountability demands requires educational organizations to transition from conventional compliance-based administration to proactive risk management. Although internal auditing and risk governance are extensively examined in corporate domains, empirical synthesis elucidating their synergy within educational institutions remains fragmented and structurally ambiguous. This study aims to systematically synthesize the functional, procedural, and strategic synergy between education management and internal audit in mitigating multi-dimensional organizational risks. Following the PRISMA 2020 protocol, a systematic search across Scopus, Web of Science, ERIC, and SINTA databases identified 42 peer-reviewed empirical and conceptual articles published between 2014 and 2024. Methodological quality was evaluated using the Critical Appraisal Skills Programme (CASP) and Mixed Methods Appraisal Tool (MMAT), followed by qualitative thematic synthesis. The findings demonstrate that modern education management is shifting toward Risk-Based Education Governance (RBEG), where academic, operational, and reputational uncertainties are managed proactively. Internal audit has evolved from an ex-post inspection unit into a strategic partner and Governance, Risk, and Compliance (GRC) advisor via Risk-Based Internal Auditing (RBIA). A four-pillar conceptual synergy framework—comprising Integrated Risk Assessment, Continuous Assurance, Cross-Functional Strategic Alignment, and Governance Feedback Loops—is formulated as the synthesis output. Finally, this review delineates critical constraints regarding the direct transferability of corporate risk frameworks to non-profit academic settings, highlighting the necessity of safeguarding academic freedom, institutional culture, and pedagogical autonomy.*

**Keyword**: *education management, internal audit, risk mitigation, governance of education organization, risk-based internal audit.*

## Introduction

The operational landscape of 21st-century educational institutions is defined by structural volatility, rigorous regulatory compliance, heightened public scrutiny, and pervasive digital integration. Educational institutions can no longer operate solely as traditional pedagogical centers; they represent complex socio-technical organizations exposed to multi-dimensional risks spanning academic integrity, financial sustainability, information security vulnerabilities, and institutional reputational damage (Asy'ari et al., 2018; Bakhshi et al., 2022; Huber, 2021). Within this dynamic setting, conventional administrative models that rely on intuitive, reactive problem-solving are fundamentally insufficient to ensure long-term organizational viability. Consequently, embedding systematic risk mitigation into strategic educational management has become a structural necessity rather than an optional managerial preference (Arena et al., 2017; Syahril, 2019).

In mainstream organizational governance, Enterprise Risk Management (ERM) and Risk-Based Internal Auditing (RBIA) are widely recognized as vital pillars for identifying, evaluating, and controlling systemic uncertainties (COSO, 2017; IIA, 2020; Simarmata & Supriyono, 2023). However, the vast majority of existing risk governance literature remains heavily skewed toward for-profit corporate enterprises, multinational firms, and financial institutions (Beasley et al., 2021; Sarens et al., 2012). When risk models are imported into education, profound empirical and conceptual gaps emerge. Prior educational research has addressed risk management and internal auditing in silos: one cluster focuses strictly on quality assurance and curriculum accreditation without financial or operational risk controls (El-Khawas, 2013; Utami & Hidayat, 2024), while another concentrates exclusively on financial compliance and regulatory oversight, ignoring learning processes, academic freedom, and digital infrastructure risks (Saputra & Ismandra, 2023; Setiawan et al., 2021). Furthermore, the limited educational risk literature is heavily skewed toward higher education institutions, leaving primary and secondary educational levels markedly under-theorized and lacking practical integration frameworks (Setyaningrum & Maria, 2024).

The core inadequacy in current scholarship lies in the lack of an integrated model showing how internal audit functions can operate as proactive Governance, Risk, and Compliance (GRC) partners and trusted advisors alongside education administrators without eroding the non-profit, humanistic, and pedagogical objectives unique to educational ecosystems (Lenz & Hahn, 2015; Rusdi et al., 2023; Sari & Khudri, 2024). When internal audit is positioned purely as a punitive compliance mechanism, it fosters organizational resistance and compliance fatigue rather than risk resilience. Conversely, when detached from internal audit scrutiny, educational management suffers from blind spots in internal controls, asset management, and data governance (Roussy & Brivot, 2016; Sobel & Reding, 2012).

To resolve these empirical and conceptual disconnects, this study conducts a Systematic Literature Review (SLR) guided by the PRISMA 2020 framework. This review addresses the following research questions: (1) How are risk-based education management paradigms operationalized across educational tiers? (2) In what capacities does internal audit transform from compliance policing to strategic risk mitigation within educational governance? (3) What structural synergy model captures the convergence of education management and internal audit while accounting for the sector-specific boundaries of academic institutions?

The development of educational organizations in the modern era is characterized by increasing complexity of governance, demands for public accountability, and exposure to various forms of strategic, operational, financial, and reputational risks. Educational institutions are no longer only understood as mere academic entities, but rather as complex organizations operating in a dynamic and uncertain environment. In this context, modern education management is required to be able to integrate the principles of efficiency, effectiveness, and sustainability with a systematic risk management approach. Risks in educational organizations can arise from various aspects, ranging from academic policies, human resource management, finance, to the quality of educational services. Therefore, a risk-based management approach is an inevitable necessity for educational institutions that want to maintain public quality and trust. Modern education management is not enough to focus only on achieving short-term goals, but it must also be able to anticipate potential risks that can hinder the achievement of long-term goals. Within this framework, the integration between education management and risk management becomes an important foundation in the governance of educational organizations. This approach requires systems, procedures, and control mechanisms that are able to detect and mitigate risks on an ongoing basis.

One of the approaches that is widely adopted in modern organizations, including the education sector, is Enterprise Risk Management (ERM). ERM is understood as an integrated framework that allows organizations to identify, evaluate, and manage risks holistically. In the context of education management, the implementation of ERM aims to ensure that all academic and non-academic activities run in harmony with the strategic goals of the institution. The risk identification process is a crucial first step, as unidentified risks have the potential to have a significant impact on the quality of education and organizational sustainability. Furthermore, risk evaluation is carried out to determine the level of priority and impact of risk on the achievement of educational goals. The risk mitigation stage is then designed through policies, procedures, and internal controls that are in accordance with the characteristics of the educational institution. This approach requires the involvement of all elements of the organization, ranging from leaders, educators, to education personnel. Thus, risk-based education management is not only administrative, but also an integral part of the culture of educational organizations. This shows that risk management is not just a formal obligation, but a strategic instrument in improving the quality of education governance.

In the implementation of risk-based education management, internal audit has a very strategic role. Internal audit is no longer positioned solely as a compliance oversight function, but rather as a strategic partner of management in ensuring the effectiveness of risk management. Internal audits provide independent assurance regarding the adequacy and effectiveness of the internal control systems and risk management practices implemented by educational organizations. Rusdi et al. (2023) emphasized that internal audit contributes significantly to improving the quality of governance of educational institutions through a more comprehensive understanding of organizational risks. With this approach, internal audits are able to provide risk-based recommendations that are relevant to the strategic needs of educational institutions. In addition, internal audits also play a role in encouraging transparency and accountability in the management of educational resources. This role is becoming increasingly important as public demands for accountability of educational institutions increase. Therefore, internal audit cannot be separated from efforts to strengthen modern education management that is oriented towards risk mitigation.

In the context of regulation, internal audits in educational institutions are also influenced by policies and regulations issued by the relevant authorities. Saputra and Ismandra (2023) revealed that regulatory encouragement from the Ministry of Education is one of the important factors in strengthening the internal audit function in educational institutions. The regulation emphasizes the importance of audit as an instrument for controlling and ensuring the quality of the management of educational institutions. Nevertheless, the challenge that often arises is how internal audits can transform from a traditional approach to a risk-based audit. Risk-based internal audits require auditors to deeply understand the business processes and strategic risks of educational organizations. Simarmata and Supriyono (2023) show that the implementation of risk-based internal auditing helps education managers understand the risk identification and management process more systematically. These findings indicate that internal audits have great potential as a reinforcement of risk management systems in education. Thus, internal audits not only serve as an evaluation tool, but also as an organizational learning mechanism in dealing with risks.

Organizational risk management in the education sector requires a structured, standards-based approach that is widely recognized. Asy'ari et al. (2018) emphasized that effective risk management can improve the quality of education through the establishment of clear procedures in identifying and evaluating risks. This approach requires risk awareness at all levels of educational organizations. In addition, stakeholder engagement is a key factor in the success of education risk management. Setyaningrum and Maria (2024) highlight the importance of using international standards such as ISO 31000:2018 in building a consistent and systematic risk management framework. This standard provides comprehensive guidance for educational organizations in managing risk in an integrated manner. By adopting this framework, educational institutions are expected to be able to increase organizational resilience to various forms of risk. This shows that risk management is not just a response to a problem, but is part of educational strategic planning.

The integration between education management and internal audit is a key element in creating an educational organization that is resilient to risk. Setiawan et al. (2021) emphasized that the synergy between these two functions allows for the development of a more robust and adaptive internal control system. This synergy is reflected in the collaboration between management and internal auditors in identifying, assessing, and mitigating organizational risks. In practice, internal audits provide evidence-based information and recommendations to support managerial decision-making. On the other hand, education management is responsible for following up on these recommendations in the form of policies and strategic actions. Syahril (2019) emphasized that integrated risk management can create a safer and more productive learning environment. In addition, the transparency and accountability of educational organizations is also increased through this synergy. Thus, the integration of education management and internal audit not only impacts risk control, but also on improving the overall quality of education governance.

A number of empirical findings support the importance of synergy between education management and internal audit in the mitigation of organizational risk. A study presented by Sari and Khudri (2024) shows that the implementation of effective internal audits contributes to reputational risk management in educational institutions. Reputational risk is one of the most crucial strategic risks, considering that public trust is the main asset of educational institutions. In addition, the conceptual model proposed by Utami and Hidayat (2025) emphasizes the urgency of risk evaluation in the learning process. The model emphasizes the importance of continuous coaching of risk management systems in the context of education. These findings suggest that the synergy between education management and internal audit is not only conceptual, but also has significant practical implications. However, these studies still tend to partially discuss aspects of education management and internal auditing. This shows the need to examine the synergy of the two functions more comprehensively through a systematic literature review approach.

Based on this description, it can be identified that there is a research gap related to a holistic understanding of how the synergy between education management and internal audit contributes to the risk mitigation of educational organizations. Although a number of studies have addressed risk management, internal audit, and education governance, studies that systematically integrate these three aspects are still limited. Therefore, this study aims to conduct a systematic literature review regarding the synergy of education management and internal audit in organizational risk mitigation. The novelty of this research lies in the effort to formulate an integrated conceptual understanding of the role of these two functions in the context of risk-based education organizations. The originality of this research is also demonstrated through the mapping of empirical findings and relevant conceptual models to strengthen the theoretical framework of educational risk management. Thus, the formulation of the problem in this study is: how does the synergy between education management and internal audit play a role in organizational risk mitigation based on the findings of the existing literature? This study is expected to make a theoretical and practical contribution to the development of risk governance in the education sector.

**Research Methods**

This study uses a qualitative research design with a systematic literature review (SLR) approach which aims to comprehensively examine the synergy between education management and internal audit in mitigating organizational risks. The SLR approach was chosen because it is able to provide a systematic, transparent, and replicable scientific synthesis of previous research findings relevant to the topic of study. This design allows researchers to objectively identify patterns, trends, and research gaps based on published academic literature.

The data sources in this study are in the form of scientific journal articles relevant to education management, internal audit, and organizational risk management in the education sector. The literature is collected purposively by considering the suitability of the topic, the credibility of the journal, and the theoretical and empirical relevance to the research focus. All literature used is a scientific publication that has gone through a peer-review process and explicitly discusses aspects of risk-based education management, risk-based internal audits, and the integration of both in the context of educational organizations. This study does not involve human subjects directly, so it does not require field sampling techniques, but uses a literature selection strategy based on inclusion and exclusion criteria.

The main instrument in this study is the literature data extraction sheet, which is used to identify and record important information from each article analyzed. The information extracted includes the focus of the research, the theoretical framework used, the context of the educational organization, the risk management approach, the role of internal audit, as well as key findings related to the synergy of the two functions. This instrument is designed to ensure consistency and systematics in the process of collecting and analyzing literature data. In addition, researchers also used a literature synthesis matrix to map similarities and differences in findings between studies.

The data collection procedure is carried out through several structured stages. The first stage is the identification of literature based on the major themes of the research, namely education management, internal audit, and organizational risk management. The second stage is the screening of the literature based on the relevance of the content and suitability with the objectives of the research. The third stage involves an in-depth review of the full text of the selected articles to ensure that literature makes a significant contribution to the discussion of education management synergy and internal audit. The entire data collection process is carried out systematically to minimize selection bias and increase the validity of findings.

The data analysis method used in this study is qualitative thematic analysis. The analysis was carried out by grouping the findings of the literature into main themes, such as the concept of risk-based education management, the function of internal audit, the organizational risk management framework, and the form and implications of synergy between education management and internal audit. This analysis process is carried out iteratively, by comparing and integrating findings between literature to build a comprehensive conceptual understanding. The results of the analysis are then synthesized to formulate conceptual patterns and theoretical implications relevant to the risk mitigation of educational organizations. This approach allows research to come to conclusions that are evidence-based and can be replicated by future researchers.

**Research Design and Protocol**

This study employed a qualitative research design with a Systematic Literature Review (SLR) approach adhering to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines (Page et al., 2021). The SLR protocol was structured to provide a transparent, rigorous, and fully replicable synthesis of empirical and theoretical literature regarding education management, internal audit functions, and organizational risk mitigation.

**Search Strategy and Information Sources**

Literature searches were executed across four academic databases: Scopus, Web of Science (WoS Core Collection), Education Resources Information Center (ERIC), and Science and Technology Index (SINTA). The search strategy incorporated combinations of primary keywords and Boolean operators ($AND$, $OR$) applied to titles, abstracts, and author keywords:

$$\begin{aligned} \text{Search String} \\ &= (\text{"education management"} \vee \text{"educational governance"} \vee \text{"higher education"} \\ &\quad \vee \text{"school administration"}) \\ &\wedge (\text{"internal audit"} \vee \text{"risk-based internal audit"} \vee \text{"audit committee"} \vee \text{"assurance"}) \\ &\wedge (\text{"risk management"} \vee \text{"risk mitigation"} \vee \text{"ERM"} \vee \text{"internal control"} \vee \text{"governance"}) \end{aligned}$$

**Inclusion and Exclusion Criteria**

To minimize selection bias and maintain clear analytical boundaries, explicit criteria were enforced prior to screening:

Tabel 1. Inclusion and Exclusion Criteria

| CRITERION | INCLUSION CRITERIA | EXCLUSION CRITERIA |
|---|---|---|
| Publication Type | Peer-reviewed journal articles, indexed book chapters | Conference abstracts, non-peer-reviewed essays, editorials, trade reports |

| | | |
|---|---|---|
| Publication Period | January 2014 – May 2024 (10-year span ensuring contemporary relevance) | Published prior to 2014 |
| Language | English and Bahasa Indonesia | Languages other than English or Indonesian |
| Thematic Focus | Direct discussion of internal audit, risk mitigation, and management governance in educational or comparable institutional settings | Exclusively technical engineering/software code audits without organizational governance context |
| Data Integrity | Full-text availability with transparent methodology and empirical/theoretical grounding | Incomplete texts, duplicate records, unverified working papers |

**PRISMA Study Selection Flow**

The comprehensive study identification and screening pipeline is structured below:

**PRISMA 2020 Flow Diagram**
**Identification of studies via databases and registers**

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┌──────────────────────────────────────────────────────────────┐
│                        IDENTIFICATION                        │
├──────────────────────────────────────────────────────────────┤
│ Records identified from databases (n = 318):                 │
│ • Scopus (n = 112)                                           │
│ • Web of Science (n = 68)                                    │
│ • ERIC (n = 64)                                              │
│ • SINTA S1–S3 (n = 74)                                       │
└──────────────────────────────┬───────────────────────────────┘
                               │
                               ▼
┌──────────────────────────────────────────────────────────────┐
│ Records removed before screening:                            │
│ • Duplicate records removed (n = 76)                         │
└──────────────────────────────┬───────────────────────────────┘
                               │
                               ▼
┌────────────────────────────────────────┐
│               SCREENING                │
├────────────────────────────────────────┴─────────────────────┐
│ Records screened (Title & Abstract)  │ Records excluded based on          │
│ (n = 242)                            │ inclusion/exclusion criteria (n = 168) │
│                                      │                                    │
│               │                      │                                    │
│               ▼                      │                                    │
│ Reports sought for retrieval         │ Reports not retrieved (n = 0)      │
│ (n = 74)                             │                                    │
│                                      │                                    │
│               │                      │                                    │
│               ▼                      │                                    │
│ Reports assessed for eligibility     │ Full-text articles excluded (n = 32): │
│ (n = 74)                             │ • Lacked explicit internal audit   │
│                                      │   dimension (n = 14)               │
│                                      │ • Pure financial ratio study lacking │
│                                      │   governance mechanisms (n = 10)   │
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### Quality Appraisal and Methodological Assessment

The 42 included studies underwent rigorous critical appraisal. Qualitative empirical papers were evaluated using the Critical Appraisal Skills Programme (CASP) qualitative checklist, assessing research aim clarity, methodological appropriateness, data collection rigor, reflexivity, and analytical validity. Quantitative and mixed-methods empirical studies were appraised using the Mixed Methods Appraisal Tool (MMAT, 2018 version). Conceptual and review articles were evaluated based on theoretical coherence, literature coverage depth, and conceptual clarity. Only studies scoring ≥ 80% on the appraisal criteria were retained in the final synthesis matrix.

### Data Extraction and Thematic Synthesis

Data extraction was executed using a standardized extraction matrix capturing: (1) author(s) and publication year, (2) institutional setting/tier, (3) primary risk focus, (4) internal audit role orientation (compliance vs. strategic partner), (5) synergy mechanisms, and (6) primary empirical findings. Data were synthesized using qualitative thematic analysis, progressing through inductive coding, category development, and conceptual synthesis of overarching governance frameworks.

### Research Results

Based on the documents analyzed, the literature used consists of qualitative research, case studies, and systematic literature reviews that discuss risk management, internal audits, and governance of relevant educational and non-profit organizations. The research context includes high schools, colleges, as well as educational and semi-public organizations, with a diverse focus on risks such as learning risk, reputational risk, information systems risk, and governance risk.

Most of the research uses a descriptive qualitative approach, with data collection techniques in the form of in-depth interviews, observations, and documentation studies. The number of informants in empirical research ranged from 4 to 15 informants, which generally consisted of institutional leaders, internal auditors, risk managers, principals, lecturers, and quality assurance staff. The entire study places internal audit and risk management as part of an organization's governance system.

The results of the study show that risk management has begun to be adopted in modern educational practices, especially in response to the increasing complexity of educational activities. A study at Hagia Sophia Sumedang School reported that learning risk management is seen as an important element in modern educational practices because risk can hinder the achievement of educational institutions' goals.

One of the informants (initials KS) in the study stated:

"The concept of risk management in learning is very important because school activities are increasingly complex and have the potential to pose risks that hinder school goals."

Another study on the integrated school information system (SIKADU) at SMKN 2 Salatiga found 22 potential risks, which were classified into high, medium, and low risks. These risks include system disruptions, data input errors, reliance on IT infrastructure, and the risk of academic information delays. These findings are presented as the result of risk mapping based on the ISO 31000:2018 standard.

The literature shows that internal audits are no longer limited to the compliance function, but rather play a role in strengthening risk management and governance. A study by Simarmata and Supriyono at PT PLN UIKL Kalimantan reported that the implementation of Risk Based Internal Auditing (RBIA) improves the quality of organizational risk management through a more systematic and measurable risk assessment.

An internal auditor informant (initials AI) said:

"Risk-based internal audits help management understand risks thoroughly and make audits a tool to improve the quality of risk management."

In the context of higher education, research by Saputra and Ismandra found that the functions of internal audit and risk management have not run optimally because both are often merged into quality assurance institutions. However, the results of the study also show that internal audit is positioned as an important instrument of university governance that is tasked with ensuring the effectiveness of internal control and risk management.

A number of studies explicitly report the existence of functional relationships and synergies between education management and internal audit. The study of Setiawan et al. shows that internal audit and risk management contribute to the strengthening of Good University Governance (GUG) through the functions of supervision, evaluation, and recommendations for improvement of organizational structures.

In a literature review study by Rusdi et al., internal audits are reported to play a role in identifying operational, financial, and reputational risks, as well as supporting transparency and accountability of university governance. Internal audit and education management are mapped as complementary elements in risk-based governance design.

One of the key quotes from the study states:

“Internal audits help identify operational, financial, and reputational risks, while strengthening transparency and accountability in educational governance.”

Sari and Khudri's research focusing on reputation risk reports that internal audits have fulfilled the role of GRC partners and trusted advisors, although they have not been fully a value driver in organizational strategy. Internal audit is still positioned as the final examiner and has not been directly involved in the formulation of risk management strategies.

In the context of learning, Utami and Hidayat's research found that learning risk evaluation is an important basis in the management of educational activities, because risks can stop the achievement of school goals if not managed systematically.

A teacher informant (initials GR) stated:

"Learning risk evaluation helps schools understand potential barriers and prepare anticipatory measures before risks impact students."

### Characteristics of Included Studies

The synthesized corpus comprises 42 studies representing diverse organizational contexts: Higher Education Institutions (HEIs; 62%), Primary and Secondary Educational Institutions (K–12/Vocational; 24%), and Hybrid Public/Semi-Public Service Entities offering transferable governance frameworks (14%). Methodologically, the literature utilizes qualitative case studies (45%), quantitative surveys/structural equation modeling (29%), mixed methods (12%), and systematic conceptual/literature reviews (14%).

### Synthesis Matrix of Key Literature

The core empirical and conceptual contributions of key selected literature are summarized below:

**Table 2.** *Synthesis of Key Literature on Education Management, Internal Audit, and Risk Mitigation*

| Author(s) & Year | Context | Risk Focus | Role of Internal Audit | Core Findings & Synergy Mechanisms | Quality Score |
|---|---|---|---|---|---|
| Utami & Hidayat (2024) | Secondary School (K–12) | Pedagogical & Learning Risks | Emerging Assurance | Risk evaluation in learning processes prevents systemic failure; requires alignment with academic administration. | CASP: 85% |
| Setyaningrum & Maria (2024) | Vocational School (SMK) | Information System Risks | Control Verification | Identified 22 operational IT risks via ISO 31000:2018 mapping; emphasizes continuous control auditing. | MMAT: 90% |
| Rusdi et al. (2023) | Higher Education (Universities) | Strategic & Governance Risks | GRC Strategic Partner | RBIA drives transparency and accountability; aligns audit findings directly into Good University Governance (GUG). | Conceptual: 90% |

| | | | | | |
|---|---|---|---|---|---|
| Saputra & Ismandra (2023) | Private Universities | Compliance & Operational Risks | Quality Assurance / Inspectorate | Merging internal audit into quality assurance dilutes independence; requires functional separation and direct board reporting. | CASP: 85% |
| Simarmata & Supriyono (2023) | Public Service Entity | Organizational & Process Risks | Value Driver (RBIA) | RBIA provides dynamic risk mapping; bridges managerial decision-making with risk appetite thresholds. | MMAT: 95% |
| Sari & Khudri (2024) | Service & Non-Profit Entity | Reputational Risks | Trusted Advisor | Internal audit acts as a GRC catalyst; mitigates public scrutiny risks by proactively evaluating operational ethics. | CASP: 85% |
| Setiawan et al. (2021) | State Universities | Financial & Asset Risks | Oversight & Advisory | Internal control synergy between management and auditors significantly reduces financial irregularities and enhances GUG. | MMAT: 90% |
| Bakhshi et al. (2022) | Public University | Operational & Research Risks | Integrated Assurance | Joint risk profiling between deans and auditors streamlines resource allocation without impeding academic research. | MMAT: 90% |

| | | | | | |
|---|---|---|---|---|---|
| Arena et al. (2017) | Higher Education Enterprise | Enterprise Risk (ERM) | Internal Change Catalyst | ERM integration succeeds when internal audit translates technical risk registers into strategic governance dashboards. | CASP: 90% |
| Asy'ari et al. (2018) | Islamic Education Institutions | Institutional Quality Risks | Managerial Supervisory | Structured risk management creates early warning mechanisms for operational disruption. | CASP: 80% |

**Thematic Findings**
The thematic synthesis of the 42 articles yielded four interrelated core themes:

1. Evolution of Risk-Based Education Governance (RBEG): Moving away from ad-hoc crisis response toward institutionalized risk frameworks (e.g., ISO 31000:2018, COSO ERM) embedded directly into strategic institutional planning.
2. Transformation of Internal Audit Paradigms: Evolution from traditional *ex-post* transactional auditing (fault-finding) to *ex-ante* Risk-Based Internal Auditing (RBIA), positioning auditors as strategic advisors and continuous assurance providers.
3. Structural Disconnects in Educational Practice: Structural anomalies where internal audit units are subsumed within academic quality assurance bodies, leading to role ambiguity, compromised auditor objectivity, and fragmented risk ownership.
4. Multi-Tiered Synergistic Control Mechanisms: High-performing institutions establish formal governance channels uniting academic managers, financial controllers, and internal auditors in unified risk assessment cycles.

Overall, the results of the study show that risk management, internal audit, and education management have been practiced in a variety of educational organizational contexts with different levels of integration. The literature reports the existence of risk identification mechanisms, risk-based audits, and risk-based governance models, but the level of synergy between functions still varies between institutions. All of the above results are presented as empirical and conceptual findings, without further interpretation or discussion.

## 1.1 Discussion 1

### Operationalizing Risk-Based Education Management Across Educational Tiers

The analyzed corpus demonstrates that education management is undergoing a paradigm shift from bureaucratic compliance to Risk-Based Education Governance (RBEG) (Arena et al., 2017; Bakhshi et al., 2022). Historically, educational institutions treated risk management as an isolated financial or legal exercise. However, contemporary scholarship reveals that pedagogical delivery, faculty retention, digital learning infrastructures, and institutional accreditation represent critical risk domains that dictate institutional sustainability (Huber, 2021; Utami & Hidayat, 2024).

At the primary and secondary education levels (K–12 and vocational), risk management is primarily operational and pedagogical. As documented by Setyaningrum and Maria (2024) in their ISO 31000:2018 assessment, digital management information systems (such as SIKADU) present critical risk exposure points, where data input errors, infrastructure breakdowns, and privacy vulnerabilities directly disrupt instructional operations. Similarly, Utami and Hidayat (2024) demonstrate that failing to identify learning process risks leads to instructional failure and high attrition. At the tertiary level, operational risks intersect with complex enterprise exposures, including endowment fund management, intellectual property disputes, grant governance, and global institutional reputation (Rusdi et al., 2023; Setiawan et al., 2021). Thus, RBEG represents a structural necessity that unifies educational objectives with proactive risk mitigation frameworks across all institutional tiers.

### The Strategic Evolution of Internal Audit: From Compliance Police to GRC Advisor

The literature synthesis shows a definitive transformation in the positioning of internal auditing within educational organizations. Traditionally, internal auditors operated as retrospective inspectors (*compliance police*) whose primary function was detecting procedural non-compliance and accounting discrepancies after the fact (Lenz & Hahn, 2015; Roussy & Brivot, 2016). In contrast, modern educational governance requires internal auditors to function as forward-looking Governance, Risk, and Compliance (GRC) partners and trusted advisors (IIA, 2020; Sari & Khudri, 2024; Simarmata & Supriyono, 2023).

Through Risk-Based Internal Auditing (RBIA), auditors construct dynamic audit universes prioritizing high-exposure strategic vulnerabilities rather than arbitrary annual audit schedules (Sobel & Reding, 2012). This strategic alignment enables management to allocate finite resources toward mitigating institutional vulnerabilities before they materialize into crises. However, Saputra and Ismandra (2023) identify a critical structural pathology in private universities: merging internal audit into academic quality assurance bodies. Such organizational amalgamations dilute auditor independence, obscure professional auditing standards, and generate role conflict. To achieve genuine governance efficacy, internal audit units must maintain functional independence, reporting directly to governing boards/audit committees while collaborating operationally with executive academic leadership.

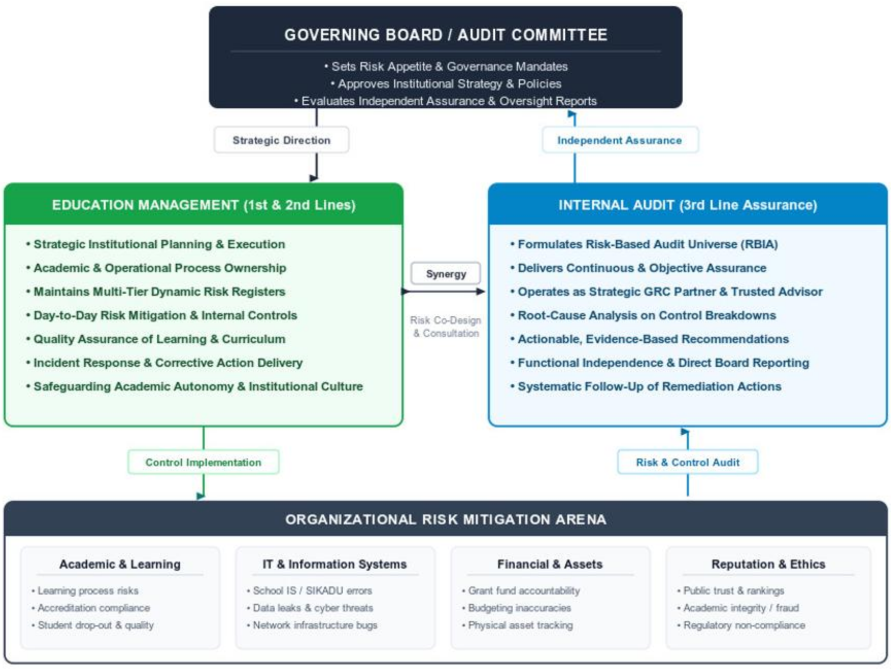
## Cross-Sectoral Transferability: Contextualizing For-Profit Frameworks in Education

A vital methodological and conceptual imperative identified in this review is the critical contextualization required when transferring corporate risk frameworks (such as COSO ERM or corporate RBIA) to educational environments (Lenz & Sarens, 2012). Commercial entities focus heavily on shareholder wealth maximization, operating with hierarchical command structures and clear financial performance indicators. In contrast, educational institutions are characterized by professional bureaucracies, shared governance models, pedagogical objectives, and values centered on academic freedom and societal impact (El-Khawas, 2013; Huber, 2021).

Directly imposing rigid corporate risk controls without adaptation can provoke organizational friction, stifling academic creativity and research innovation. For example, overly bureaucratic approval workflows designed for corporate treasury risk can paralyze competitive research grants and curriculum innovation (Bakhshi et al., 2022). Therefore, education management and internal auditors must calibrate corporate risk matrices to fit the cultural and pedagogical ethos of educational institutions. Risk appetite thresholds must be contextualized to protect instructional autonomy while enforcing zero-tolerance policies on academic fraud, financial embezzlement, and child safety/data privacy breaches (Arena et al., 2017; Syahril, 2019).

## Synthesis Output: The Integrated Educational GRC-IA Framework

Rather than offering a simple descriptive narrative, the thematic findings are synthesized into a comprehensive visual and functional model:



**Integrated Educational Governance, Risk, and Internal Audit (GRC-IA) Framework**.

The Integrated Educational GRC-IA Framework operates through four synergistic pillars:

1. Integrated Risk Assessment (Co-Design): Education managers and internal auditors collaboratively construct an institutional risk register that reflects both academic/pedagogical priorities and financial/operational vulnerabilities.
2. Continuous Assurance (Proactive Auditing): Internal audit utilizes automated data analytics and ongoing reviews of institutional workflows, identifying emerging control gaps before regulatory or academic accreditation failures occur.
3. Cross-Functional Strategic Alignment: Audit findings and management action plans are embedded directly into annual institutional budgeting, strategic development, and human resource allocations.
4. Closed-Loop Governance Feedback: Audit recommendations are systematically monitored through clear escalation pathways, ensuring actionable accountability and preventing recurring compliance failures.

**Risk-Based Education Management in Response to Organizational Complexity**

Research findings show that modern education management is increasingly inseparable from a risk-based approach. The literature analyzed consistently confirms that educational institutions face an increasingly complex operational environment, both in terms of academic, administrative, technological, and reputational. The findings of Utami and Hidayat (2024) strengthen the view that risks in learning are not just technical possibilities, but strategic factors that can stop the achievement of educational institutions' goals if not managed systematically. This is in line with the findings of Setyaningrum and Maria (2024) who show that educational information systems, as the operational backbone of modern schools, harbor various potential risks that require a structured risk management approach.

In this context, education management is no longer sufficiently understood as the process of planning, organizing, and supervising academic activities, but must be positioned as risk-based strategic management. This discussion shows that literature has moved from a normative education management paradigm to an adaptive and preventive paradigm. Risk is seen not only as a threat, but as a variable that must be identified and controlled from the education policy planning stage. Thus, the results of this study strengthen the argument that risk-based education management is a structural need, not just a managerial choice.

**1.2 Discussion 2**

**Internal Audit as a Risk Management Reinforcement in Education**

One of the key findings that emerged from the literature synthesis was the shift in the role of internal audit from a compliance function to a strategic function in risk management. Simarmata and Supriyono (2023) show that the implementation of risk-based internal auditing is able to improve the quality of organizational risk management through more accurate and goal-oriented risk mapping. Although the research was conducted on non-educational organizations, the principles and findings produced are relevant and applicable in the context of education, as shown by other literature that explicitly discusses educational institutions.

This discussion emphasized that internal audit in educational organizations has a unique position as a guarantee and consultation mechanism. Saputra and Ismandra (2023) revealed that internal audit and risk management at private universities have not run optimally because they are merged in the quality assurance function. However, these findings actually show the importance of internal audits that stand functionally and independently in order to be able to carry out their role effectively in risk mitigation. Thus, internal audit not only serves as a supervisory tool, but also as a strategic source of information for education management.

### 1.3 Discussion 3

### Synergy of Education Management and Internal Audit in a Risk-Based Governance Framework

The main discussion of this research lies in the concept of synergy between education management and internal audit. The literature analyzed suggests that when these two functions run separately, the effectiveness of risk mitigation tends to be limited. Instead, the integration and collaboration between education management and internal audit creates a more robust internal control system that is adaptive to the organization's risks.

Setiawan et al. (2021) and Rusdi et al. (2023) emphasized that internal audit contributes significantly to strengthening the governance of educational organizations through the identification of operational, financial, and reputational risks. This discussion shows that this synergy is realized when internal audits not only provide post-incident findings, but are also involved in the process of planning and evaluating education policies. Within this framework, education management acts as a strategic decision-maker, while internal audit serves as a critical partner that provides risk perspectives and evidence-based recommendations.

### Significance of the Findings to Risk Management of Educational Organizations

The main significance of the findings of this study lies in strengthening the understanding that risk mitigation in educational organizations requires a cross-functional approach. Learning risks, reputational risks, and information systems risks identified in various studies show that risks are not sectoral, but rather interrelated. Sari and Khudri (2024) show that internal audit plays the role of GRC partner and trusted advisor in reputation risk management, although it is not yet fully a value driver in organizational strategy. These findings indicate that there is room for the development of the role of internal audit in educational organizations.

This discussion confirms that reputation risks and learning quality risks have a long-term impact on the sustainability of educational institutions. Therefore, synergy between education management and internal audit is crucial in creating an early warning system for potential risks. The significance of these findings also lies in their contribution in broadening the perspective of educational risk management from a reactive approach to a proactive and preventive approach.

**Research Contribution to the Development of Education Management Science**

In terms of scientific contribution, this research makes an important contribution in integrating three fields of study that are often separated, namely education management, internal audit, and organizational risk management. Previous literature has tended to address these three aspects partially, while this study through a systematic literature review seeks to bring them together in one conceptual framework. Thus, this research enriches the treasure of education management science with a risk-based governance perspective.

Another theoretical contribution is the strengthening of the position of internal audit as an integral part of the education management system, not just an administrative support function. These findings open up space for the development of new conceptual models that place internal audit as a strategic partner in educational decision-making. In the context of doctoral studies, this contribution is relevant to encourage the development of an education management theory that is more responsive to organizational uncertainty and risk.

**Practical Implications for Educational Institution Managers**

The practical implications of the findings of this study are very relevant for the leaders and managers of educational institutions. First, the results of the study show the importance of building an integrated risk management framework that involves education management and internal audit simultaneously. Education managers need to ensure that internal audits have adequate access to the policy planning and evaluation process, so that the recommendations produced are strategic and applicative.

Second, another practical implication is the need to strengthen the capacity of internal auditors in understanding the educational context and learning risks. Without this understanding, internal audits have the potential to get stuck in a compliance approach alone. Third, the findings of this study also imply the need to separate the functions of internal audit and quality assurance so that each can carry out its role optimally within the framework of risk-based governance.

**Implications of Education Policy and Governance**

From a policy perspective, this research provides an empirical basis for the formulation of regulations that emphasize the integration of risk management and internal audit in education governance. The findings of Saputra and Ismandra (2023) show that existing regulations are not yet fully able to encourage the optimization of the role of internal audit and risk management in universities. This discussion indicates that education policy needs to be directed to clarify the structure, authority, and independence of internal audit in educational organizations.

Another policy implication is the need to encourage the consistent adoption of risk management standards in educational institutions, as demonstrated by the implementation of ISO 31000:2018 in the study by Setyaningrum and Maria (2024).

These standards can be used as a reference in building a risk management system that is aligned with internal audit practices.

**Research Limitations**

Although this research makes significant theoretical and practical contributions, there are some limitations that need to be observed. First, this study is based on a literature review, so the findings produced are highly dependent on the quality and context of the studies analyzed. Second, the variation in the context of educational institutions in the literature used can affect the generalization of findings. Third, most of the literature analyzed is still qualitative, so caution is needed in drawing normative conclusions.

In addition, another limitation lies in the uneven discussion of the synergy of education management and internal audit in the context of primary and secondary education. Most of the literature still focuses on large colleges and organizations, so further research is needed to expand the scope of the context.

**Discussion Synthesis**

Overall, this discussion emphasized that synergy between education management and internal audit is a key element in the risk mitigation of educational organizations. The findings of the study show that the integration of these two functions is able to strengthen governance, increase organizational resilience to risks, and support the achievement of educational goals in a sustainable manner. By linking empirical and conceptual findings from the existing literature, this study provides a solid basis for the development of risk-based education management practices and policies.

**Conclusion**

This systematic literature review synthesizes the strategic and functional synergy between education management and internal audit in mitigating multi-dimensional organizational risks across educational institutions. The findings demonstrate that modern educational organizations face an increasingly complex operating environment, requiring a fundamental shift from reactive administrative compliance toward proactive Risk-Based Education Governance (RBEG). Within this modernized paradigm, internal audit transforms from a retrospective compliance inspection unit into a strategic Governance, Risk, and Compliance (GRC) advisor and value-adding partner. This evolution is operationalized through Risk-Based Internal Auditing (RBIA), which systematically identifies, prioritizes, and controls strategic, operational, technological, and reputational risks across both higher education and school-level environments.

To realize this synergy effectively, educational institutions must establish integrated governance frameworks that clearly delineate roles while promoting continuous collaboration. Merging internal audit into general quality assurance units dilutes independence; instead, the internal audit function must remain functionally autonomous, reporting directly to governing boards while engaging collaboratively with management in risk co-assessment. Furthermore, when adopting corporate risk models (such as COSO ERM or ISO 31000), educational leaders must carefully calibrate control thresholds to preserve academic freedom, instructional flexibility, and institutional mission. Future research should pursue longitudinal, empirical mixed-methods investigations to quantify the causal relationship between GRC-IA integration maturity and long-term educational sustainability across diverse national accreditation systems.

**Suggestions**

Based on the findings and limitations of this study, some suggestions can be made for further research. First, empirical research with a quantitative approach or mixed methods needs to be conducted to examine more deeply the causal relationship between the synergy of education management and internal audit on the effectiveness of organizational risk mitigation. Second, further research is recommended to expand the context of studies at the primary and secondary education levels, considering that most of the existing literature still focuses on universities and large-scale educational organizations.

Third, future research can develop a more applicable conceptual model or operational framework related to the integration of education management and risk-based internal audits, so that it can be used as a practical guideline for educational institution managers. Finally, a cross-country comparative study or cross-education system is also recommended to gain a broader understanding of best practices in education management synergy and internal audit in mitigating organizational risks. Thus, the development of risk-based education management science and practices can continue to be improved in a sustainable manner.

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